

July 2026

Monthly Energy Review

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Monthly Energy Review

The *Monthly Energy Review* (MER) is the U.S. Energy Information Administration's (EIA) primary report of recent and historical U.S. energy statistics. Included are statistics on total energy production, consumption, stocks, trade, and energy prices; overviews of petroleum, natural gas, coal, electricity, nuclear energy, and renewable energy; carbon dioxide emissions; and data unit conversions.

Release of the MER is in keeping with responsibilities given to EIA in Public Law 95–91 (Department of Energy Organization Act), which states, in part, in Section 205(a)(2):

“The Administrator shall be responsible for carrying out a central, comprehensive, and unified energy data and information program which will collect, evaluate, assemble, analyze, and disseminate data and information...”

The MER is intended for use by members of Congress, federal and state agencies, energy analysts, and the general public. EIA welcomes suggestions from readers regarding MER content and other EIA publications.

Related monthly publications: Other monthly EIA reports are Petroleum Supply Monthly, Petroleum Marketing Monthly, Natural Gas Monthly, and Electric Power Monthly. For more information, contact EIA's Office of Communications via email at infoctr@eia.gov.

Important notes about the data

Data displayed: For tables beginning in 1949, annual data are usually displayed only in 5-year increments between 1950 and 2010 in the tables in Portable Document Format (PDF) files; however, all annual data are shown in the Excel files, comma-separated values (CSV) files, application programming interface (API) files, and in the data browser. Also, only two to three years of monthly data are displayed in the PDF files; however, for many series, monthly data beginning with January 1973 are available in the Excel files, CSV files, API files, and in the data browser.

Comprehensive changes: Each month, most MER tables and figures present data for a new month. These data are usually preliminary (and sometimes estimated or forecasted) and likely to be revised the following month. The first dissemination of most annual data is also preliminary. It is often based on monthly estimates and is likely to be revised later that year after final data are published from sources, according to source data revision policies and publication schedules. In addition, EIA may revise historical data when a major revision in a source publication is needed, when new data sources become available, or when estimation methodologies are improved. A record of current and historical changes to MER data is available at <https://www.eia.gov/totalenergy/data/monthly/whatsnew.php>.

Annual data from 1949: In 2013, EIA expanded the MER to incorporate annual data as far back as 1949 in those data tables that were previously published in both the Annual Energy Review and MER.

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The MER is available on EIA's website in various formats at <http://www.eia.gov/totalenergy/data/monthly>.

- Full report and report tables: PDF files
- Table data (unrounded): Excel files, CSV files, API files, and data browser
- Graphs: PDF files and data browser

Note: PDF files display selected annual and monthly data; Excel files, CSV files, API files, and data browser display all available annual and monthly data, often with greater precision than the PDF files.

Timing of release: The MER is posted at <http://www.eia.gov/totalenergy/data/monthly> no later than the last work day of the month.

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Monthly Energy Review

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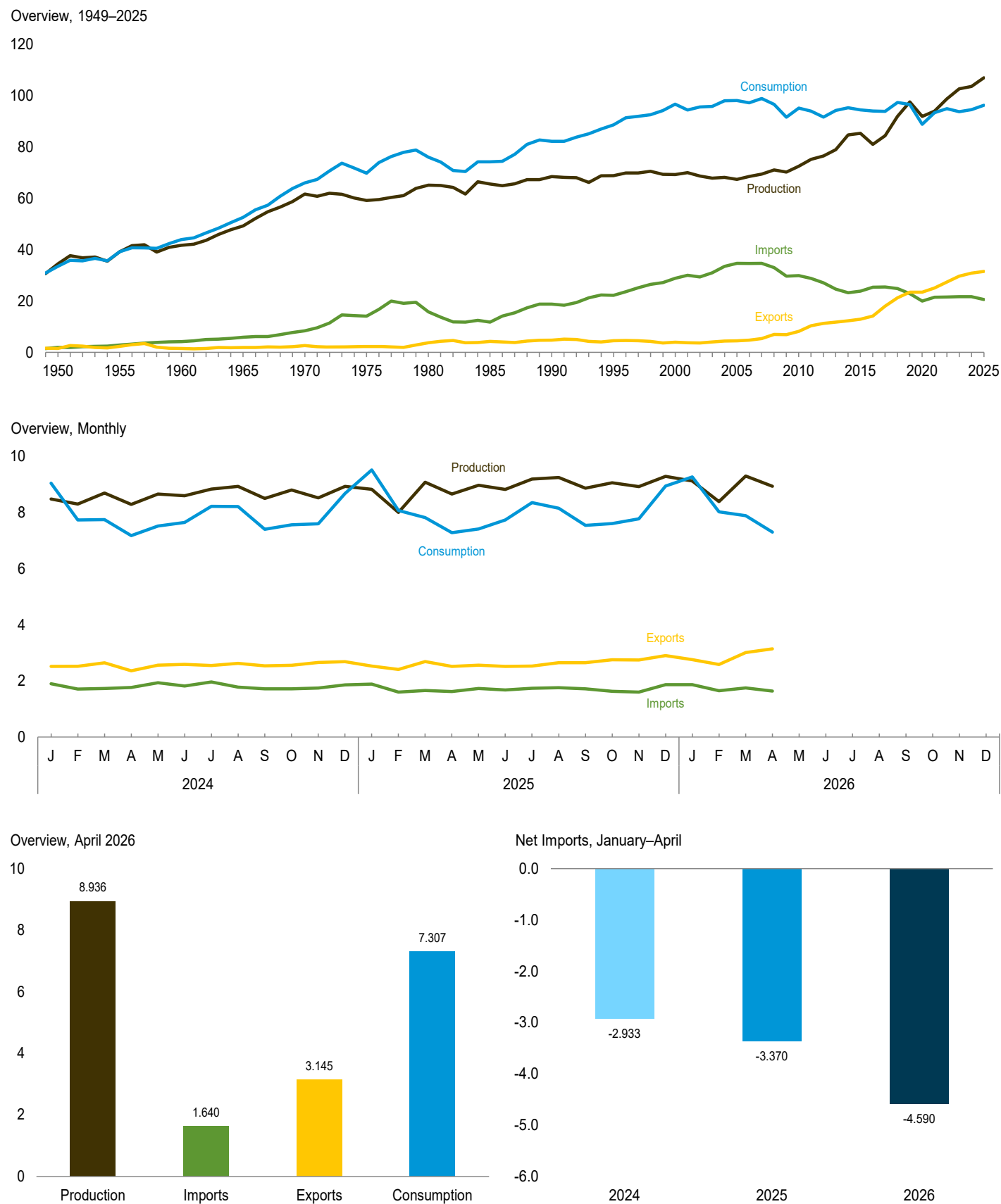
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1. Energy Overview

Figure 1.1 Primary Energy Overview
(Quadrillion Btu)



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.
Source: Table 1.1.

Table 1.1 Primary Energy Overview
(Quadrillion Btu)

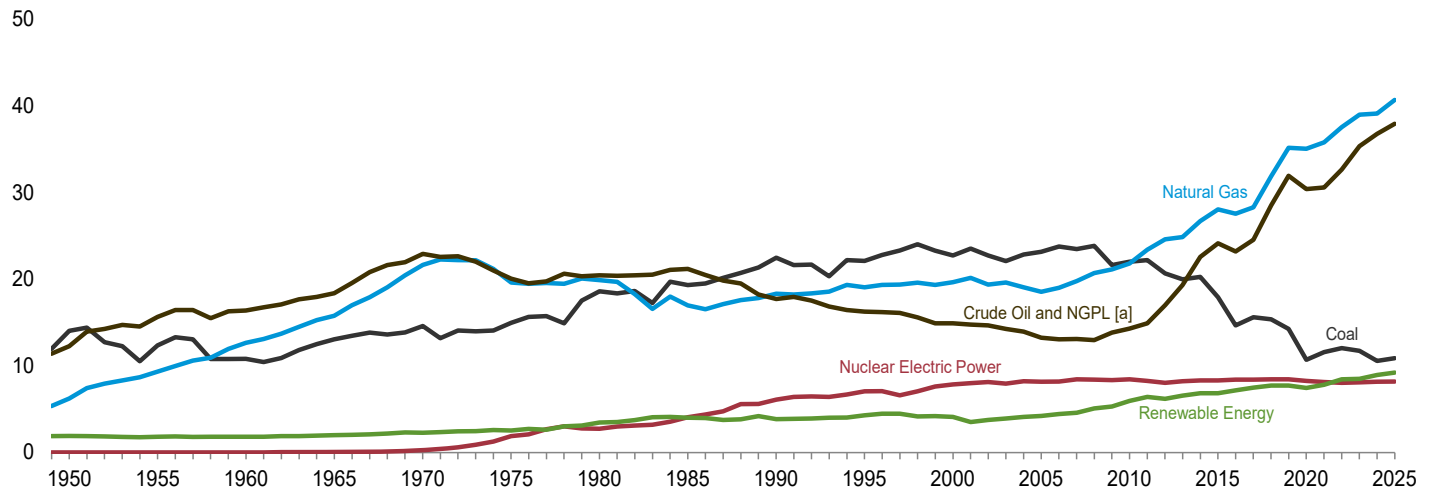
	Production				Trade			Stock Change and Other ^d	Consumption			
	Fossil Fuels ^a	Nuclear Electric Power	Renewable Energy ^b	Total	Imports	Exports	Net Imports ^c		Fossil Fuels ^e	Nuclear Electric Power	Renewable Energy ^b	Total ^f
1950 Total	32.553	0.000	1.907	34.460	1.913	1.465	0.448	-1.380	31.615	0.000	1.907	33.527
1955 Total	37.347	.000	1.821	39.168	2.790	2.286	.504	-.457	37.380	.000	1.821	39.215
1960 Total	39.855	.006	1.830	41.691	4.188	1.477	2.710	-.458	42.091	.006	1.830	43.942
1965 Total	47.205	.043	2.008	49.256	5.892	1.829	4.063	-.754	50.515	.043	2.008	52.565
1970 Total	59.152	.239	2.289	61.681	8.342	2.632	5.709	-1.354	63.501	.239	2.289	66.036
1975 Total	54.697	1.900	2.544	59.141	14.032	2.323	11.709	-1.062	65.323	1.900	2.544	69.788
1980 Total	58.979	2.739	3.445	65.164	15.796	3.695	12.101	-1.227	69.782	2.739	3.445	76.038
1985 Total	57.502	4.076	4.018	65.595	11.781	4.196	7.584	1.088	66.035	4.076	4.018	74.268
1990 Total	58.523	6.104	3.863	68.490	18.817	4.752	14.065	-.299	72.281	6.104	3.863	82.256
1995 Total	57.496	7.075	4.295	68.866	22.180	4.496	17.684	2.118	77.162	7.075	4.297	88.668
2000 Total	57.307	7.862	4.093	69.262	28.865	3.962	24.904	2.528	84.620	7.862	4.096	96.694
2005 Total	54.995	8.161	4.220	67.376	34.659	4.462	30.197	.527	85.623	8.161	4.233	98.101
2010 Total	58.159	8.434	5.943	72.536	29.866	8.176	21.690	.916	80.723	8.434	5.896	95.142
2011 Total	60.529	8.269	6.404	75.202	28.748	10.373	18.375	.389	79.263	8.269	6.308	93.967
2012 Total	62.298	8.062	6.187	76.547	27.068	11.267	15.801	-.670	77.304	8.062	6.151	91.678
2013 Total	64.180	8.244	6.561	78.985	24.623	11.788	12.835	2.433	79.224	8.244	6.587	94.253
2014 Total	69.599	8.338	6.833	84.770	23.241	12.270	10.971	-.409	80.017	8.338	6.796	95.332
2015 Total	70.174	8.337	6.840	85.351	23.794	12.902	10.892	-1.764	79.090	8.337	6.823	94.478
2016 Total	65.447	8.427	7.180	81.054	25.378	14.119	11.259	1.771	78.319	8.427	7.112	94.084
2017 Total	68.492	8.419	7.498	84.409	25.458	17.946	7.512	1.967	77.901	8.419	7.377	93.889
2018 Total	75.784	8.438	7.740	91.962	24.833	21.224	3.610	1.829	81.281	8.438	7.530	97.400
2019 Total	81.407	8.452	7.750	97.608	22.865	23.476	-.610	-.397	80.425	8.452	7.591	96.600
2020 Total	76.182	8.251	7.460	91.893	19.988	23.464	-3.476	.459	73.169	8.251	7.296	88.877
2021 Total	77.994	8.131	7.819	93.944	21.455	25.071	-3.616	3.047	77.454	8.131	7.656	93.375
2022 Total	82.250	8.061	8.450	98.761	21.507	27.335	-5.828	2.032	78.529	8.061	8.233	94.964
2023 Total	86.115	8.099	8.501	102.715	21.657	29.656	-7.999	-.970	77.262	8.099	8.320	93.746
2024 January	7.071	.721	.691	8.483	1.904	2.521	-.617	1.181	7.652	.721	.668	9.047
February	6.917	.674	.713	8.304	1.714	2.526	-.811	.243	6.363	.674	.698	7.736
March	7.253	.662	.779	8.694	1.736	2.650	-.914	-.032	6.330	.662	.758	7.748
April	6.926	.601	.764	8.291	1.770	2.362	-.591	-.517	5.832	.601	.752	7.182
May	7.207	.679	.778	8.663	1.939	2.564	-.625	-.516	6.067	.679	.776	7.522
June	7.111	.712	.778	8.602	1.824	2.595	-.771	-.179	6.171	.712	.763	7.651
July	7.349	.729	.760	8.839	1.967	2.551	-.583	-.031	6.738	.729	.749	8.224
August	7.442	.729	.759	8.930	1.785	2.625	-.840	.126	6.741	.729	.738	8.215
September	7.150	.654	.703	8.507	1.724	2.539	-.815	-.290	6.054	.654	.686	7.402
October	7.452	.614	.737	8.803	1.725	2.563	-.839	-.396	6.224	.614	.724	7.568
November	7.151	.646	.727	8.525	1.746	2.661	-.914	-.008	6.253	.646	.701	7.603
December	7.448	.744	.743	8.935	1.861	2.687	-.826	.575	7.220	.744	.713	8.683
Total	86.477	8.165	8.933	103.575	21.696	30.844	-9.147	.155	77.644	8.165	8.726	94.582
2025 January	7.331	.749	.753	8.832	1.893	2.534	-.640	1.330	8.047	.749	.716	9.522
February	6.663	.646	.695	8.004	1.606	2.411	-.805	.876	6.753	.646	.670	8.074
March	7.612	.652	.816	9.081	1.663	2.697	-1.034	-.219	6.387	.652	.785	7.827
April	7.271	.605	.787	8.663	1.630	2.521	-.891	R -.487	5.905	.605	.769	7.284
May	7.526	.649	.797	8.973	1.734	2.565	-.830	-.726	5.995	.649	.764	7.416
June	7.337	.692	.794	8.823	1.680	2.519	-.839	-.246	6.283	.692	.757	7.738
July	7.656	.739	.799	9.194	1.742	R 2.531	R -.789	R -.046	6.855	.739	.762	8.359
August	7.745	.738	.768	9.251	1.760	2.655	-.895	-.200	6.678	.738	.736	8.156
September	7.471	.684	.717	8.871	1.724	2.655	-.931	-.392	6.177	.684	.683	7.548
October	7.671	.618	.769	9.058	1.632	2.755	-1.124	-.324	6.258	.618	.736	7.611
November	7.511	.666	.746	8.923	1.605	2.750	-1.145	-.004	6.409	.666	.703	7.774
December	7.743	.757	.787	9.288	1.870	2.904	-1.034	.693	7.437	.757	.753	8.946
Total	89.536	8.195	9.229	106.961	20.540	R 31.497	R -.10.957	R .253	79.184	8.195	8.835	96.256
2026 January	R 7.581	.765	.781	R 9.127	1.869	2.760	-.891	1.036	R 7.775	.765	.735	R 9.272
February	R 7.013	.651	.726	R 8.390	1.652	2.588	-.936	R .574	R 6.685	.651	.690	R 8.029
March	R 7.790	.648	.865	R 9.304	R 1.756	3.015	R -1.258	R -.155	R 6.410	.648	.831	R 7.890
April	7.519	.599	.818	8.936	1.640	3.145	-1.505	-.125	5.920	.599	.790	7.307
4-Month Total	29.903	2.664	3.190	35.757	6.917	11.508	-4.590	1.330	26.790	2.664	3.046	32.498
2025 4-Month Total	28.877	2.652	3.051	34.579	6.793	10.163	-3.370	1.499	27.092	2.652	2.940	32.708
2024 4-Month Total	28.166	2.658	2.947	33.771	7.125	10.059	-2.933	.875	26.176	2.658	2.875	31.713

^a Coal, natural gas (dry), crude oil, and natural gas plant liquids.
^b See Tables 10.1–10.2c for notes on series components and estimation; and see Note, "Renewable Energy Production and Consumption," at end of Section 10.
^c Net imports equal imports minus exports.
^d Includes petroleum stock change and adjustments; natural gas net storage withdrawals and balancing item; coal stock change, losses, and unaccounted for; fuel ethanol stock change; and biodiesel stock change and balancing item.
^e Coal, coal coke net imports, natural gas, and petroleum.
^f Also includes electricity net imports.
R=Revised.

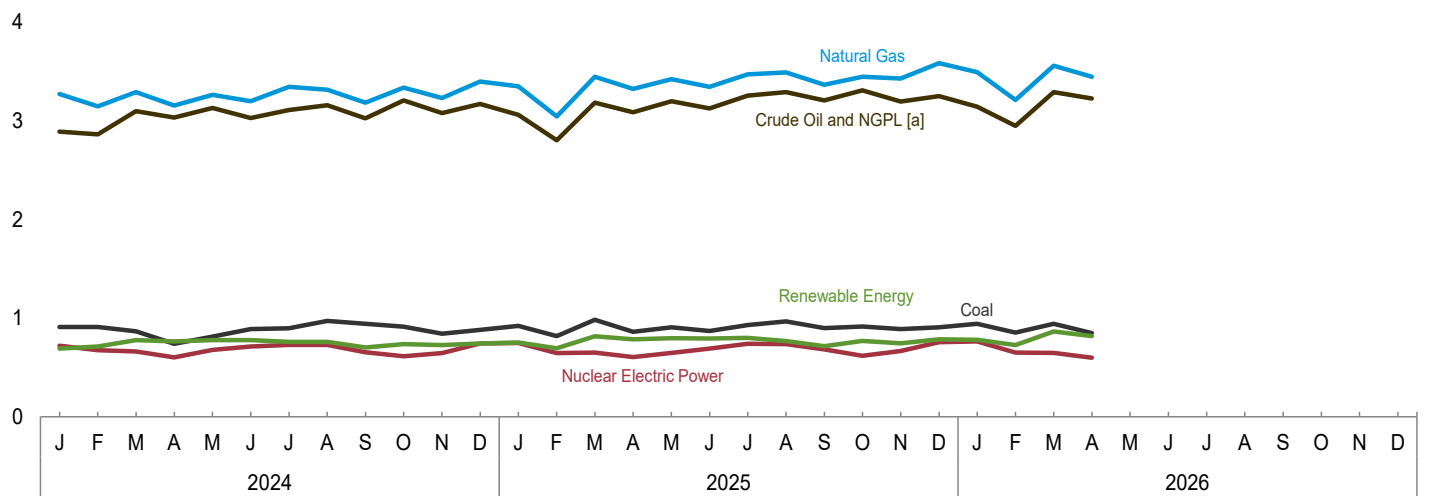
Notes: • See "Primary Energy," "Primary Energy Production," and "Primary Energy Consumption," in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: • **Production:** Table 1.2. • **Trade:** Tables 1.4a and 1.4b. • **Stock Change and Other:** Calculated as consumption minus production and net imports. • **Consumption:** Table 1.3.

Figure 1.2 Primary Energy Production
(Quadrillion Btu)

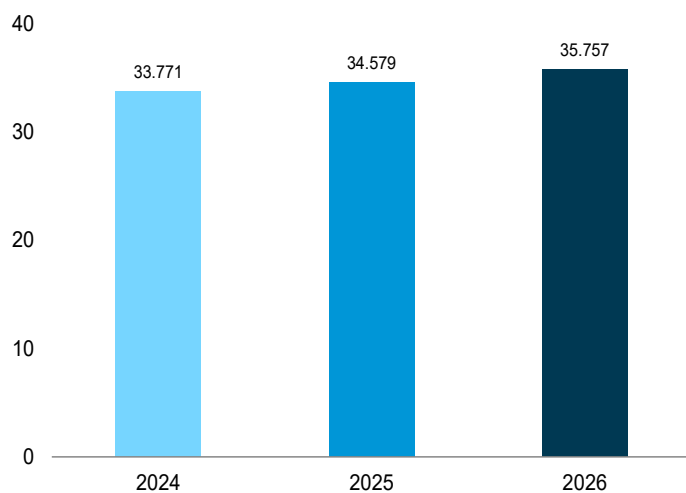
By Source, 1949–2025



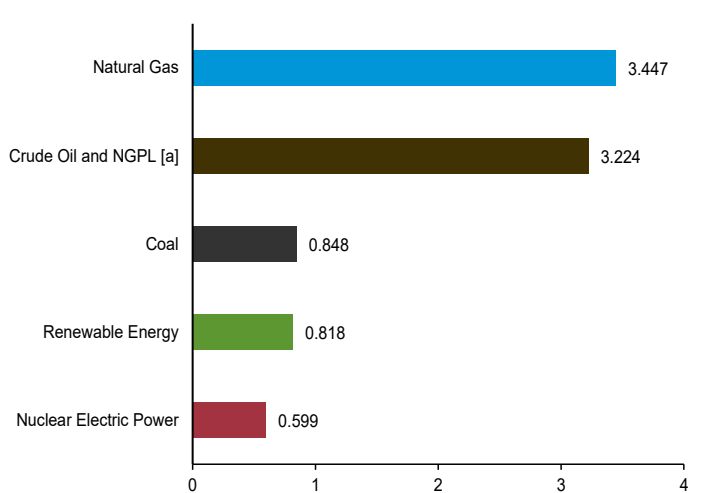
By Source, Monthly



Total, January–April



By Source, April 2026

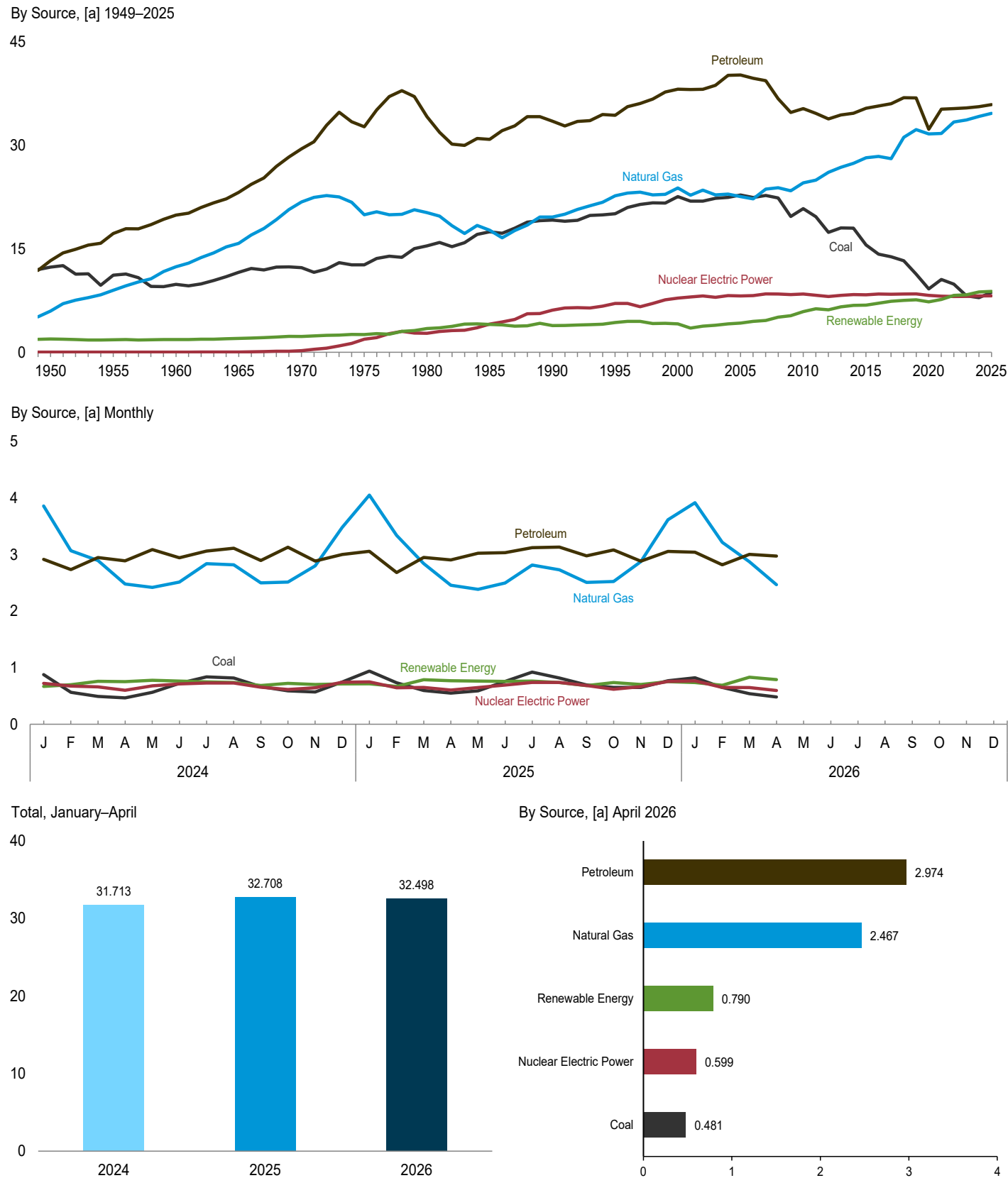


[a] Natural gas plant liquids.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

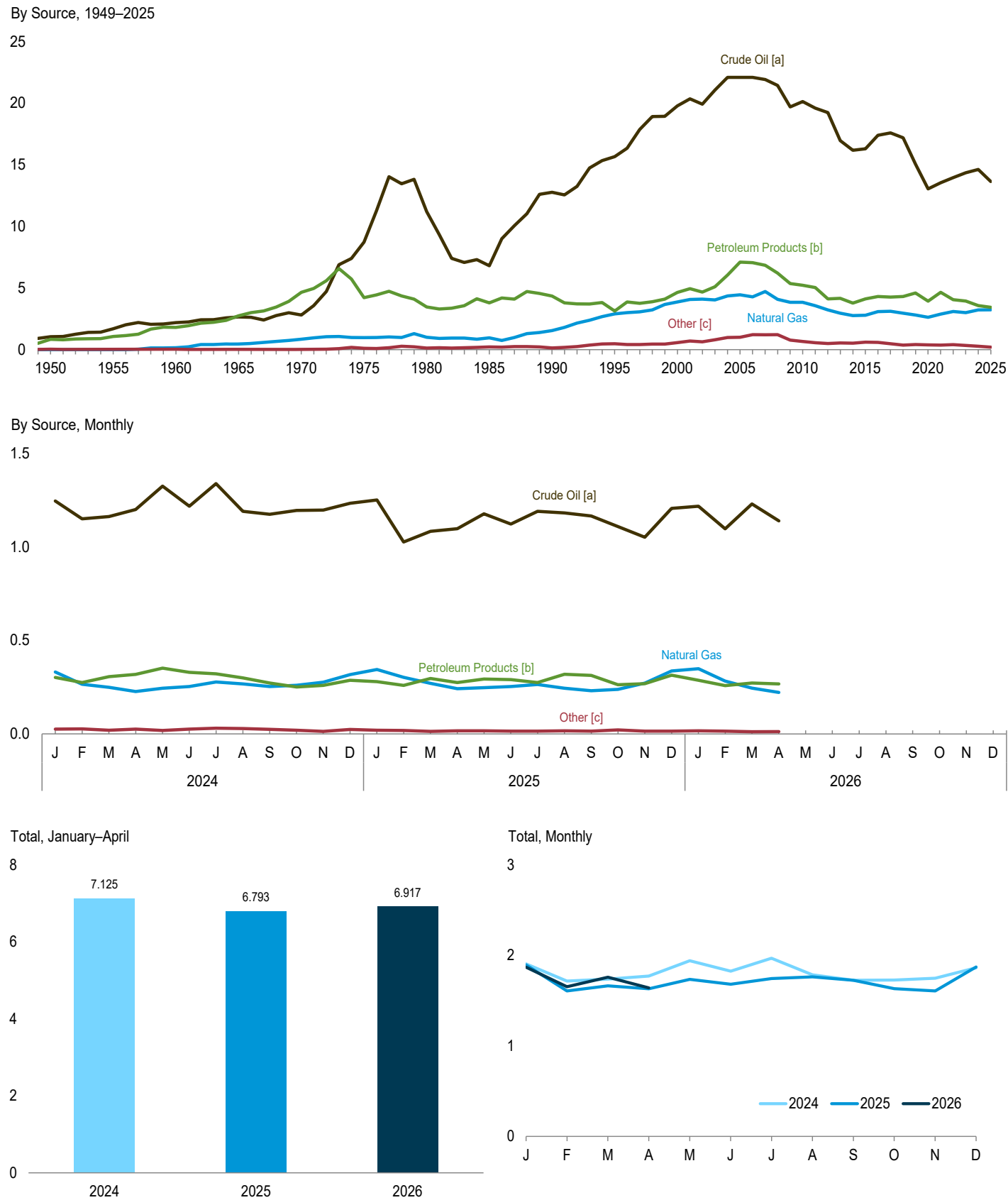
Source: Table 1.2.

Figure 1.3 Primary Energy Consumption
(Quadrillion Btu)



[a] Small quantities of net imports of coal coke and electricity are not shown.
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.
Source: Table 1.3.

Figure 1.4a Primary Energy Imports
(Quadrillion Btu)



[a] Crude oil and lease condensate, includes imports into the Strategic Petroleum Reserve, which began in 1977.

[b] Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.

[c] Coal, coal coke, biomass, and electricity.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.4a.

Table 1.4a Primary Energy Imports by Source
(Quadrillion Btu)

	Imports								
	Coal	Coal Coke	Natural Gas	Petroleum			Biomass ^c	Electricity	Total
				Crude Oil ^a	Petroleum Products ^b	Total			
1950 Total	0.009	0.011	0.000	1.056	0.830	1.886	NA	0.007	1.913
1955 Total	.008	.003	.011	1.691	1.061	2.752	NA	.016	2.790
1960 Total	.007	.003	.161	2.196	1.802	3.999	NA	.018	4.188
1965 Total	.005	.002	.471	2.654	2.748	5.402	NA	.012	5.892
1970 Total	.001	.004	.846	2.814	4.656	7.470	NA	.021	8.342
1975 Total	.024	.045	.978	8.721	4.227	12.948	NA	.038	14.032
1980 Total	.030	.016	1.006	11.195	3.463	14.658	NA	.085	15.796
1985 Total	.049	.014	.952	6.814	3.796	10.609	NA	.157	11.781
1990 Total	.067	.019	1.551	12.766	4.351	17.117	NA	.063	18.817
1995 Total	.237	.095	2.901	15.669	3.131	18.800	.001	.146	22.180
2000 Total	.313	.094	3.869	19.783	4.641	24.424	(s)	.166	28.865
2005 Total	.762	.088	4.450	22.091	7.108	29.198	.012	.150	34.659
2010 Total	.484	.030	3.834	20.140	5.219	25.359	.004	.154	29.866
2011 Total	.327	.035	3.555	19.595	5.038	24.633	.019	.178	28.748
2012 Total	.212	.028	3.216	19.239	4.122	23.361	.049	.202	27.068
2013 Total	.199	.003	2.955	16.957	4.169	21.126	.102	.236	24.623
2014 Total	.252	.002	2.763	16.178	3.773	19.951	.046	.227	23.241
2015 Total	.256	.003	2.786	16.299	4.111	20.410	.079	.259	23.794
2016 Total	.220	.006	3.082	17.392	4.309	21.700	.123	.248	25.378
2017 Total	.168	.001	3.109	17.597	4.277	21.874	.081	.224	25.458
2018 Total	.122	.003	2.961	17.192	4.309	21.501	.048	.199	24.833
2019 Total	.138	.003	2.810	15.045	4.596	19.641	.072	.201	22.865
2020 Total	.105	.004	2.615	13.044	3.937	16.980	.074	.210	19.988
2021 Total	.109	.003	2.878	13.539	4.661	18.200	.083	.181	21.455
2022 Total	.135	.002	3.100	13.951	4.052	18.003	.073	.194	21.507
2023 Total	.088	.005	3.001	14.362	3.954	18.316	.114	.133	21.657
2024 January	.002	(s)	.331	1.245	.302	1.547	.011	.012	1.904
February	.004	(s)	.265	1.149	.274	1.423	.015	.009	1.714
March	.002	(s)	.249	1.161	.306	1.467	.010	.008	1.736
April	.006	(s)	.227	1.199	.318	1.517	.013	.006	1.770
May	.002	(s)	.244	1.324	.352	1.676	.011	.006	1.939
June	.005	(s)	.253	1.216	.329	1.545	.012	.010	1.824
July	.004	.001	.278	1.337	.321	1.659	.012	.014	1.967
August	.007	.001	.267	1.189	.300	1.488	.010	.012	1.785
September	.006	(s)	.253	1.174	.272	1.446	.009	.011	1.724
October	.003	.001	.260	1.194	.251	1.444	.007	.010	1.725
November	.004	(s)	.277	1.196	.259	1.455	.004	.006	1.746
December	.003	(s)	.317	1.232	.287	1.519	.009	.012	1.861
Total	.047	.003	3.223	14.616	3.570	18.186	.123	.113	21.696
2025 January	.006	(s)	.344	1.250	.280	1.529	(s)	.014	1.893
February	.005	(s)	.303	1.026	.259	1.285	.003	.011	1.606
March	.004	(s)	.270	1.082	.297	1.379	.002	.008	1.663
April	.006	.001	.242	1.097	.274	1.371	(s)	.010	1.630
May	.005	.001	.247	1.176	.294	1.470	.001	.011	1.734
June	.005	(s)	.253	1.121	.291	1.412	.001	.009	1.680
July	.005	.001	.264	1.189	.274	1.463	.001	.007	1.742
August	.006	.001	.244	1.181	.319	1.499	.002	.008	1.760
September	.005	.001	.231	1.164	.313	1.477	.002	.008	1.724
October	.008	.002	.238	1.108	.263	1.372	.006	.005	1.632
November	.008	.002	.271	1.051	.268	1.320	.001	.004	1.605
December	.005	.001	.336	1.205	.314	1.518	.003	.006	1.870
Total	.067	.009	3.243	13.650	3.445	17.095	.023	.103	20.540
2026 January	.009	.001	.348	1.216	.287	1.503	(s)	.007	1.869
February	.006	(s)	.283	1.096	.258	1.354	.001	.008	1.652
March	.002	(s)	.245	1.228	.272	1.500	.001	R .008	R 1.756
April	.007	.001	.222	1.138	.267	1.405	.000	.006	1.640
4-Month Total	.024	.002	1.098	4.678	1.084	5.761	.003	.029	6.917
2025 4-Month Total	.021	.001	1.159	4.455	1.109	5.564	.006	.043	6.793
2024 4-Month Total	.014	(s)	1.073	4.755	1.200	5.955	.049	.035	7.125

^a Crude oil and lease condensate. Includes imports into the Strategic Petroleum Reserve, which began in 1977.

^b Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.

^c Beginning in 1993, includes fuel ethanol (minus denaturant). Beginning in 2001, also includes biodiesel. Beginning in 2011, also includes renewable diesel fuel. Beginning in 2021, also includes other biofuels.

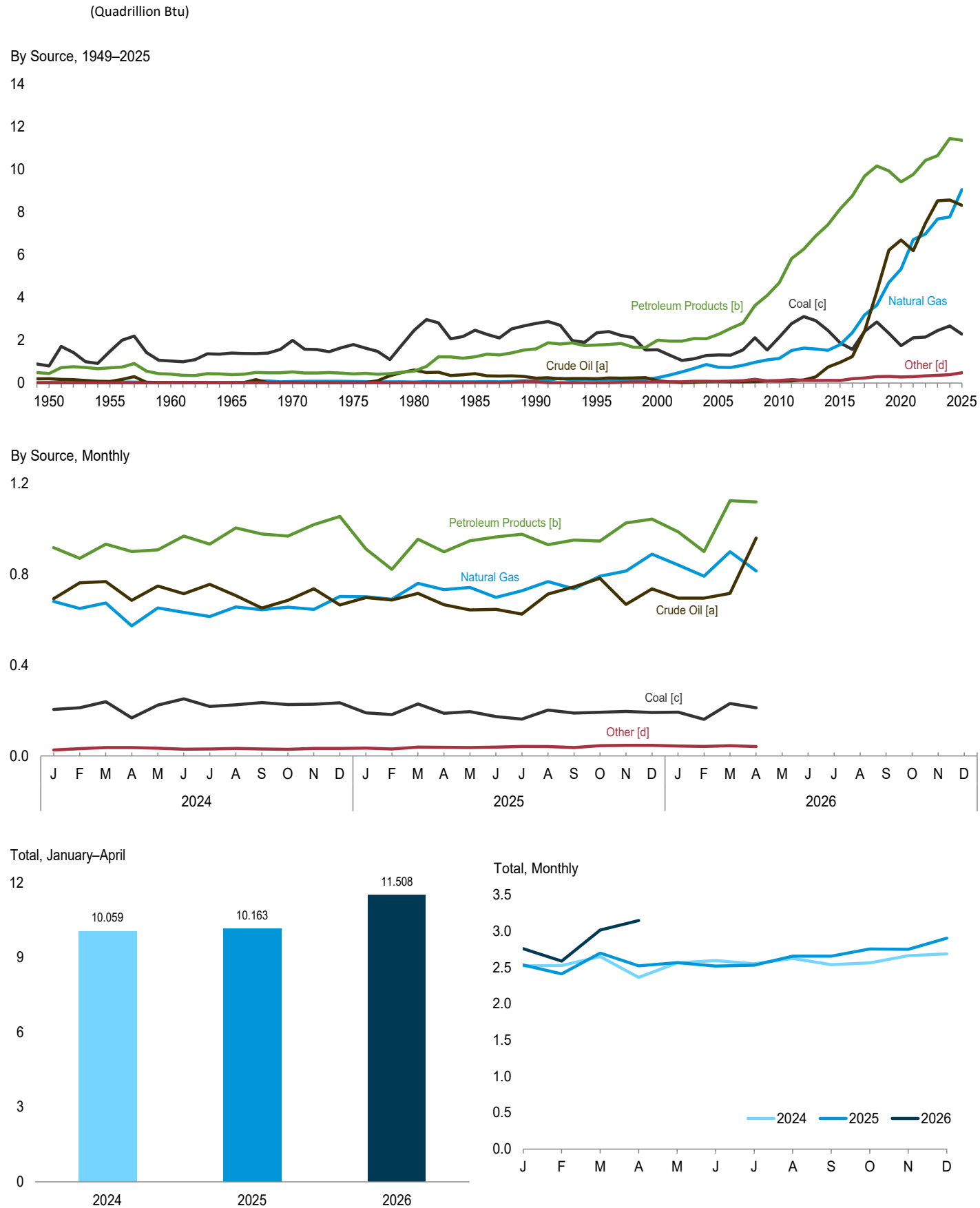
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • See "Primary Energy" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Figure 1.4b Primary Energy Exports



[a] Crude oil and lease condensate.
[b] Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.
[c] Includes coal coke.

[d] Biomass and electricity
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.
Source: Table 1.4b.

Table 1.4b Primary Energy Exports by Source
(Quadrillion Btu)

	Exports								
	Coal	Coal Coke	Natural Gas	Petroleum			Biomass ^c	Electricity	Total
				Crude Oil ^a	Petroleum Products ^b	Total			
1950 Total	0.786	0.010	0.027	0.202	0.440	0.642	NA	0.001	1.465
1955 Total	1.465	.013	.032	.067	.707	.774	NA	.002	2.286
1960 Total	1.023	.009	.012	.018	.413	.431	NA	.003	1.477
1965 Total	1.376	.021	.027	.006	.386	.392	NA	.013	1.829
1970 Total	1.936	.061	.072	.029	.520	.549	NA	.014	2.632
1975 Total	1.761	.032	.074	.012	.427	.439	NA	.017	2.323
1980 Total	2.421	.051	.049	.609	.551	1.160	NA	.014	3.695
1985 Total	2.438	.028	.056	.432	1.225	1.657	NA	.017	4.196
1990 Total	2.772	.014	.087	.230	1.594	1.824	NA	.055	4.752
1995 Total	2.318	.034	.156	.200	1.776	1.976	NA	.012	4.496
2000 Total	1.528	.028	.245	.106	2.003	2.110	NA	.051	3.962
2005 Total	1.273	.043	.735	.067	2.276	2.344	(s)	.065	4.462
2010 Total	2.101	.036	1.147	.088	4.691	4.780	.047	.065	8.176
2011 Total	2.751	.024	1.519	.100	5.820	5.919	.108	.051	10.373
2012 Total	3.087	.024	1.633	.143	6.261	6.404	.078	.041	11.267
2013 Total	2.895	.021	1.587	.284	6.886	7.170	.076	.039	11.788
2014 Total	2.435	.023	1.528	.744	7.414	8.158	.081	.045	12.270
2015 Total	1.852	.021	1.800	.964	8.153	9.118	.080	.031	12.902
2016 Total	1.546	.025	2.356	1.238	8.752	9.990	.181	.021	14.119
2017 Total	2.388	.030	3.182	2.424	9.684	12.108	.206	.032	17.946
2018 Total	2.824	.029	3.640	4.277	10.158	14.434	.249	.047	21.224
2019 Total	2.305	.024	4.700	6.212	9.926	16.139	.240	.068	23.476
2020 Total	1.725	.017	5.332	6.699	9.410	16.108	.234	.048	23.464
2021 Total	2.061	.052	6.712	6.191	9.761	15.952	.247	.047	25.071
2022 Total	2.093	.057	6.969	7.468	10.417	17.885	.278	.054	27.335
2023 Total	2.411	.038	7.679	8.535	10.641	19.176	.285	.068	29.656
2024 January	.204	.001	.680	.692	.917	1.609	.021	.006	2.521
February	.210	.002	.649	.762	.870	1.632	.024	.008	2.526
March	.234	.004	.674	.768	.932	1.700	.029	.009	2.650
April	.164	.004	.572	.685	.900	1.584	.029	.008	2.362
May	.221	.002	.652	.748	.907	1.654	.028	.006	2.564
June	.246	.005	.632	.714	.968	1.682	.025	.005	2.595
July	.216	.002	.614	.756	.932	1.688	.026	.005	2.551
August	.221	.005	.656	.706	1.004	1.711	.029	.004	2.625
September	.232	.003	.644	.651	.977	1.628	.028	.003	2.539
October	.221	.005	.655	.685	.968	1.653	.026	.003	2.563
November	.225	.003	.645	.736	1.018	1.754	.029	.004	2.661
December	.230	.004	.702	.665	1.054	1.719	.028	.004	2.687
Total	2.624	.040	7.776	8.568	11.448	20.015	.322	.066	30.844
2025 January	.189	.001	.701	.697	.911	1.608	.031	.004	2.534
February	.181	.001	.690	.687	.821	1.509	.027	.004	2.411
March	.227	.001	.760	.716	.954	1.670	.033	.005	2.697
April	.185	.003	.732	.666	.898	1.563	.033	.004	2.521
May	.192	.003	.742	.643	.947	1.590	.034	.003	2.565
June	.170	.003	.698	.645	.964	1.609	.036	.003	2.519
July	.159	.003	R .727	.624	.976	1.599	.038	.004	R 2.531
August	.200	.003	.768	.713	.930	1.643	.037	.004	2.655
September	.187	.002	.735	.744	.950	1.693	.034	.004	2.655
October	.190	.002	.791	.782	.946	1.728	.038	.007	2.755
November	.195	.001	.814	.667	1.026	1.693	.040	.008	2.750
December	.189	.002	.889	.735	1.043	1.778	.038	.009	2.904
Total	2.263	.026	R 9.046	8.318	11.365	19.683	.418	.060	R 31.497
2026 January	.192	.001	.841	.695	.987	1.682	.034	.010	2.760
February	.159	.002	.791	.695	.900	1.595	.035	.007	2.588
March	.228	.002	.899	.716	1.124	1.841	.037	.008	3.015
April	.209	.003	.815	.959	1.118	2.077	.033	.007	3.145
4-Month Total	.788	.009	3.345	3.066	4.129	7.195	.139	.032	11.508
2025 4-Month Total	.782	.007	2.882	2.766	3.584	6.350	.124	.018	10.163
2024 4-Month Total	.812	.011	2.576	2.907	3.619	6.526	.103	.031	10.059

^a Crude oil and lease condensate.

^b Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.

^c Beginning in 2001, includes biodiesel. Beginning in 2010, also includes fuel ethanol (minus denaturant). Beginning in 2016, also includes wood and wood-derived fuels. Beginning in 2025, also includes renewable diesel fuel and other biofuels.

R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • See "Primary Energy" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

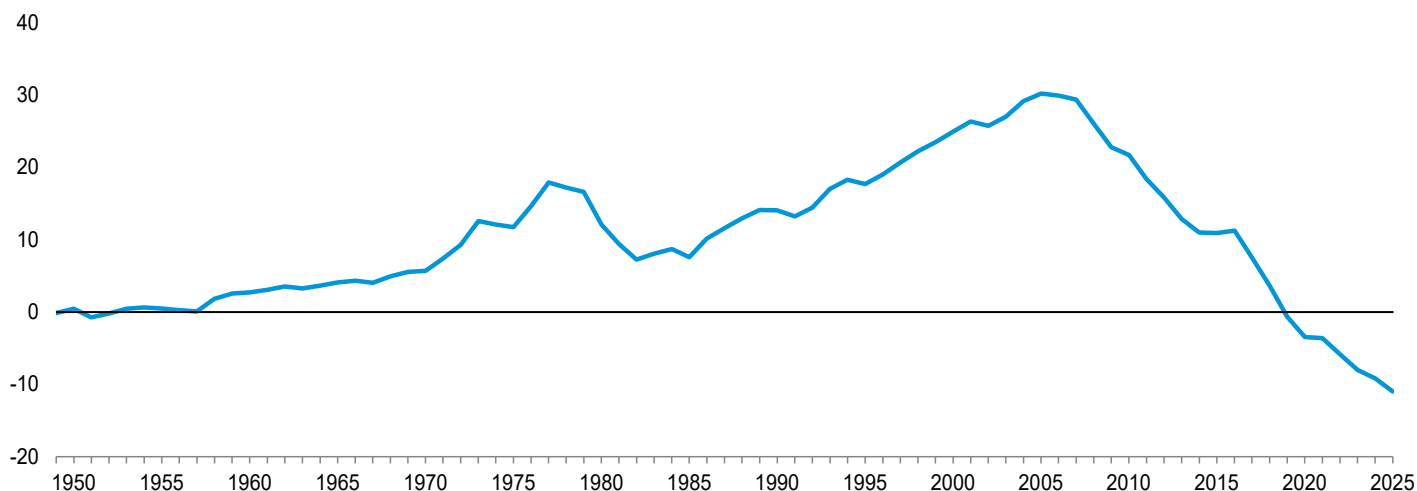
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

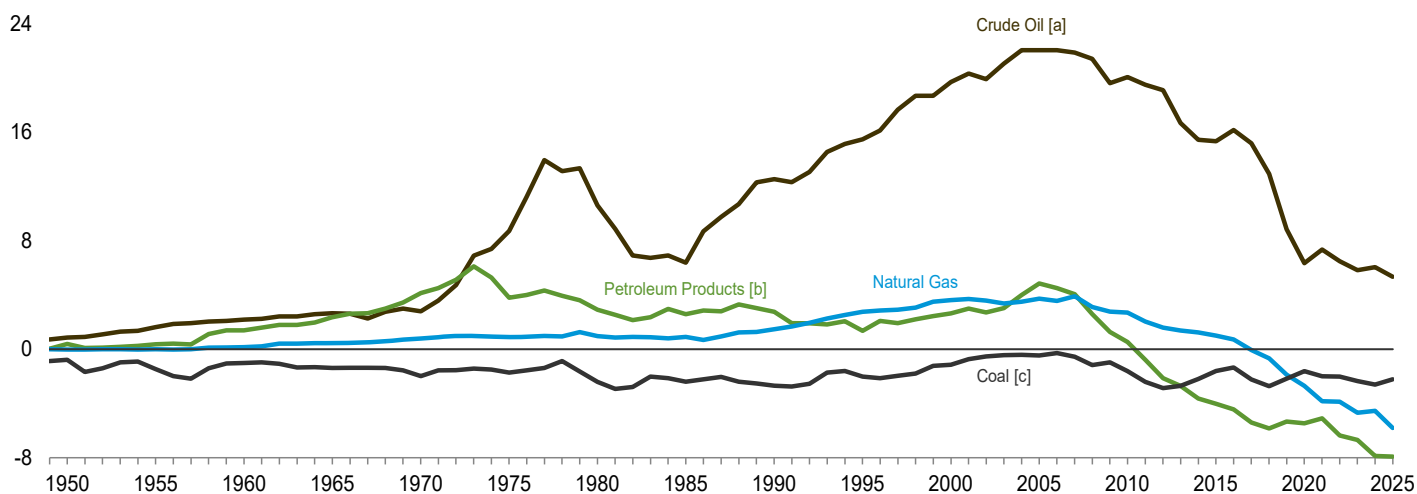
Figure 1.4c Primary Energy Net Imports

(Quadrillion Btu)

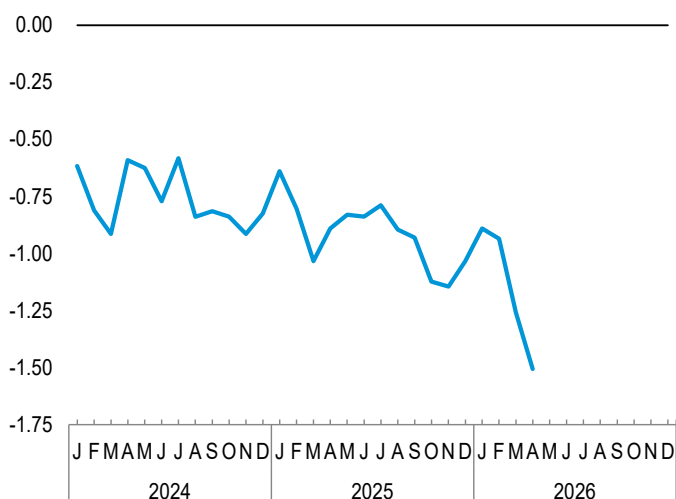
Total, 1949–2025



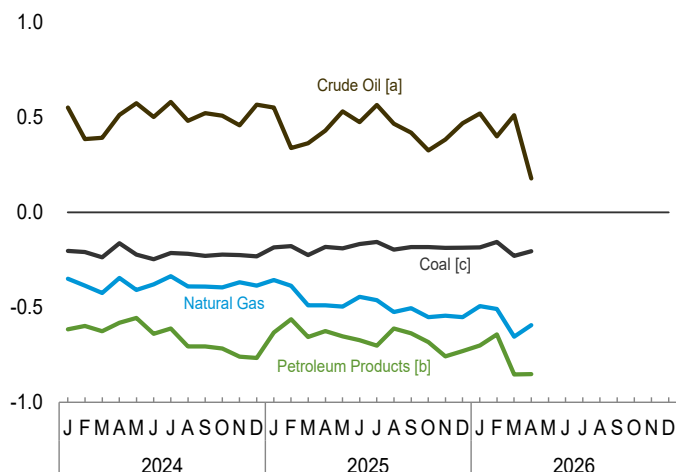
By Major Source, 1949–2025



Total, Monthly



By Major Source, Monthly



[a] Crude oil and lease condensate. Includes imports into the Strategic Petroleum Reserve, which began in 1977.

[b] Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.

[c] Includes coal coke.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.4c.

Table 1.4c Primary Energy Net Imports by Source
(Quadrillion Btu)

	Net Imports ^a								
	Coal	Coal Coke	Natural Gas	Petroleum			Biomass ^d	Electricity	Total
				Crude Oil ^b	Petroleum Products ^c	Total			
1950 Total	-0.777	0.001	-0.027	0.854	0.390	1.244	NA	0.006	0.448
1955 Total	-1.456	-0.10	-0.021	1.624	.354	1.978	NA	.014	.504
1960 Total	-1.017	-.006	.149	2.178	1.389	3.568	NA	.015	2.710
1965 Total	-1.372	-.018	.444	2.648	2.362	5.010	NA	(s)	4.063
1970 Total	-1.935	-.058	.774	2.785	4.136	6.921	NA	.007	5.709
1975 Total	-1.738	.014	.904	8.708	3.800	12.508	NA	.021	11.709
1980 Total	-2.391	-.035	.957	10.586	2.912	13.499	NA	.071	12.101
1985 Total	-2.389	-.013	.896	6.381	2.570	8.952	NA	.140	7.584
1990 Total	-2.705	.005	1.464	12.536	2.757	15.293	NA	.008	14.065
1995 Total	-2.081	.061	2.745	15.469	1.355	16.824	NA	.134	17.684
2000 Total	-1.215	.065	3.623	19.676	2.638	22.314	NA	.115	24.904
2005 Total	-.512	.044	3.714	22.023	4.831	26.855	.011	.085	30.197
2010 Total	-1.617	-.006	2.687	20.052	.528	20.580	-.042	.089	21.690
2011 Total	-2.423	.011	2.036	19.495	-.781	18.714	-.089	.127	18.375
2012 Total	-2.875	.004	1.583	19.096	-2.139	16.957	-.029	.161	15.801
2013 Total	-2.696	-.017	1.369	16.673	-2.717	13.956	.026	.197	12.835
2014 Total	-2.183	-.022	1.235	15.434	-3.641	11.793	-.034	.182	10.971
2015 Total	-1.596	-.018	.986	15.335	-4.042	11.292	-.001	.227	10.892
2016 Total	-1.326	-.019	.725	16.154	-4.443	11.710	-.058	.227	11.259
2017 Total	-2.220	-.029	-.073	15.173	-5.407	9.766	-.124	.192	7.512
2018 Total	-2.702	-.026	-.679	12.915	-5.849	7.066	-.201	.152	3.610
2019 Total	-2.167	-.021	-1.889	8.833	-5.331	3.502	-.168	.133	-.610
2020 Total	-1.620	-.013	-2.717	6.345	-5.473	.872	-.159	.161	-3.476
2021 Total	-1.952	-.049	-3.834	7.348	-5.100	2.248	-.163	.134	-3.616
2022 Total	-1.957	-.056	-3.869	6.483	-6.365	.118	-.205	.141	-5.828
2023 Total	-2.323	-.032	-4.677	5.827	-6.687	-.860	-.171	.065	-7.999
2024 January	-.202	-.001	-.349	.553	-.615	-.061	-.010	.006	-.617
February	-.207	-.002	-.385	.387	-.597	-.209	-.010	.001	-.811
March	-.232	-.004	-.425	.393	-.626	-.233	-.019	-.001	-.914
April	-.158	-.004	-.345	.514	-.581	-.067	-.016	-.002	-.591
May	-.219	-.002	-.408	.576	-.555	.021	-.017	(s)	-.625
June	-.241	-.005	-.379	.502	-.639	-.137	-.013	.005	-.771
July	-.211	-.002	-.335	.582	-.611	-.030	-.014	.008	-.583
August	-.214	-.004	-.389	.482	-.705	-.222	-.018	.007	-.840
September	-.226	-.003	-.391	.523	-.705	-.182	-.019	.007	-.815
October	-.218	-.004	-.395	.509	-.717	-.209	-.020	.006	-.839
November	-.221	-.003	-.368	.460	-.760	-.299	-.025	.002	-.914
December	-.227	-.004	-.385	.567	-.767	-.199	-.019	.007	-.826
Total	-2.577	-.037	-4.553	6.048	-7.877	-1.829	-.199	.047	-9.147
2025 January	-.183	-.001	-.356	.553	-.632	-.079	-.030	.010	-.640
February	-.176	-.001	-.387	.339	-.563	-.224	-.024	.006	-.805
March	-.223	-.001	-.490	.365	-.656	-.291	-.032	.003	-1.034
April	-.179	-.002	R-.490	.431	-.624	-.193	-.033	.006	-.891
May	-.187	-.003	-.496	.533	-.653	-.120	-.033	.008	-.830
June	-.164	-.003	-.445	.476	-.673	-.197	-.036	.006	-.839
July	-.154	-.002	R-.463	.566	-.702	-.136	-.037	.003	R-.789
August	-.194	-.002	-.525	.468	-.611	-.144	-.034	.004	-.895
September	-.183	-.001	-.504	.420	-.637	-.217	-.032	.004	-.931
October	-.182	(s)	-.552	.327	-.682	-.356	-.032	-.002	-1.124
November	-.187	.001	-.543	.384	-.758	-.374	-.038	-.004	-1.145
December	-.184	-.001	-.552	.470	-.730	-.260	-.035	-.002	-1.034
Total	-2.196	-.016	-5.803	5.332	-7.920	-2.588	-.395	.042	R-10.957
2026 January	-.183	-.001	-.493	.521	-.700	-.179	-.034	-.002	-.891
February	-.153	-.002	-.508	.401	-.642	-.241	-.033	.001	-.936
March	-.226	-.002	-.654	.512	-.853	-.341	-.035	R(s)	R-1.258
April	-.202	-.002	-.593	.179	-.851	-.672	-.033	-.002	-1.505
4-Month Total	-.764	-.007	-2.247	1.612	-3.046	-1.434	-.136	-.003	-4.590
2025 4-Month Total	-.761	-.006	-1.723	1.688	-2.475	-.786	-.119	.025	-3.370
2024 4-Month Total	-.799	-.011	-1.503	1.848	-2.419	-.571	-.054	.004	-2.933

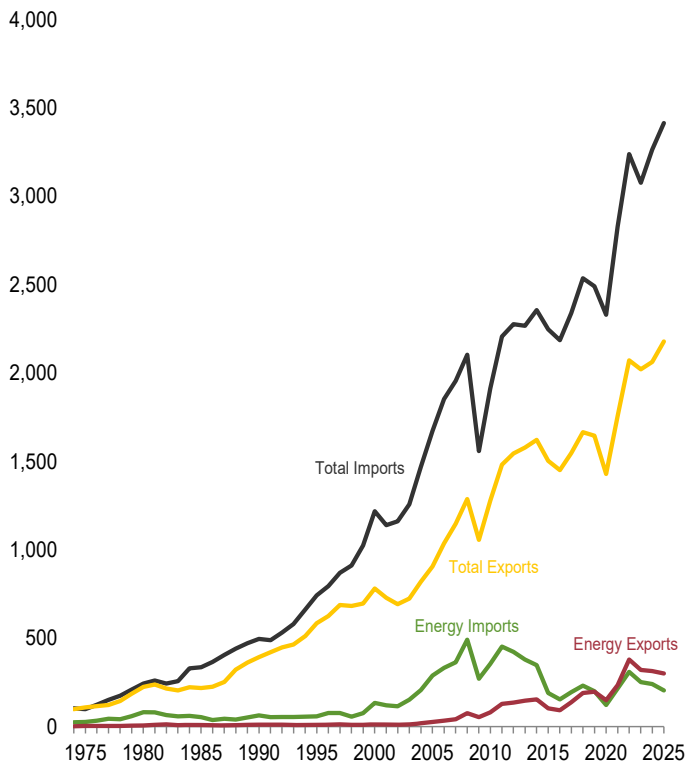
^a Net imports equal imports minus exports.
^b Crude oil and lease condensate. Includes imports into the Strategic Petroleum Reserve, which began in 1977.
^c Petroleum products, unfinished oils, natural gasoline, and gasoline blending components. Does not include biofuels.
^d Beginning in 1993, includes fuel ethanol (minus denaturant) imports. Beginning in 2001, also includes biodiesel imports and exports. Beginning in 2010, also includes fuel ethanol (minus denaturant) exports. Beginning in 2011, also includes renewable diesel fuel imports. Beginning in 2021, also includes other biofuels imports. Beginning in 2025, also includes renewable diesel fuel and other

biofuels exports.
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.
Notes: • See "Primary Energy" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: Tables 1.4a and 1.4b.

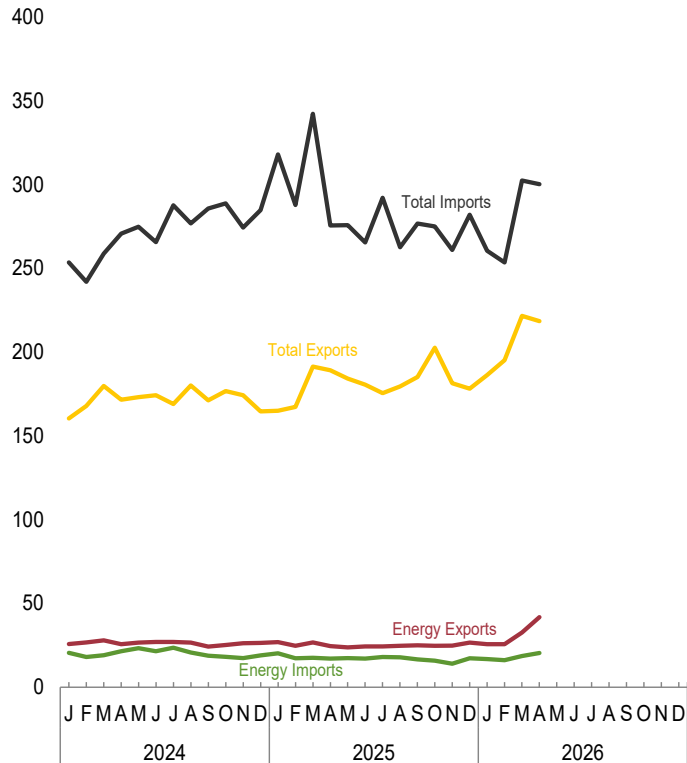
Figure 1.5 Merchandise Trade Value

(Billion Dollars[a])

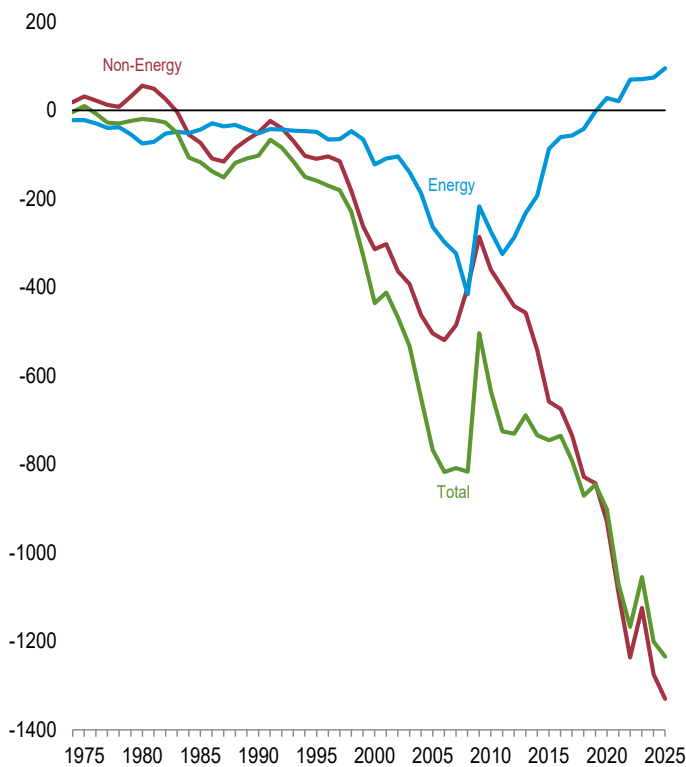
Imports and Exports, 1974–2025



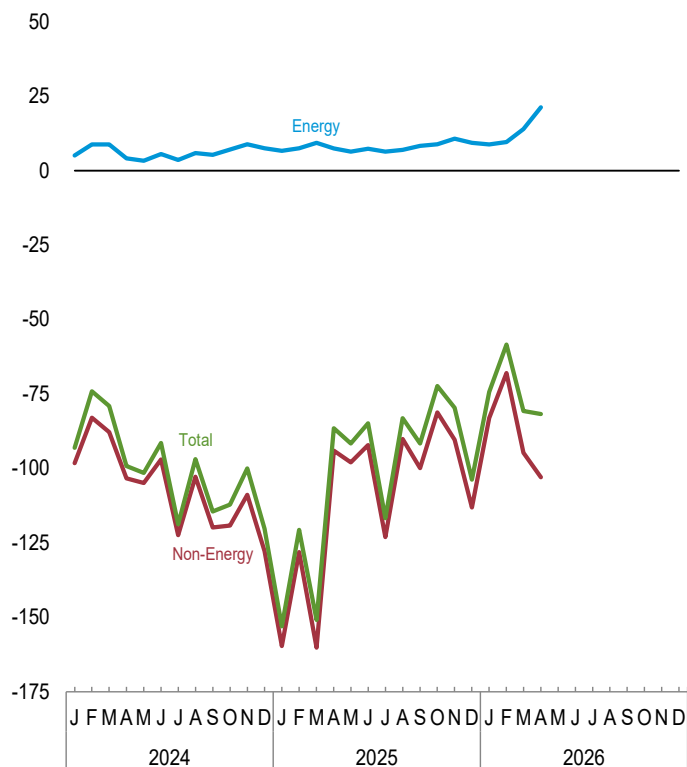
Imports and Exports, Monthly



Trade Balance, 1974–2025



Trade Balance, Monthly



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.
 Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.
 Source: Table 1.5.

Table 1.5 Merchandise Trade Value
(Million Dollars^a)

	Petroleum ^b			Energy ^c			Non-Energy Balance	Total Merchandise		
	Exports	Imports	Balance	Exports	Imports	Balance		Exports	Imports	Balance
1974 Total	792	24,668	-23,876	3,444	25,454	-22,010	18,126	99,437	103,321	-3,884
1975 Total	907	25,197	-24,289	4,470	26,476	-22,006	31,557	108,856	99,305	9,551
1980 Total	2,833	78,637	-75,803	7,982	82,924	-74,942	55,246	225,566	245,262	-19,696
1985 Total	4,707	50,475	-45,768	9,971	53,917	-43,946	-73,765	218,815	336,526	-117,712
1990 Total	6,901	61,583	-54,682	12,233	64,661	-52,428	-50,068	393,592	496,088	-102,496
1995 Total	6,321	54,368	-48,047	10,358	59,109	-48,751	-110,050	584,742	743,543	-158,801
2000 Total	10,192	119,251	-109,059	13,179	135,367	-122,188	-313,916	781,918	1,218,022	-436,104
2005 Total	19,155	250,068	-230,913	26,488	289,723	-263,235	-504,242	905,978	1,673,455	-767,477
2010 Total	64,753	333,472	-268,719	80,625	354,982	-274,357	-361,005	1,278,495	1,913,857	-635,362
2011 Total	^b 102,180	^b 431,866	^b -329,686	128,989	453,839	-324,850	-400,597	1,482,508	2,207,954	-725,447
2012 Total	111,949	408,509	-296,560	136,054	423,860	-287,806	-442,640	1,545,821	2,276,267	-730,446
2013 Total	123,244	363,141	-239,897	147,572	379,758	-232,186	-457,284	1,578,517	2,267,987	-689,470
2014 Total	127,818	326,709	-198,891	154,498	347,474	-192,976	-541,506	1,621,874	2,356,356	-734,482
2015 Total	85,890	177,455	-91,565	103,612	190,501	-86,889	-658,594	1,503,328	2,248,811	-745,483
2016 Total	74,921	142,920	-67,999	92,971	153,800	-60,829	-674,497	1,451,460	2,186,786	-735,326
2017 Total	104,975	181,672	-76,697	137,920	194,790	-56,870	-735,526	1,547,195	2,339,591	-792,396
2018 Total	149,715	219,493	-69,778	190,888	232,746	-41,858	-828,500	1,665,787	2,536,145	-870,358
2019 Total	156,390	189,040	-32,650	197,740	200,829	-3,089	-842,670	1,645,940	2,491,700	-845,759
2020 Total	110,373	113,077	-2,704	150,074	122,486	27,588	-929,070	1,429,995	2,331,477	-901,482
2021 Total	157,530	198,648	-41,118	236,233	215,734	20,499	-1,091,271	1,757,744	2,828,515	-1,070,772
2022 Total	263,210	283,230	-20,020	379,335	310,355	68,980	-1,236,065	2,072,648	3,239,733	-1,167,085
2023 Total	237,614	235,115	2,499	321,726	251,596	70,130	-1,124,743	2,021,939	3,076,552	-1,054,613
2024 January	18,736	18,504	232	25,713	20,555	5,158	-98,204	160,481	253,527	-93,046
February	19,586	16,685	2,901	26,746	17,956	8,790	-82,950	167,867	242,028	-74,160
March	21,336	18,258	3,078	27,932	19,163	8,769	-87,773	179,836	258,840	-79,004
April	20,102	20,871	-769	25,673	21,568	4,105	-103,346	171,524	270,765	-99,241
May	20,567	22,535	-1,968	26,594	23,226	3,368	-104,909	173,226	274,767	-101,541
June	20,639	20,615	24	26,985	21,414	5,571	-96,992	174,250	265,671	-91,421
July	20,924	22,588	-1,664	27,119	23,524	3,595	-122,376	168,947	287,728	-118,781
August	20,474	19,738	736	26,557	20,640	5,917	-102,790	180,055	276,927	-96,873
September	18,093	18,056	37	24,148	18,854	5,294	-119,782	171,227	285,715	-114,488
October	18,608	17,222	1,386	25,148	18,091	7,057	-119,181	176,726	288,850	-112,124
November	19,414	16,467	2,947	26,214	17,355	8,859	-108,819	174,327	274,286	-99,960
December	18,840	17,413	1,427	26,426	18,936	7,490	-127,720	164,559	284,789	-120,230
Total	237,317	228,949	8,368	315,256	241,283	73,973	-1,274,842	2,063,024	3,263,893	-1,200,869
2025 January	18,801	17,873	928	26,813	20,195	6,618	-159,620	165,002	318,004	-153,002
February	16,964	15,307	1,657	24,718	17,222	7,496	-128,102	167,208	287,815	-120,606
March	18,100	16,364	1,736	26,797	17,524	9,273	-160,112	191,447	342,286	-150,839
April	16,373	16,136	237	24,513	17,042	7,471	-94,023	189,131	275,683	-86,552
May	16,522	16,566	-44	23,764	17,382	6,382	-97,963	184,210	275,791	-91,581
June	17,371	16,130	1,241	24,283	16,978	7,305	-92,174	180,538	265,407	-84,869
July	17,053	17,038	15	24,419	18,039	6,380	-123,056	175,457	292,133	-116,676
August	17,447	16,914	533	24,715	17,765	6,950	-90,092	179,448	262,590	-83,142
September	17,758	15,780	1,978	24,920	16,602	8,318	-99,941	185,185	276,807	-91,623
October	17,337	14,953	2,384	24,617	15,751	8,866	-81,186	202,679	274,999	-72,320
November	17,126	12,932	4,194	24,803	14,053	10,750	-90,402	181,372	261,025	-79,652
December	17,763	15,542	2,221	26,500	17,153	9,347	-113,103	178,215	281,971	-103,756
Total	208,615	191,537	17,078	300,863	205,706	95,157	-1,329,776	2,179,891	3,414,511	-1,234,619
2026 January	16,794	14,110	2,684	25,567	16,775	8,792	-83,085	186,300	260,593	-74,293
February	16,400	13,844	2,556	25,667	16,134	9,533	-67,959	195,194	253,620	-58,426
March	23,515	17,071	6,444	32,640	18,678	13,962	-94,706	221,658	302,401	-80,744
April	32,145	19,275	12,870	41,738	20,438	21,300	^R -102,970	^R 218,585	^R 300,255	^R -81,670
May	33,673	21,083	12,590	42,540	21,903	20,637	-124,285	208,208	311,856	-103,648
5-Month Total	122,527	85,383	37,144	168,153	93,928	74,224	-473,005	1,029,945	1,428,726	-398,781
2025 5-Month Total	86,761	82,247	4,514	126,605	89,365	37,240	-639,820	896,997	1,499,578	-602,581
2024 5-Month Total	99,160	96,856	3,474	131,278	102,472	30,190	-477,182	852,934	1,299,927	-446,993

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b Through 2010, data are for crude oil, petroleum preparations, liquefied propane and butane, and other mineral fuels. Beginning in 2011, data are for petroleum products and preparations.

^c Petroleum, coal, natural gas, and electricity.

^R=Revised.

Notes: • Monthly data are not adjusted for seasonal variations. • See Note 1, "Merchandise Trade Value," at end of section. • Totals may not equal sum of

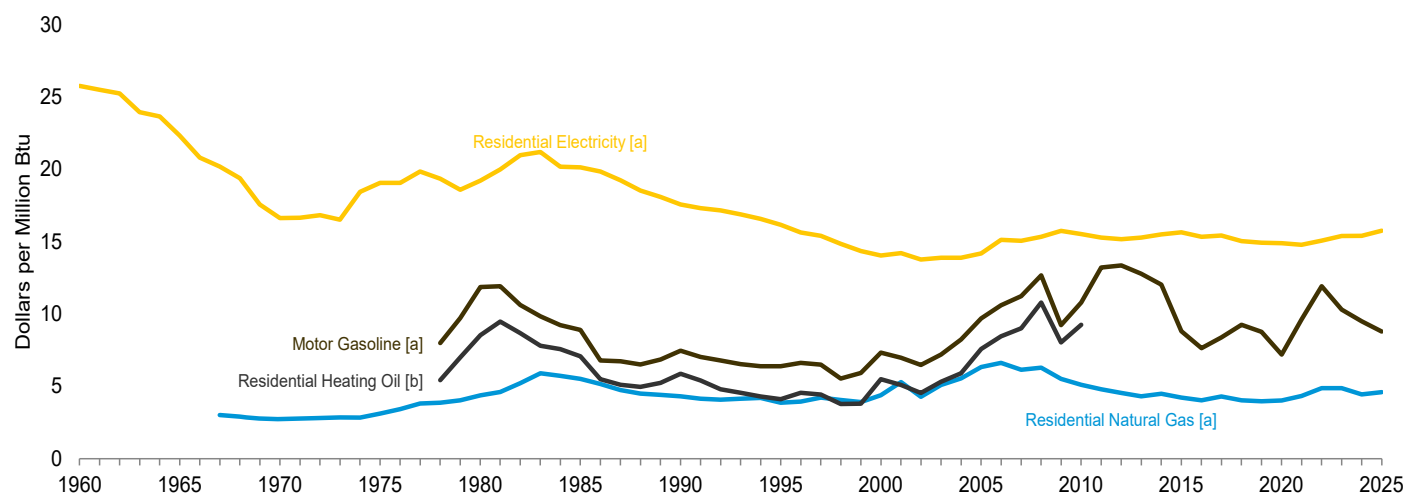
components due to independent rounding. • The U.S. import statistics reflect both government and nongovernment imports of merchandise from foreign countries into the U.S. customs territory, which comprises the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual and monthly data beginning in 1974.

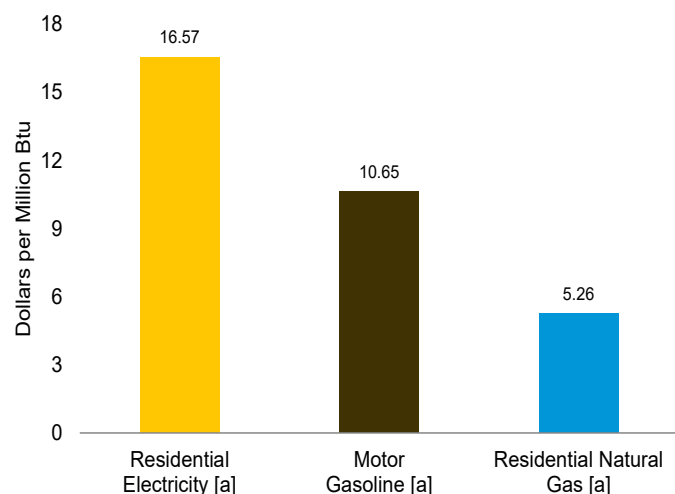
Sources: See end of section.

Figure 1.6 Cost of Fuels to End Users In Real (1982–1984) Dollars

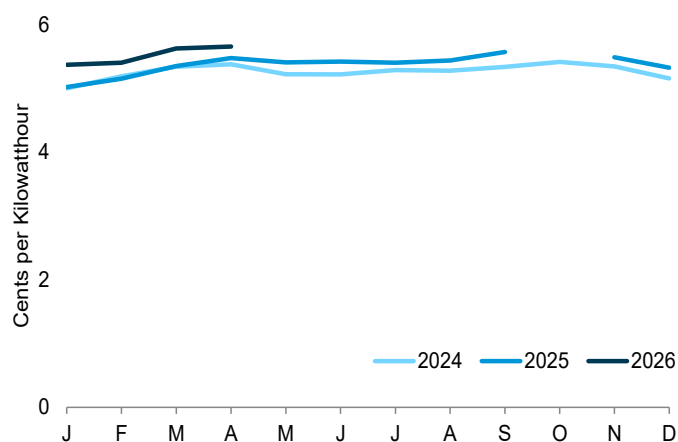
Costs, 1960–2025



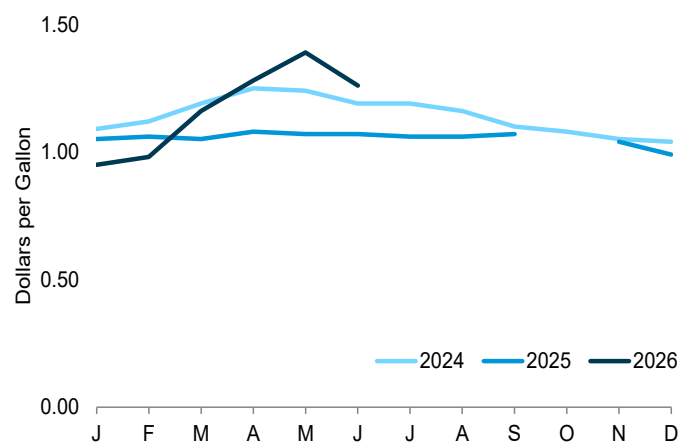
Costs, April 2026



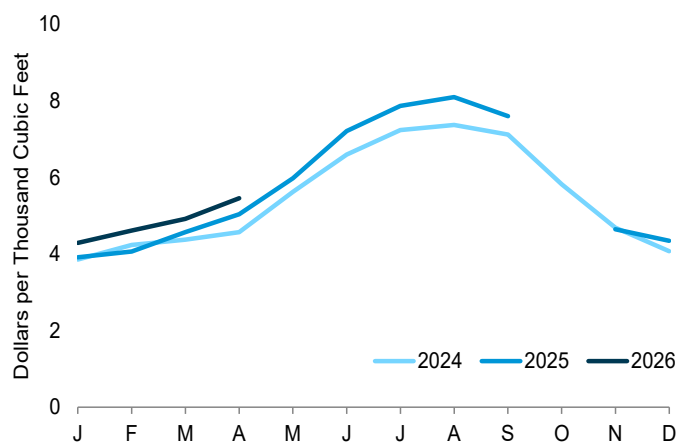
Residential Electricity, [a] Monthly



Motor Gasoline, [a] Monthly



Residential Natural Gas, [a] Monthly



[a] Includes Taxes.

[b] Excludes Taxes.

Note: See "Real Dollars" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.6.

Table 1.6 Cost of Fuels to End Users in Real (1982–1984) Dollars

	Consumer Price Index, All Urban Consumers ^a	Motor Gasoline ^b		Residential Heating Oil ^c		Residential Natural Gas ^b		Residential Electricity ^b	
	Index 1982–1984=100	Dollars per Gallon	Dollars per Million Btu	Dollars per Gallon	Dollars per Million Btu	Dollars per Thousand Cubic Feet	Dollars per Million Btu	Cents per Kilowatt-hour	Dollars per Million Btu
1960 Average	29.6	NA	NA	NA	NA	NA	NA	8.8	25.74
1965 Average	31.5	NA	NA	NA	NA	NA	NA	7.6	22.33
1970 Average	38.8	NA	NA	NA	NA	2.81	2.72	5.7	16.62
1975 Average	53.8	NA	NA	NA	NA	3.18	3.12	6.5	19.07
1980 Average	82.4	1.482	11.85	1.182	8.52	4.47	4.36	6.6	19.21
1985 Average	107.6	1.112	8.89	0.979	7.06	5.69	5.52	6.87	20.13
1990 Average	130.7	0.931	7.44	0.813	5.86	4.44	4.31	5.99	17.56
1995 Average	152.4	0.791	6.38	0.569	4.10	3.98	3.87	5.51	16.15
2000 Average	172.2	0.908	7.33	0.761	5.49	4.51	4.39	4.79	14.02
2005 Average	195.3	1.197	9.68	1.051	7.58	6.50	6.33	4.84	14.18
2010 Average	218.056	1.301	10.78	1.283	9.25	5.22	5.11	5.29	15.51
2011 Average	224.939	1.590	13.19	NA	NA	4.90	4.80	5.21	15.27
2012 Average	229.594	1.609	13.35	NA	NA	4.64	4.53	5.17	15.17
2013 Average	232.957	1.538	12.77	NA	NA	4.43	4.31	5.21	15.26
2014 Average	236.736	1.447	12.01	NA	NA	4.63	4.49	5.29	15.50
2015 Average	237.017	1.059	8.80	NA	NA	4.38	4.22	5.34	15.64
2016 Average	240.007	0.918	7.63	NA	NA	4.19	4.03	5.23	15.33
2017 Average	245.120	1.007	8.37	NA	NA	4.45	4.29	5.26	15.41
2018 Average	251.107	1.113	9.25	NA	NA	4.18	4.03	5.13	15.02
2019 Average	255.657	1.055	8.77	NA	NA	4.11	3.95	5.09	14.91
2020 Average	258.811	0.866	7.20	NA	NA	4.17	4.01	5.08	14.89
2021 Average	270.970	1.156	9.62	NA	NA	4.50	4.33	5.04	14.77
2022 Average	292.655	1.432	11.92	NA	NA	5.04	4.86	5.14	15.06
2023 Average	304.702	1.238	10.29	NA	NA	5.05	4.87	5.25	15.39
2024 January	308.417	1.087	9.04	NA	NA	3.86	3.71	5.00	14.64
February	310.326	1.123	9.34	NA	NA	4.23	4.08	5.19	15.21
March	312.332	1.187	9.87	NA	NA	4.37	4.21	5.34	15.64
April	313.548	1.246	10.36	NA	NA	4.57	4.40	5.38	15.76
May	314.069	1.237	10.29	NA	NA	5.63	5.41	5.22	15.30
June	314.175	1.187	9.87	NA	NA	6.60	6.35	5.21	15.28
July	314.540	1.191	9.91	NA	NA	7.24	6.97	5.28	15.49
August	314.796	1.159	9.64	NA	NA	7.38	7.10	5.27	15.46
September	315.301	1.103	9.17	NA	NA	7.12	6.86	5.33	15.63
October	315.664	1.081	8.99	NA	NA	5.82	5.60	5.41	15.87
November	315.493	1.051	8.74	NA	NA	4.69	4.51	5.34	15.65
December	315.605	1.038	8.64	NA	NA	4.07	3.92	5.16	15.11
Average	313.689	1.141	9.49	NA	NA	4.62	4.45	5.25	15.40
2025 January	317.671	1.052	8.75	NA	NA	3.92	3.78	5.02	14.71
February	319.082	1.064	8.86	NA	NA	4.07	3.92	5.15	15.09
March	319.799	1.053	8.76	NA	NA	4.57	4.41	5.34	15.66
April	320.795	1.080	8.99	NA	NA	5.04	4.86	5.47	16.03
May	321.465	1.071	8.91	NA	NA	5.99	5.77	5.40	15.84
June	322.561	1.067	8.88	NA	NA	7.21	6.95	5.42	15.87
July	323.048	1.059	8.82	NA	NA	7.87	7.59	5.40	15.83
August	323.976	1.060	8.82	NA	NA	8.10	7.81	5.44	15.93
September	324.800	1.072	8.92	NA	NA	7.61	7.33	5.57	16.31
October ^d	NA	NA	NA	NA	NA	NA	NA	NA	NA
November	324.122	1.041	8.66	NA	NA	4.65	4.48	5.49	16.08
December	324.054	0.986	8.20	NA	NA	4.35	4.19	5.32	15.59
Average^e	321.943	1.055	8.78	NA	NA	4.77	4.59	5.37	15.75
2026 January	325.252	0.954	7.94	NA	NA	4.29	4.14	5.37	15.72
February	326.785	0.983	8.18	NA	NA	4.61	4.44	5.40	15.83
March	330.213	1.164	9.68	NA	NA	4.92	4.75	^R 5.62	^R 16.47
April	333.020	1.280	10.65	NA	NA	^R 5.46	^R 5.26	^R 5.65	^R 16.57
May	335.123	1.388	11.55	NA	NA	NA	NA	NA	NA
June	333.952	1.256	10.45	NA	NA	NA	NA	NA	NA

^a Data are U.S. city averages for all items, and are not seasonally adjusted.

^b Includes taxes.

^c Excludes taxes.

^d Data for October 2025 are not available due to the 2025 lapse in appropriations.

^e Annual averages are based on 11 months of data (excluding October 2025).

R=Revised. NA=Not available.

Notes: • See "Real Dollars" in Glossary. • Fuel costs are calculated by using the Urban Consumer Price Index (CPI) developed by the Bureau of Labor Statistics. • Annual averages may not equal average of months due to

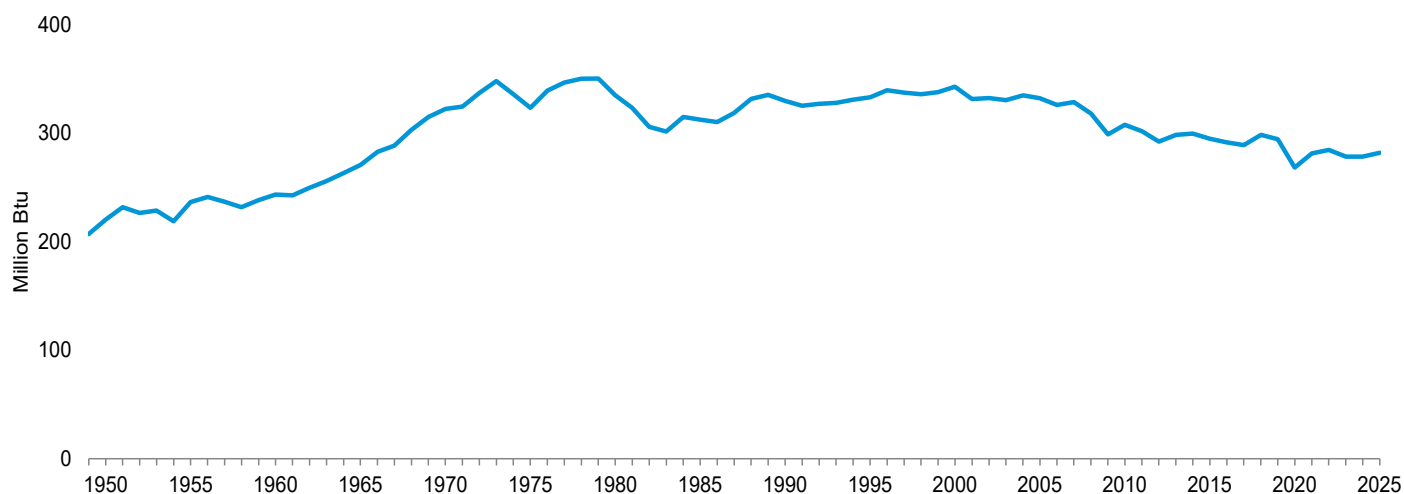
independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1960 and monthly data beginning in 1995.

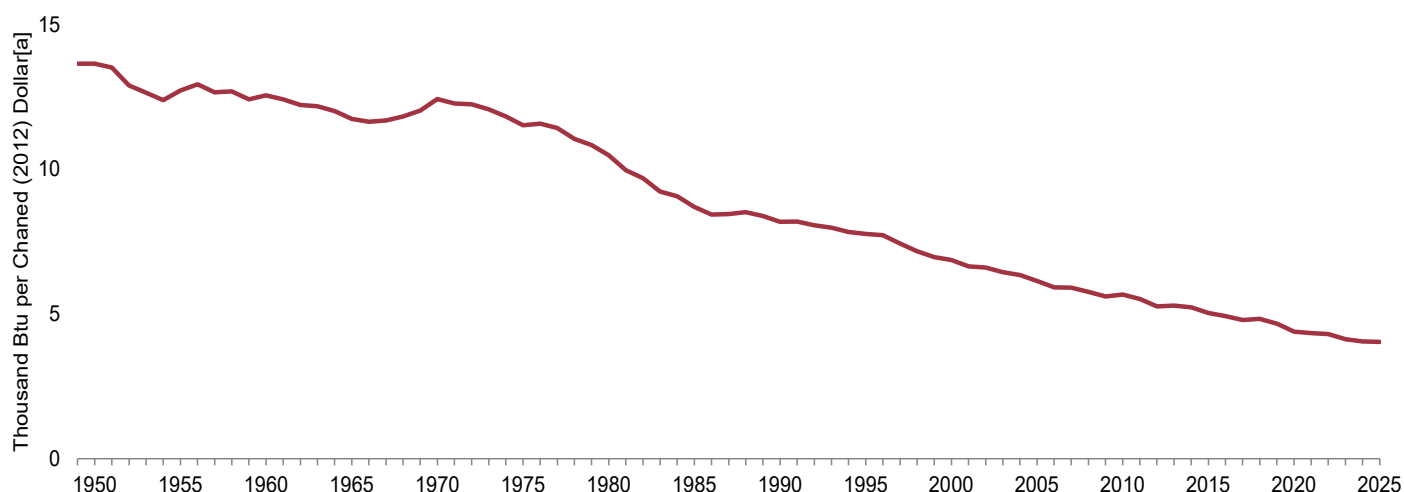
Sources: • **Fuel Prices:** Tables 9.4 (All Grades), 9.8, and 9.10, adjusted by the CPI; and *Monthly Energy Review*, September 2012, Table 9.8c. • **Consumer Price Index, All Urban Consumers:** U.S. Department of Labor, Bureau of Labor Statistics, series ID CUUR0000SA0. • **Conversion Factors:** Tables A1, A3, A4, and A6.

Figure 1.7 Primary Energy Consumption and Energy Expenditures Indicators

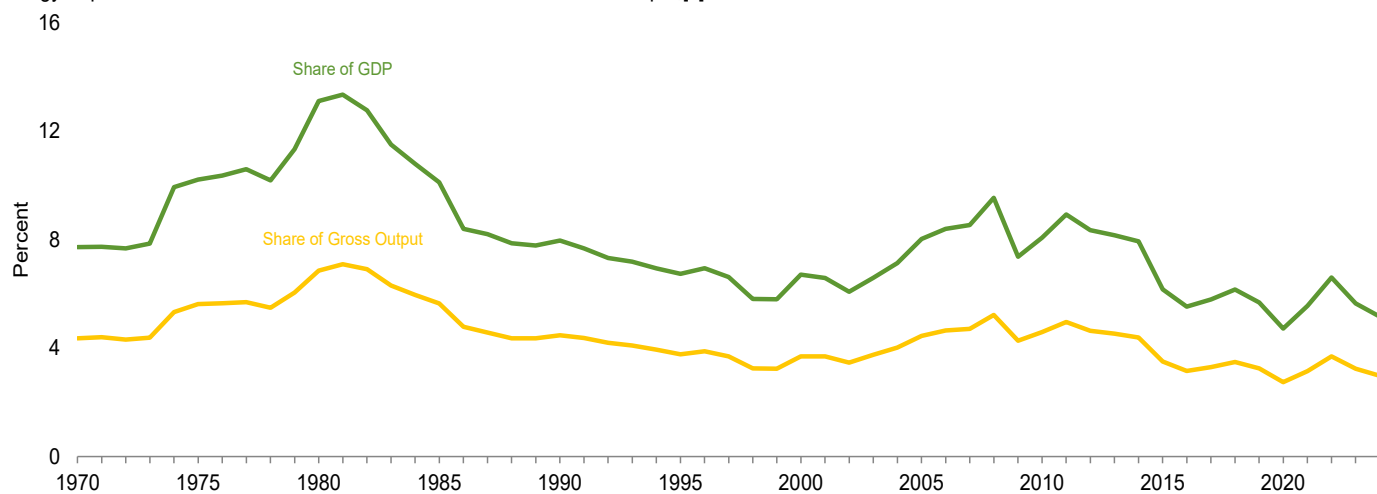
Energy Consumption per Capita, 1949–2025



Primary Energy Consumption per Real Dollar [a] of Gross Domestic Product, 1949–2025



Energy Expenditures as Share of Gross Domestic Product and Gross Output,[b] 1970–2024



[a] See “Chained Dollars” and “Real Dollars” in Glossary.

[b] Gross output is the value of gross domestic product (GDP) plus the value of intermediate inputs used to produce GDP.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.7.

Table 1.7 Primary Energy Consumption, Energy Expenditures, and Carbon Dioxide Emissions Indicators

	Primary Energy Consumption ^a			Energy Expenditures ^b				Carbon Dioxide Emissions ^c		
	Consumption	Consumption per Capita	Consumption per Real Dollar ^d of GDP ^e	Expenditures	Expenditures per Capita	Expenditures as Share of GDP ^e	Expenditures as Share of Gross Output ^f	Emissions	Emissions per Capita	Emissions per Real Dollar ^d of GDP ^e
	Quadrillion Btu	Million Btu	Thousand Btu per Chained (2017) Dollar ^d	Million Nominal Dollars ^g	Nominal Dollars ^g	Percent	Percent	Million Metric Tons Carbon Dioxide	Metric Tons Carbon Dioxide	Metric Tons Carbon Dioxide per Million Chained (2017) Dollars ^d
1950	33.527	220	13.64	NA	NA	NA	NA	2,382	15.6	969
1955	39.215	236	12.72	NA	NA	NA	NA	2,685	16.2	871
1960	43.942	243	12.55	NA	NA	NA	NA	2,914	16.1	833
1965	52.565	271	11.74	NA	NA	NA	NA	3,462	17.8	773
1970	66.036	322	12.42	82,875	404	7.7	4.4	4,261	20.8	802
1975	69.788	323	11.51	171,854	796	10.2	5.6	4,428	20.5	731
1980	76.038	335	10.48	374,350	1,647	13.1	6.9	4,757	20.9	655
1981	74.159	323	9.97	427,901	1,865	13.3	7.1	4,637	20.2	623
1982	70.812	306	9.69	426,482	1,841	12.8	6.9	4,405	19.0	603
1983	70.489	302	9.22	417,622	1,786	11.5	6.3	4,384	18.8	574
1984	74.237	315	9.06	435,313	1,846	10.8	6.0	4,613	19.6	563
1985	74.268	312	8.70	438,343	1,842	10.1	5.6	4,606	19.4	540
1986	74.458	310	8.43	384,091	1,599	8.4	4.8	4,616	19.2	523
1987	77.161	318	8.44	397,627	1,641	8.2	4.6	4,776	19.7	523
1988	81.025	331	8.51	411,568	1,683	7.9	4.4	4,999	20.4	525
1989	82.711	335	8.38	439,051	1,779	7.8	4.4	5,085	20.6	515
1990	82.256	330	8.18	474,652	1,901	8.0	4.5	5,038	20.2	501
1991	82.214	325	8.19	472,440	1,867	7.7	4.4	4,993	19.7	497
1992	83.836	327	8.06	476,845	1,859	7.3	4.2	5,094	19.9	490
1993	85.191	328	7.97	492,275	1,894	7.2	4.1	5,186	20.0	485
1994	87.053	331	7.83	504,856	1,919	6.9	3.9	5,263	20.0	473
1995	88.668	333	7.77	514,624	1,933	6.7	3.8	5,325	20.0	467
1996	91.404	339	7.72	560,293	2,080	6.9	3.9	5,518	20.5	466
1997	91.956	337	7.43	567,962	2,083	6.6	3.7	5,590	20.5	452
1998	92.602	336	7.16	526,283	1,908	5.8	3.2	5,637	20.4	436
1999	94.232	338	6.96	558,627	2,002	5.8	3.2	5,700	20.4	421
2000	96.694	343	6.86	687,711	2,437	6.7	3.7	5,889	20.9	418
2001	94.416	331	6.63	696,242	2,443	6.6	3.7	5,778	20.3	406
2002	95.575	332	6.60	663,964	2,308	6.1	3.5	5,820	20.2	402
2003	95.806	330	6.44	755,070	2,603	6.6	3.7	5,887	20.3	396
2004	98.033	335	6.35	871,210	2,975	7.1	4.0	5,994	20.5	388
2005	98.101	332	6.14	1,045,730	3,539	8.0	4.4	6,008	20.3	376
2006	97.235	326	5.92	1,158,821	3,884	8.4	4.6	5,930	19.9	361
2007	98.965	329	5.90	1,233,869	4,096	8.5	4.7	6,015	20.0	359
2008	96.647	318	5.76	1,408,759	4,633	9.5	5.2	5,823	19.1	347
2009	91.626	299	5.60	1,066,509	3,477	7.4	4.3	5,404	17.6	331
2010	95.142	308	5.67	1,214,267	3,926	8.1	4.6	5,594	18.1	333
2011	93.967	302	5.51	1,392,401	4,469	8.9	5.0	5,455	17.5	320
2012	91.678	292	5.26	1,355,104	4,318	8.3	4.6	5,236	16.7	300
2013	94.253	298	5.29	1,376,256	4,356	8.2	4.5	5,359	17.0	301
2014	95.332	300	5.22	1,395,260	4,383	7.9	4.4	5,414	17.0	296
2015	94.478	295	5.03	1,128,337	3,519	6.2	3.5	5,262	16.4	280
2016	94.084	291	4.92	1,038,805	3,217	5.5	3.2	5,169	16.0	270
2017	93.889	289	4.79	1,136,199	3,496	5.8	3.3	5,131	15.8	262
2018	97.400	298	4.82	1,271,889	3,893	6.2	3.5	5,278	16.2	261
2019	96.600	294	4.66	1,223,755	3,728	5.7	3.2	5,147	15.7	248
2020	88.877	268	4.38	1,007,574	3,039	4.7	2.7	4,585	13.8	226
2021	93.375	281	4.34	1,316,788	3,965	5.6	3.1	4,906	14.8	228
2022	94.964	284	4.30	1,719,511	^R 5,148	6.6	3.7	4,945	14.8	224
2023	93.746	278	4.13	1,568,119	4,657	5.6	3.2	4,799	14.2	211
2024	94.582	278	4.05	1,509,652	4,440	5.2	3.0	4,789	14.1	205
2025	96.256	282	4.04	NA	NA	NA	NA	4,904	14.3	206

^a See "Primary Energy Consumption" in Glossary.

^b Expenditures include taxes where data are available.

^c Carbon dioxide emissions from energy consumption. See Table 11.1.

^d See "Chained Dollars" and "Real Dollars" in Glossary.

^e See "Gross Domestic Product (GDP)" in Glossary.

^f Gross output is the value of GDP plus the value of intermediate inputs used to produce GDP.

^g See "Nominal Dollars" in Glossary.

R=Revised. NA=Not available.

Notes: • Data are estimates. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: • **Consumption:** Table 1.3. • **Consumption per Capita:** Calculated as energy consumption divided by U.S. population (see Table C1).

• **Consumption per Real Dollar of GDP:** Calculated as energy consumption divided by U.S. gross domestic product in chained (2017) dollars (see Table C1).

• **Expenditures:** U.S. Energy Information Administration, "State Energy Price and Expenditure Estimates, 1970 Through 2024" (June 2026), U.S. Table ET1.

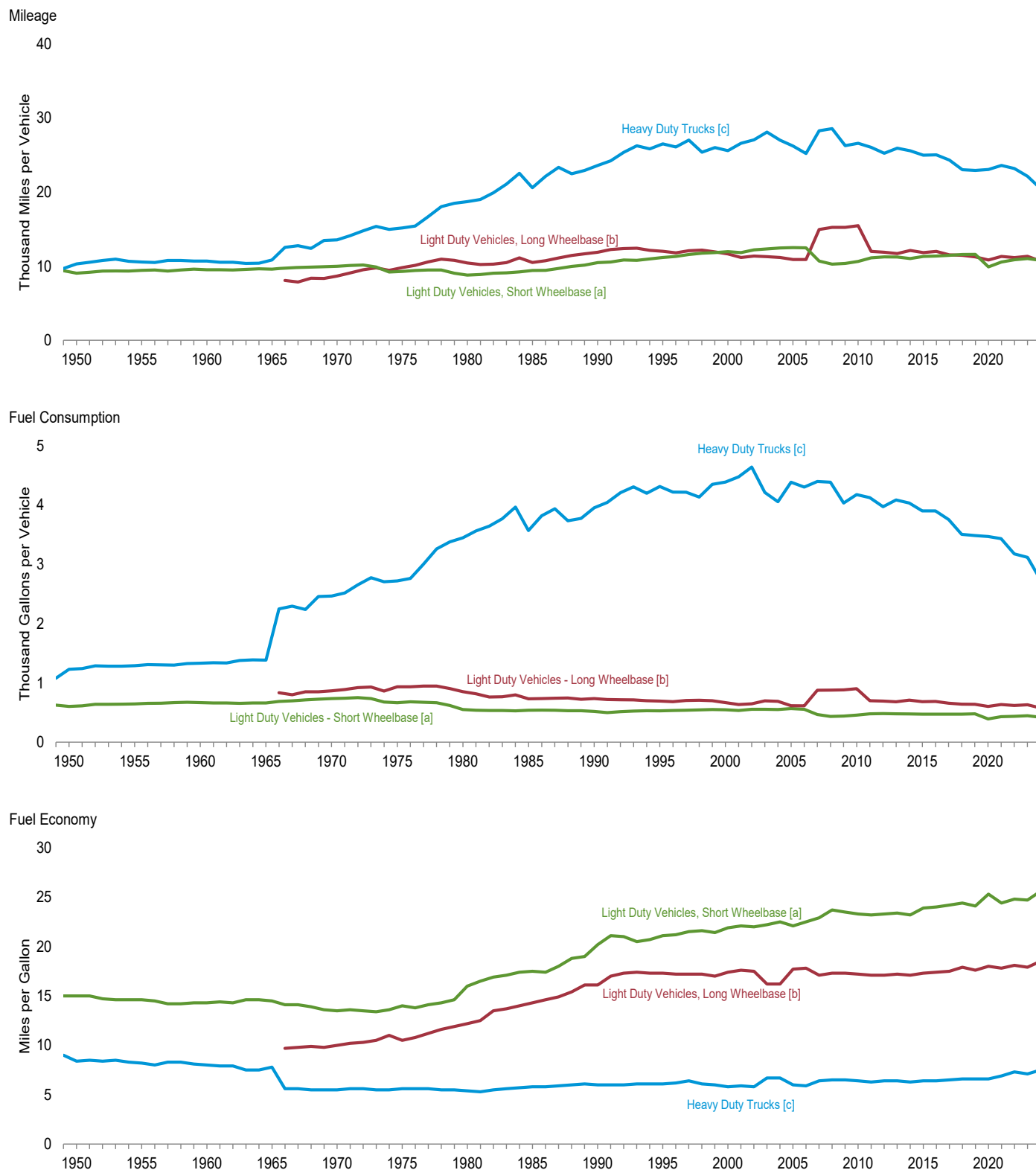
• **Expenditures per Capita:** Calculated as energy expenditures divided by U.S. population (see Table C1). • **Expenditures as Share of GDP:** Calculated as energy expenditures divided by U.S. gross domestic product in nominal dollars (see Table C1).

• **Expenditures as Share of Gross Output:** Calculated as energy expenditures divided by U.S. gross output (see Table C1).

• **Emissions:** 1949–1972—U.S. Energy Information Administration, *Annual Energy Review 2011*, Table 11.1. 1973 forward—Table 11.1. • **Emissions per Capita:** Calculated as carbon dioxide emissions divided by U.S. population (see Table C1).

• **Emissions per Real Dollar of GDP:** Calculated as carbon dioxide emissions divided by U.S. gross domestic product in chained (2017) dollars (see Table C1).

Figure 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy, 1949–2024



[a] Through 1989, data are for passenger cars and motorcycles. For 1990–2006, data are for passenger cars only. Beginning in 2007, data are for light-duty vehicles (passenger cars, light trucks, vans, and sport utility vehicles) with a wheelbase less than or equal to 121 inches.

[b] For 1966–2000, data are for vans, pickup trucks, and sport utility vehicles. Beginning in 2007, data are for light-duty vehicles (passenger cars, light trucks, vans, and sport utility vehicles) with a wheelbase greater than 121 inches.

[c] For 1949–1965, data are for single-unit trucks with 2 axles and 6 or more tires, combination trucks, and other vehicles with 2 axles and 4 tires that are not

passenger cars. For 1966–2006 data are for single-unit truck with 2 axles and 6 or more tires, and combination trucks. Beginning in 2007, data are for single-unit trucks with 2 axles and 6 or more tires (or a gross vehicle weight rating exceeding 10,000 pounds), and combination trucks.

Note: Through 1965, “Light-Duty Vehicles, Long Wheelbase” data are included in “Heavy-Duty Trucks.”

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#summary>.

Source: Table 1.8.

Table 1.8 Motor Vehicle Mileage, Fuel Consumption, and Fuel Economy

	Light-Duty Vehicles, Short Wheelbase ^a			Light-Duty Vehicles, Long Wheelbase ^b			Heavy-Duty Trucks ^c			All Motor Vehicles ^d		
	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy	Mileage	Fuel Consumption	Fuel Economy
	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon	Miles per Vehicle	Gallons per Vehicle	Miles per Gallon
1950	9,060	603	15.0	(^e)	(^e)	(^e)	10,316	1,229	8.4	9,321	725	12.8
1955	9,447	645	14.6	(^e)	(^e)	(^e)	10,576	1,293	8.2	9,661	761	12.7
1960	9,518	668	14.3	(^e)	(^e)	(^e)	10,693	1,333	8.0	9,732	784	12.4
1965	9,603	661	14.5	(^e)	(^e)	(^e)	10,851	1,387	7.8	9,826	787	12.5
1970	9,989	737	13.5	8,676	866	10.0	13,565	2,467	5.5	9,976	830	12.0
1975	9,309	665	14.0	9,829	934	10.5	15,167	2,722	5.6	9,627	790	12.2
1980	8,813	551	16.0	10,437	854	12.2	18,736	3,447	5.4	9,458	712	13.3
1981	8,873	538	16.5	10,244	819	12.5	19,016	3,565	5.3	9,477	697	13.6
1982	9,050	535	16.9	10,276	762	13.5	19,931	3,647	5.5	9,644	686	14.1
1983	9,118	534	17.1	10,497	767	13.7	21,083	3,769	5.6	9,760	686	14.2
1984	9,248	530	17.4	11,151	797	14.0	22,550	3,967	5.7	10,017	691	14.5
1985	9,419	538	17.5	10,506	735	14.3	20,597	3,570	5.8	10,020	685	14.6
1986	9,464	543	17.4	10,764	738	14.6	22,143	3,821	5.8	10,143	692	14.7
1987	9,720	539	18.0	11,114	744	14.9	23,349	3,937	5.9	10,453	694	15.1
1988	9,972	531	18.8	11,465	745	15.4	22,485	3,736	6.0	10,721	688	15.6
1989	10,157	533	19.0	11,676	724	16.1	22,926	3,776	6.1	10,932	688	15.9
1990	10,504	520	20.2	11,902	738	16.1	23,603	3,953	6.0	11,107	677	16.4
1991	10,571	501	21.1	12,245	721	17.0	24,229	4,047	6.0	11,294	669	16.9
1992	10,857	517	21.0	12,381	717	17.3	25,373	4,210	6.0	11,558	683	16.9
1993	10,804	527	20.5	12,430	714	17.4	26,262	4,309	6.1	11,595	693	16.7
1994	10,992	531	20.7	12,156	701	17.3	25,838	4,202	6.1	11,683	698	16.7
1995	11,203	530	21.1	12,018	694	17.3	26,514	4,315	6.1	11,793	700	16.8
1996	11,330	534	21.2	11,811	685	17.2	26,092	4,221	6.2	11,813	700	16.9
1997	11,581	539	21.5	12,115	703	17.2	27,032	4,218	6.4	12,107	711	17.0
1998	11,754	544	21.6	12,173	707	17.2	25,397	4,135	6.1	12,211	721	16.9
1999	11,848	553	21.4	11,957	701	17.0	26,014	4,352	6.0	12,206	732	16.7
2000	11,976	547	21.9	11,672	669	17.4	25,617	4,391	5.8	12,164	720	16.9
2001	11,831	534	22.1	11,204	636	17.6	26,602	4,477	5.9	11,887	695	17.1
2002	12,202	555	22.0	11,364	650	17.5	27,071	4,642	5.8	12,171	719	16.9
2003	12,325	556	22.2	11,287	697	16.2	28,093	4,215	6.7	12,208	718	17.0
2004	12,460	553	22.5	11,184	690	16.2	27,023	4,057	6.7	12,200	714	17.1
2005	12,510	567	22.1	10,920	617	17.7	26,235	4,385	6.0	12,082	706	17.1
2006	12,485	554	22.5	10,920	612	17.8	25,231	4,304	5.9	12,017	698	17.2
2007	^a 10,710	^a 468	^a 22.9	^b 14,970	^b 877	^b 17.1	^c 28,290	^c 4,398	6.4	11,915	693	17.2
2008	10,290	435	23.7	15,256	880	17.3	28,573	4,387	6.5	11,631	667	17.4
2009	10,391	442	23.5	15,252	882	17.3	26,274	4,037	6.5	11,631	661	17.6
2010	10,650	456	23.3	15,474	901	17.2	26,604	4,180	6.4	11,866	681	17.4
2011	11,150	481	23.2	12,007	702	17.1	26,054	4,128	6.3	11,652	665	17.5
2012	11,262	484	23.3	11,885	694	17.1	25,255	3,973	6.4	11,707	665	17.6
2013	11,244	480	23.4	11,712	683	17.2	25,951	4,086	6.4	11,679	663	17.6
2014	11,048	476	23.2	12,138	710	17.1	25,594	4,036	6.3	11,621	666	17.5
2015	11,327	475	23.9	11,855	684	17.3	24,979	3,904	6.4	11,742	656	17.9
2016	11,370	475	24.0	11,991	689	17.4	25,037	3,904	6.4	11,810	658	17.9
2017	11,467	474	24.2	11,543	659	17.5	24,335	3,758	6.5	11,789	653	18.1
2018	11,576	475	24.4	11,486	643	17.9	23,037	3,507	6.6	11,843	651	18.2
2019	11,599	481	24.1	11,263	640	17.6	22,930	3,488	6.6	11,797	651	18.1
2020	9,928	393	25.3	10,855	603	18.0	23,075	3,470	6.6	10,523	577	18.2
2021	10,573	433	24.4	11,318	636	17.8	23,601	3,436	6.9	11,099	617	18.0
2022	10,881	438	24.8	11,177	619	18.1	23,183	3,177	7.3	11,327	611	18.5
2023	11,026	447	24.7	11,360	633	17.9	22,151	3,120	7.1	11,408	621	18.4
2024	10,812	423	25.6	10,707	579	18.5	20,494	2,741	7.5	11,071	577	19.2

^a Through 1989, data are for passenger cars and motorcycles. For 1990–2006, data are for passenger cars only. Beginning in 2007, data are for light-duty vehicles (passenger cars, light trucks, vans, and sport utility vehicles) with a wheelbase less than or equal to 121 inches.

^b For 1966–2006, data are for vans, pickup trucks, and sport utility vehicles. Beginning in 2007, data are for light-duty vehicles (passenger cars, light trucks, vans, and sport utility vehicles) with a wheelbase greater than 121 inches.

^c For 1949–1965, data are for single-unit trucks with 2 axles and 6 or more tires, combination trucks, and other vehicles with 2 axles and 4 tires that are not passenger cars. For 1966–2006, data are for single-unit trucks with 2 axles and 6 or more tires, and combination trucks. Beginning in 2007, data are for single-unit trucks with 2 axles and 6 or more tires (or a gross vehicle weight rating exceeding

10,000 pounds), and combination trucks.

^d Includes buses and motorcycles, which are not separately displayed.

^e Included in "Heavy-Duty Trucks."

Note: Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: • **Light-Duty Vehicles, Short Wheelbase: 1990–1994**—U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics 1998*, Table 4-13. • **All Other Data: 1949–1994**—Federal Highway Administration (FHWA), *Highway Statistics Summary to 1995*, Table VM-201A. **1995 forward**—FHWA, *Highway Statistics*, annual reports, Table VM-1.

Table 1.9 Light-Duty Vehicle Average Miles Traveled by Technology Type
(Miles per Vehicle^a)

	Internal Combustion Engine Vehicles			Electric Vehicles	
	Motor Gasoline Vehicles ^b	Diesel Vehicles	Hybrid Electric Vehicles ^c	Battery Electric Vehicles ^d	Plug-in Hybrid Electric Vehicles ^e
2016	9,946	10,647	12,161	6,782	9,555
2017	^E 10,070	^E 10,220	^E 12,031	^E 6,055	^E 9,188
2018	10,217	10,494	12,013	5,594	9,134
2019	9,883	9,789	11,486	6,028	8,842
2020	10,135	10,136	11,526	6,682	9,335
2021	9,892	10,264	10,753	6,570	8,673
2022	9,846	10,680	10,554	7,070	8,701
2023 ^f	12,492	13,909	14,938	13,070	12,682
2024	12,451	13,905	14,469	12,839	11,368

^a See Note 2, "Light-Duty Vehicle Average Annual Miles Traveled by Technology Type," at end of section.

^b Does not include hybrid electric vehicles.

^c See "Hybrid Electric Vehicle (HEV)" in Glossary.

^d See "Battery Electric Vehicle (BEV)" in Glossary.

^e See "Plug-in Hybrid Electric Vehicle (PHEV)" in Glossary.

^f Through 2022, data are EIA estimates based on S&P Global Mobility Odometer data and Vehicles in Operation data. Beginning in 2023, data are EIA estimates based on S&P Global Mobility Vehicle Miles Traveled data and Vehicles in Operation data.

E=Estimate.

Note: • Data are for on-road vehicles less than or equal to 8,500 pounds (includes passenger cars and light trucks). • Data are derived from vehicle odometer reading data. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 2016.

Source: • **2016–2022:** Calculated by EIA using S&P Global Mobility Odometer data and Vehicles in Operation data. • **2023 forward:** Calculated by EIA using S&P Global Vehicle Miles Traveled data and Vehicles in Operations data.

Table 1.10 Electric and Fuel Cell Electric Light-Duty Vehicles Overview

	Electric Light-Duty Vehicles			Fuel Cell Electric Vehicles ^c	All Light-Duty Vehicles ^d	Electric Vehicle Share of All Light-Duty Vehicles
	Battery Electric Vehicles ^a	Plug-In Hybrid Electric Vehicles ^b	Total			
	Thousands of Registered Vehicles					Percent
2012	35.2	33.8	69.0	0.0	230,766.8	(s)
2013	E 82.9	E 79.4	E 162.3	0.0	E 235,945.8	E 0.1
2014	125.9	134.7	260.6	(s)	239,711.0	0.1
2015	E 195.4	E 175.4	E 370.8	E 0.1	E 248,327.1	E 0.2
2016	274.5	223.6	498.1	0.9	251,518.7	0.2
2017	E 358.9	E 345.1	E 703.9	E 4.4	E 256,928.0	E 0.3
2018	573.7	471.5	1,045.2	5.8	259,163.2	0.4
2019	756.3	560.6	1,316.9	7.5	261,539.9	0.5
2020	973.5	613.0	1,586.5	8.1	260,034.2	0.6
2021	1,405.8	766.3	2,172.1	11.5	262,402.9	0.8
2022	2,049.6	935.6	2,985.2	14.6	263,181.0	1.1
2023	3,403.7	1,151.2	4,554.9	16.8	264,733.3	1.7
2024	4,351.3	1,465.6	5,816.9	16.7	267,111.1	2.2

^a See "Battery Electric Vehicle (BEV)" in Glossary.

^b See "Plug-In Hybrid Electric Vehicle (PHEV)" in Glossary.

^c See "Fuel Cell Electric Vehicle (FCEV)" in Glossary.

^d Includes internal combustion engine vehicles, electric vehicles, and fuel cell electric vehicles.

^E=Estimate. (s)=Less than 0.05 percent.

Notes: • Data are at end of year. • Data are for on-road vehicles less than or equal to 8,500 pounds (includes passenger cars and light trucks). • Data for 2013, 2015, and 2017 are estimates. • The federal government and some states self-register their state-owned vehicles. These vehicles are not included in number of registered vehicles. • Geographic coverage is the 50 states and the District of

Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 2012.

Sources: • **Electric Light-Duty Vehicles, Fuel Cell Electric Vehicles, and All Light-Duty Vehicles:** S&P Global Mobility Vehicles in Operation, as of calendar year end figures for each of the years shown. Data for 2013, 2015, and 2017 are estimates interpolated by EIA. • **Electric Vehicle Share of All Light Duty-Vehicles (defined by EIA as less than or equal to 8,500 lbs):** Calculated as battery electric and plug-in hybrid electric light-duty vehicles divided by all light-duty vehicles by EIA.

Table 1.11 Heating Degree Days by Census Division

	New England ^a	Middle Atlantic ^b	East North Central ^c	West North Central ^d	South Atlantic ^e	East South Central ^f	West South Central ^g	Mountain ^h	Pacific ⁱ	United States
1950 Total	6,793	6,313	7,028	7,461	3,495	3,552	2,280	6,320	3,910	5,362
1955 Total	6,872	6,220	6,488	6,918	3,487	3,517	2,295	6,685	4,324	5,242
1960 Total	6,826	6,376	6,909	7,191	3,764	4,139	2,767	6,264	3,806	5,400
1965 Total	7,027	6,379	6,588	6,938	3,358	3,505	2,238	6,067	3,825	5,143
1970 Total	7,022	6,376	6,721	7,094	3,437	3,827	2,561	6,098	3,731	5,214
1975 Total	6,545	5,881	6,407	6,886	2,953	3,441	2,310	6,237	4,120	4,900
1980 Total	7,071	6,463	6,976	6,840	3,361	3,969	2,495	5,534	3,544	5,075
1985 Total	6,750	5,957	6,667	7,269	2,892	3,663	2,536	6,040	3,939	4,886
1990 Total	5,988	5,240	5,779	6,141	2,301	2,947	1,967	5,370	3,610	4,178
1995 Total	6,686	6,079	6,741	6,916	2,984	3,653	2,148	5,079	3,274	4,637
2000 Total	6,624	5,986	6,317	6,504	2,902	3,555	2,152	4,952	3,464	4,491
2005 Total	6,645	5,938	6,224	6,218	2,773	3,384	1,985	4,873	3,383	4,346
2010 Total	5,935	5,539	6,188	6,570	3,163	3,954	2,450	5,060	3,628	4,461
2011 Total	6,113	5,471	6,173	6,569	2,564	3,347	2,113	5,305	3,823	4,312
2012 Total	5,563	4,960	5,356	5,520	2,305	2,880	1,648	4,561	3,418	3,771
2013 Total	6,425	5,827	6,623	7,140	2,736	3,651	2,326	5,263	3,367	4,470
2014 Total	6,676	6,190	7,196	7,308	2,961	3,935	2,421	4,739	2,777	4,558
2015 Total	6,520	5,762	6,165	6,093	2,497	3,224	2,085	4,597	2,902	4,094
2016 Total	5,928	5,339	5,701	5,791	2,465	3,095	1,750	4,620	3,035	3,887
2017 Total	6,037	5,318	5,684	6,003	2,239	2,837	1,580	4,573	3,190	3,838
2018 Total	6,323	5,769	6,434	6,975	2,638	3,479	2,252	4,810	3,172	4,291
2019 Total	6,538	5,736	6,427	7,082	2,392	3,181	2,143	5,310	3,547	4,317
2020 Total	5,822	5,199	5,855	6,326	2,263	3,064	1,812	4,784	3,219	3,914
2021 Total	5,799	5,261	5,747	6,061	2,365	3,166	1,911	4,694	3,338	3,934
2022 Total	6,018	5,635	6,344	6,906	2,519	3,438	2,199	5,126	3,365	4,243
2023 Total	5,558	4,952	5,422	5,924	2,142	2,818	1,718	5,119	3,607	3,802
2024 January	1,088	1,022	1,192	1,341	573	853	634	926	577	841
February	915	832	775	760	404	450	256	678	500	576
March	762	671	690	738	270	358	185	643	491	489
April	544	431	393	398	111	139	46	393	348	281
May	191	128	134	164	24	28	3	257	209	114
June	17	9	19	35	1	0	0	46	57	20
July	1	1	7	12	0	0	0	10	8	4
August	17	8	13	22	0	0	0	17	18	9
September	95	62	47	54	10	11	2	73	42	37
October	381	306	293	268	109	132	17	229	145	186
November	607	552	594	699	223	273	153	681	456	430
December	1,060	999	1,030	1,083	512	632	339	730	484	704
Total	5,678	5,020	5,189	5,574	2,236	2,877	1,636	4,683	3,334	3,692
2025 January	1,248	R 1,216	R 1,358	1,405	R 722	R 940	657	1,006	R 592	946
February	R 1,075	974	1,076	1,197	404	547	R 379	679	R 466	R 687
March	R 791	R 673	677	668	272	347	149	556	R 476	470
April	R 513	R 421	R 456	436	93	118	42	393	R 320	R 280
May	R 229	192	R 248	200	38	57	11	R 204	R 168	136
June	26	10	R 18	34	1	0	0	55	R 54	20
July	2	0	2	9	0	0	0	11	R 16	4
August	R 27	16	21	24	1	0	0	17	9	11
September	R 92	R 55	64	R 67	10	12	2	88	R 37	40
October	R 381	R 340	305	271	131	R 142	23	311	R 216	215
November	757	688	742	704	305	R 392	146	R 483	R 340	464
December	R 1,173	R 1,107	1,188	1,179	R 533	R 673	R 367	R 644	445	748
Total	R 6,312	R 5,692	R 6,154	R 6,194	R 2,509	R 3,228	R 1,775	R 4,446	R 3,137	R 4,021
2026 January	R 1,293	R 1,241	1,368	1,355	R 635	R 827	R 534	R 799	R 486	876
February	1,162	1,074	R 996	878	503	R 561	R 233	R 546	R 403	653
March	840	R 702	R 673	R 663	R 220	R 247	R 98	R 354	259	402
April	513	377	328	377	76	79	26	368	296	239
4-Month Total	3,807	3,394	3,364	3,273	1,434	1,714	891	2,066	1,444	2,170
2025 4-Month Total	3,627	3,285	3,567	3,706	1,491	1,952	1,226	2,634	1,854	2,383
2024 4-Month Total	3,309	2,955	3,050	3,237	1,357	1,800	1,121	2,641	1,916	2,187

^a Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

^b New Jersey, New York, and Pennsylvania.

^c Illinois, Indiana, Michigan, Ohio, and Wisconsin.

^d Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

^e Delaware, Florida, Georgia, Maryland (and the District of Columbia), North Carolina, South Carolina, Virginia, and West Virginia.

^f Alabama, Kentucky, Mississippi, and Tennessee.

^g Arkansas, Louisiana, Oklahoma, and Texas.

^h Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

ⁱ Alaska, California, Hawaii, Oregon, and Washington.

R=Revised.

Notes: • Degree days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Heating degree days are the number of degrees that the daily average temperature falls below 65 degrees Fahrenheit (°F). Cooling degree days are the number of degrees that the

daily average temperature rises above 65°F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, a weather station recording an average daily temperature of 40°F would report 25 heating degree days for that day (and 0 cooling degree days). If a weather station recorded an average daily temperature of 78°F, cooling degree days for that station would be 13 (and 0 heating degree days). • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: State-level degree day data are from U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers for Environmental Information. Using these state-level data, the U.S. Energy Information Administration calculates population-weighted census-division and U.S. degree day averages using state populations from the same year the degree days are measured. See methodology at <https://www.eia.gov/analysis/handbook/pdf/STEO%20Weather%20Model.pdf>

Table 1.12 Cooling Degree Days by Census Division

	New England ^a	Middle Atlantic ^b	East North Central ^c	West North Central ^d	South Atlantic ^e	East South Central ^f	West South Central ^g	Mountain ^h	Pacific ⁱ	United States
1950 Total	296	403	506	646	1,427	1,419	2,280	689	628	873
1955 Total	531	764	921	1,139	1,645	1,672	2,505	787	557	1,145
1960 Total	318	488	626	870	1,597	1,529	2,367	983	794	1,002
1965 Total	311	501	617	831	1,624	1,550	2,461	788	575	981
1970 Total	423	619	746	979	1,758	1,569	2,281	981	732	1,082
1975 Total	423	586	720	937	1,802	1,439	2,162	913	597	1,052
1980 Total	439	683	768	1,158	1,923	1,751	2,652	1,083	651	1,216
1985 Total	324	513	602	780	1,882	1,519	2,519	1,107	758	1,122
1990 Total	428	566	602	912	2,058	1,560	2,527	1,224	833	1,201
1995 Total	472	705	878	928	2,030	1,611	2,398	1,226	791	1,262
2000 Total	279	460	630	983	1,925	1,672	2,773	1,494	771	1,233
2005 Total	599	895	944	1,063	2,100	1,674	2,645	1,386	777	1,390
2010 Total	634	913	963	1,095	2,271	1,974	2,754	1,370	674	1,457
2011 Total	553	840	858	1,073	2,260	1,725	3,112	1,461	734	1,470
2012 Total	563	819	974	1,221	2,163	1,760	2,913	1,581	917	1,494
2013 Total	540	685	689	892	2,001	1,438	2,535	1,470	889	1,304
2014 Total	420	600	609	812	2,000	1,491	2,474	1,438	1,068	1,295
2015 Total	556	809	729	941	2,397	1,717	2,742	1,484	1,067	1,484
2016 Total	625	891	958	1,072	2,405	1,956	2,882	1,501	929	1,554
2017 Total	451	665	708	910	2,247	1,585	2,718	1,549	1,056	1,423
2018 Total	668	890	972	1,134	2,411	1,928	2,855	1,573	1,004	1,579
2019 Total	536	787	832	951	2,503	1,885	2,759	1,397	845	1,495
2020 Total	645	848	831	964	2,335	1,636	2,735	1,683	1,071	1,519
2021 Total	604	837	911	1,093	2,226	1,611	2,644	1,583	1,040	1,492
2022 Total	647	838	816	1,050	2,306	1,727	2,992	1,585	1,088	1,557
2023 Total	521	685	712	1,047	2,273	1,675	3,130	1,479	831	1,480
2024 January	0	0	0	0	35	2	8	0	7	9
February	0	0	0	4	29	10	37	2	6	13
March	0	0	3	7	82	28	81	6	8	31
April	0	0	3	10	90	46	152	35	14	46
May	18	50	102	87	272	219	373	113	36	157
June	129	190	206	234	400	356	527	339	144	292
July	283	328	234	279	503	444	553	446	330	391
August	155	214	223	252	437	411	631	382	237	342
September	35	70	113	143	308	250	402	253	167	210
October	0	7	15	31	147	79	264	123	86	96
November	0	0	0	0	85	27	91	3	10	32
December	0	0	0	0	36	3	29	2	8	13
Total	620	859	899	1,048	2,425	1,876	3,148	1,705	1,053	1,633
2025 January	0	0	0	0	17	1	6	0	7	5
February	0	0	0	0	R 58	R 6	19	9	9	17
March	0	0	3	11	59	31	107	14	11	31
April	0	0	1	7	124	R 65	R 169	43	20	58
May	10	24	36	53	R 243	154	R 302	125	54	127
June	R 108	R 169	213	R 221	399	358	490	R 293	R 130	R 278
July	273	R 350	326	R 337	R 520	499	566	393	R 188	391
August	118	R 158	R 184	R 236	381	362	567	386	R 264	309
September	39	R 85	94	R 136	285	254	R 414	217	R 157	R 202
October	0	3	15	32	135	73	R 248	75	R 39	R 80
November	0	0	0	0	R 51	8	87	19	16	26
December	0	0	0	0	R 47	2	21	3	13	15
Total	R 549	R 789	872	R 1,033	R 2,320	R 1,813	R 2,996	R 1,577	R 908	1,541
2026 January	0	0	0	0	R 29	4	14	3	12	10
February	0	0	0	1	22	6	49	14	10	14
March	0	0	5	14	R 98	R 63	R 153	R 81	55	60
April	0	1	11	22	123	89	191	58	21	66
4-Month Total	0	1	16	36	271	162	406	156	98	149
2025 4-Month Total	0	0	4	18	259	104	301	66	46	112
2024 4-Month Total	0	0	6	21	237	86	277	44	34	100

^a Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

^b New Jersey, New York, and Pennsylvania.

^c Illinois, Indiana, Michigan, Ohio, and Wisconsin.

^d Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota.

^e Delaware, Florida, Georgia, Maryland (and the District of Columbia), North Carolina, South Carolina, Virginia, and West Virginia.

^f Alabama, Kentucky, Mississippi, and Tennessee.

^g Arkansas, Louisiana, Oklahoma, and Texas.

^h Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

ⁱ Alaska, California, Hawaii, Oregon, and Washington.

R=Revised.

Notes: • Degree days are relative measurements of outdoor air temperature used as an index for heating and cooling energy requirements. Cooling degree days are the number of degrees that the daily average temperature rises above 65 degrees Fahrenheit (°F). Heating degree days are the number of degrees that the

daily average temperature falls below 65°F. The daily average temperature is the mean of the maximum and minimum temperatures in a 24-hour period. For example, if a weather station recorded an average daily temperature of 78°F, cooling degree days for that station would be 13 (and 0 heating degree days). A weather station recording an average daily temperature of 40°F would report 25 heating degree days for that day (and 0 cooling degree days).

• Totals may not equal sum of components due to independent rounding.

• Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: State-level degree day data are from U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Centers for Environmental Information. Using these state-level data, the U.S. Energy Information Administration calculates population-weighted census-division and U.S. degree day averages using state populations from the same year the degree days are measured. See methodology at <https://www.eia.gov/analysis/handbook/pdf/STEO%20Weather%20Model.pdf>

Table 1.13a Non-Combustion Use of Fossil Fuels in Physical Units

		Natural Gas	Petroleum							
			Asphalt and Road Oil	Hydrocarbon Gas Liquids ^a	Lubricants	Petro-chemical Feedstocks ^b	Petroleum Coke	Special Naphthas	Other ^c	Total
	Thousand Short Tons	Billion Cubic Feet	Thousand Barrels per Day							
1973 Total	3,523	898	522	684	162	356	45	88	88	1,945
1975 Total	3,105	761	419	654	137	320	43	75	122	1,770
1980 Total	2,612	759	396	890	159	692	41	100	143	2,422
1985 Total	1,536	642	425	982	145	395	46	83	95	2,173
1990 Total	758	675	483	1,071	164	546	57	56	85	2,462
1995 Total	921	868	486	1,357	156	590	58	37	70	2,754
2000 Total	674	918	525	1,543	166	662	78	51	78	3,103
2005 Total	929	761	546	1,369	141	729	106	33	75	2,997
2010 Total	719	654	362	1,597	131	539	42	14	89	2,773
2011 Total	730	680	355	1,639	125	520	40	12	91	2,781
2012 Total	707	706	340	1,747	114	444	43	8	88	2,785
2013 Total	732	721	323	1,870	121	448	40	52	93	2,948
2014 Total	562	725	327	1,780	126	410	20	55	97	2,817
2015 Total	520	703	343	1,918	138	378	21	52	99	2,948
2016 Total	435	727	351	1,943	130	371	20	49	100	2,966
2017 Total	463	746	351	2,023	121	394	19	52	103	3,062
2018 Total	531	1,118	327	2,309	117	393	22	48	103	3,320
2019 Total	520	1,114	348	2,342	113	349	21	50	94	3,318
2020 Total	418	1,049	343	2,479	102	329	17	45	88	3,403
2021 Total	509	1,072	371	2,652	105	336	18	42	90	3,615
2022 Total	784	922	378	2,681	111	246	7	47	97	3,566
2023 Total	777	924	368	2,872	83	248	7	47	91	3,716
2024 January	63	86	233	2,961	86	274	6	40	91	3,690
February	62	78	230	2,975	72	286	4	46	73	3,686
March	65	81	258	2,951	77	278	4	44	88	3,699
April	60	76	296	2,921	103	229	10	47	93	3,699
May	63	74	405	3,126	79	247	9	57	94	4,017
June	60	70	477	3,091	92	254	6	42	91	4,053
July	65	73	465	2,878	82	271	9	34	95	3,833
August	66	74	511	3,228	99	275	6	41	94	4,254
September	61	72	446	3,346	82	237	6	35	92	4,243
October	64	75	472	3,456	74	229	6	40	91	4,368
November	63	79	352	3,240	51	258	6	33	88	4,028
December	67	87	239	3,424	50	253	4	29	94	4,092
Total	759	924	366	3,134	79	258	6	41	90	3,973
2025 January	61	90	224	3,255	68	246	9	37	92	3,932
February	55	80	221	3,083	57	237	3	36	88	3,725
March	61	81	244	2,954	72	261	5	36	84	3,655
April	58	75	316	2,934	96	281	7	39	86	3,760
May	62	75	386	3,051	92	306	9	34	82	3,962
June	62	70	463	3,248	83	300	7	30	88	4,218
July	61	73	487	3,332	108	294	8	38	89	4,357
August	60	74	492	3,630	100	295	6	36	87	4,647
September	59	72	498	3,363	117	283	5	36	95	4,397
October	59	75	437	3,339	96	239	5	37	80	4,232
November	57	80	335	3,234	102	255	3	33	86	4,047
December	59	87	232	3,361	86	283	7	31	91	4,090
Total	715	931	362	3,234	90	273	6	35	87	4,088
2026 January	R 56	88	206	R 3,474	114	302	8	46	88	R 4,238
February	R 53	78	261	3,427	118	301	9	35	92	4,243
March	R 57	81	294	3,154	130	249	7	40	92	3,966
April	55	76	354	3,208	91	278	4	32	93	4,061
4-Month Total	221	322	278	3,314	113	282	7	38	91	4,125
2025 4-Month Total	236	326	251	3,057	74	256	6	37	88	3,769
2024 4-Month Total	250	321	254	2,952	84	267	6	44	86	3,694

^a Ethane, propane, normal butane, isobutane, natural gasoline, and refinery olefins (ethylene, propylene, butylene, and isobutylene).

^b Includes still gas not burned as refinery fuel.

^c Distillate fuel oil, residual fuel oil, waxes, and miscellaneous products.

R=Revised.

Notes: • Data are estimates. • Non-combustion use estimates are included in total energy consumption. See Table 1.3. • Non-combustion estimates are all for industrial sector consumption, except for some lubricants consumed by the

transportation sector. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia. • See Note 3, "Non-Combustion Use of Fossil Fuels," at end of section.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available annual and monthly data beginning in 1973.

Sources: • See Note 3, "Non-Combustion Use of Fossil Fuels," at end of section.

Table 1.13b Heat Content of Non-Combustion Use of Fossil Fuels
(Quadrillion Btu)

	Coal	Natural Gas	Petroleum								Total	Percent of Total Energy Consumption
			Asphalt and Road Oil	Hydro-carbon Gas Liquids ^a	Lubri-cants	Petro-chemical Feed-stocks ^b	Petro-leum Coke	Special Naphthas	Other ^c	Total		
1973 Total	0.113	0.916	1.264	0.872	0.359	0.726	0.093	0.169	0.185	3.668	4.696	6.4
1975 Total	.099	.777	1.014	.822	.304	.652	.090	.144	.256	3.283	4.159	6.0
1980 Total	.084	.777	.962	1.128	.354	1.426	.086	.193	.303	4.451	5.312	7.0
1985 Total	.049	.662	1.029	1.194	.322	.817	.096	.159	.201	3.818	4.529	6.1
1990 Total	.024	.695	1.170	1.345	.362	1.123	.119	.107	.179	4.406	5.125	6.2
1995 Total	.029	.892	1.178	1.716	.346	1.214	.120	.071	.145	4.790	5.711	6.4
2000 Total	.022	.942	1.276	1.928	.369	1.344	.163	.097	.164	5.342	6.306	6.5
2005 Total	.030	.782	1.323	1.701	.312	1.474	.221	.063	.157	5.250	6.062	6.2
2010 Total	.023	.669	.878	1.931	.291	1.096	.087	.026	.188	4.496	5.187	5.5
2011 Total	.023	.695	.859	1.947	.276	1.057	.083	.023	.193	4.437	5.156	5.5
2012 Total	.023	.724	.827	2.109	.254	.901	.090	.015	.187	4.382	5.128	5.6
2013 Total	.023	.741	.783	2.270	.268	.901	.083	.100	.197	4.601	5.366	5.7
2014 Total	.018	.749	.793	2.125	.280	.827	.043	.106	.205	4.379	5.146	5.4
2015 Total	.017	.730	.832	2.317	.305	.760	.043	.099	.208	4.564	5.310	5.6
2016 Total	.014	.755	.853	2.330	.289	.754	.043	.094	.212	4.575	5.344	5.7
2017 Total	.015	.773	.849	2.393	.267	.797	.040	.100	.217	4.663	5.451	5.8
2018 Total	.017	1.160	.793	2.708	.259	.794	.046	.092	.218	4.910	6.087	6.2
2019 Total	.017	1.159	.844	2.746	.250	.704	.044	.096	.198	4.882	6.057	6.3
2020 Total	.013	1.090	.832	2.870	.227	.669	.036	.087	.186	4.908	6.012	6.8
2021 Total	.016	1.114	.898	3.084	.233	.684	.038	.081	.190	5.208	6.338	6.8
2022 Total	.025	.957	.916	3.005	.245	.501	.014	.089	.204	4.975	5.957	6.3
2023 Total	.025	.959	.892	3.231	.184	.505	.015	.089	.193	5.109	6.092	6.5
2024 January	.002	.090	.048	.284	.016	.047	.001	.006	.016	.419	.511	5.6
February	.002	.081	.044	.263	.013	.046	.001	.007	.012	.386	.468	6.1
March	.002	.085	.053	.281	.014	.048	.001	.007	.016	.420	.507	6.5
April	.002	.079	.059	.267	.019	.039	.002	.007	.016	.409	.490	6.8
May	.002	.077	.083	.299	.015	.043	.002	.009	.017	.468	.547	7.3
June	.002	.073	.095	.288	.017	.043	.001	.007	.016	.466	.541	7.1
July	.002	.076	.096	.278	.015	.047	.002	.005	.017	.461	.538	6.5
August	.002	.077	.105	.309	.019	.048	.001	.007	.017	.505	.584	7.1
September	.002	.074	.089	.313	.015	.040	.001	.005	.016	.479	.555	7.5
October	.002	.078	.097	.330	.014	.040	.001	.007	.016	.505	.585	7.7
November	.002	.082	.070	.297	.009	.043	.001	.005	.015	.441	.525	6.9
December	.002	.090	.049	.325	.009	.044	.001	.005	.017	.450	.542	6.2
Total	.024	.960	.888	3.534	.175	.530	.013	.078	.191	5.409	6.394	6.8
2025 January	.002	.093	.046	.310	.013	.043	.002	.006	.016	.436	.531	5.6
February	.002	.083	.041	.264	.010	.037	.001	.005	.014	.372	.456	5.7
March	.002	.084	.050	.279	.013	.045	.001	.006	.015	.410	.495	6.3
April	.002	.078	.063	.268	.018	.047	.001	.006	.015	.418	.498	6.8
May	.002	.077	.079	.288	.017	.053	.002	.006	.015	.460	.540	7.3
June	.002	.073	.092	.300	.015	.050	.001	.005	.015	.479	.554	7.2
July	.002	.075	.100	.317	.020	.051	.001	.006	.016	.512	.589	7.1
August	.002	.077	.101	.348	.019	.051	.001	.006	.016	.541	.620	7.6
September	.002	.074	.099	.311	.021	.048	.001	.006	.016	.502	.579	7.7
October	.002	.077	.090	.317	.018	.041	.001	.006	.014	.487	.566	7.4
November	.002	.083	.067	.295	.019	.043	.001	.005	.015	.444	.529	6.8
December	.002	.090	.048	.318	.016	.049	.001	.005	.016	.453	.545	6.1
Total	.023	.965	.877	3.615	.199	.559	.013	.068	.185	5.514	6.502	6.8
2026 January	.002	.091	.042	.332	.021	.052	.001	.007	.016	.472	.565	6.1
February	.002	.081	.048	.296	.020	.047	.001	.005	.015	.432	.515	6.4
March	.002	.084	.060	.291	.024	.043	.001	.006	.017	.443	.529	6.7
April	.002	.079	.070	.289	.017	.047	.001	.005	.016	.445	.526	7.2
4-Month Total	.007	.334	.222	1.208	.082	.188	.005	.024	.063	1.793	2.134	6.6
2025 4-Month Total	.008	.338	.200	1.120	.053	.173	.004	.023	.061	1.635	1.981	6.1
2024 4-Month Total	.008	.334	.204	1.095	.062	.180	.004	.028	.060	1.634	1.976	6.2

^a Ethane, propane, normal butane, isobutane, natural gasoline, and refinery olefins (ethylene, propylene, butylene, and isobutylene).

^b Includes still gas not burned as refinery fuel.

^c Distillate fuel oil, residual fuel oil, waxes, and miscellaneous products.

R=Revised.

Notes: • Data are estimates. • Non-combustion use estimates are included in total energy consumption. See Table 1.3. • Non-combustion estimates are all for industrial sector consumption, except for some lubricants consumed by the transportation sector. • Totals may not equal sum of components due to

independent rounding. • Geographic coverage is the 50 states and the District of Columbia. • See Note 3, "Non-Combustion Use of Fossil Fuels," at end of section.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#summary> for all available annual and monthly data beginning in 1973.

Sources: • See Note 3, "Non-Combustion Use of Fossil Fuels," at end of section. • **Percent of Total Energy Consumption:** Calculated as total non-combustion use of fossil fuels divided by total primary energy consumption (see Table 1.3).

Note 1. Merchandise Trade Value. Imports data presented are based on the customs values. Those values do not include insurance and freight and are consequently lower than the cost, insurance, and freight (CIF) values, which are also reported by the Bureau of the Census. All exports data, and imports data through 1980, are on a free alongside ship (f.a.s.) basis.

“Balance” is exports minus imports; a positive balance indicates a surplus trade value and a negative balance indicates a deficit trade value. “Energy” includes mineral fuels, lubricants, and related material. “Non-Energy Balance” and “Total Merchandise” include foreign exports (i.e., re-exports) and nonmonetary gold and U.S. Department of Defense Grant-Aid shipments. The “Non-Energy Balance” is calculated by subtracting the “Energy” from the “Total Merchandise Balance.”

“Imports” consist of government and nongovernment shipments of merchandise into the 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, and the U.S. Foreign Trade Zones. They reflect the total arrival from foreign countries of merchandise that immediately entered consumption channels, warehouses, the Foreign Trade Zones, or the Strategic Petroleum Reserve. They exclude shipments between the United States, Puerto Rico, and U.S. possessions, shipments to U.S. Armed Forces and diplomatic missions abroad for their own use, U.S. goods returned to the United States by its Armed Forces, and in-transit shipments.

Note 2. Light-Duty Vehicle Average Annual Miles Traveled by Technology Type. The average annual light-duty vehicle miles traveled (VMT) by technology type is a stock-weighted estimate using the average VMT by vintage and the number of vehicles (stock) by vintage to determine the overall average VMT by technology type. The top-level model is defined as:

$$avg\ VMT_{tech} = \frac{\sum_{vint=1}^{25} VMT_{vint,tech} * stock_{vint,tech}}{\sum_{vint=1}^{25} stock_{vint,tech}}$$

where $avg\ VMT_{tech}$ is the average annual VMT by technology type; $VMT_{vint,tech}$ is the average annual VMT by vintage and technology type; $stock_{vint,tech}$ is the total number of on-road light-duty vehicles by vintage and technology type; $vint$ is the vintage of the vehicle, ranging from 1 to 25 years; and $tech$ is the vehicle technology type—motor gasoline vehicles, diesel vehicles, hybrid electric vehicles, battery electric vehicles (BEV), or plug-in hybrid electric vehicles (PHEV). The vintage of the vehicle relates the model year of the vehicle with the year being analyzed. For example, a model year 2024 vehicle in 2024 would have a vintage equal to one and a model year 2020 vehicle in 2024 would have a vintage equal to five. The maximum vintage EIA uses is 25, resulting in all vehicles 25 years or older be grouped in vintage 25, so a model year 1990 vehicle in 2024 would have a vintage equal to 25.

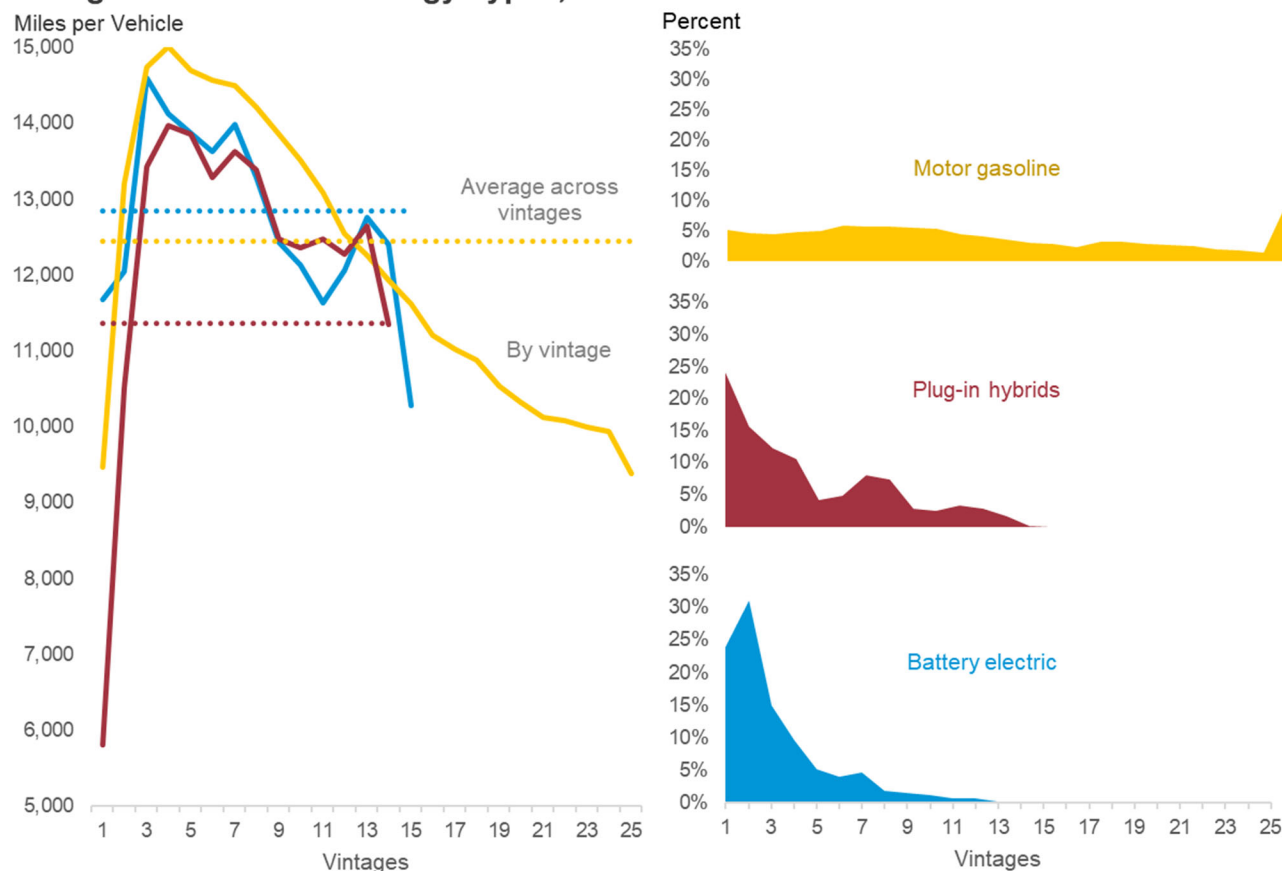
In general, newer vehicles are driven more than older vehicles. However, the average annual VMT for vintage one vehicles is typically the lowest newer vintage VMT because many of these vehicles are not owned for an entire year resulting in a lower average annual VMT for the first model year. The average annual VMT increases for the first few vintages until it reaches the highest VMT by vintage, which occurs around four years old. After the highest VMT by vintage is reached, the average annual VMT decreases as the vintage increases.

While the general pattern for travel by vintage is relatively consistent across technology types, the distribution of the stock by vintage is not consistent across technology types. For example, in 2024, nearly half of the motor gasoline vehicles were over 10 years old while only 8% of PHEVs and 2% of BEVs were over 10 years old. This implies that the average annual VMT for motor gasoline vehicles is more affected by older vehicles than the average annual VMT for BEVs and PHEVs. If the average annual VMT were calculated for 2024 using the first 10 vintages instead of all 25 vintages, the average annual VMT would increase by almost 11% for motor gasoline vehicles and change by 1% for PHEVs, and less than 1% for BEVs. When all vintages are included in the average annual VMT, BEV VMT is almost 400 miles per year more than motor gasoline vehicles in 2024.. However, when only the first 10 years are included in the average annual VMT calculation BEV VMT is almost 1,000 miles per year less than motor gasoline vehicles. Conversely, when all vintages are included in the average annual VMT, PHEV VMT is over 1,300 miles per year less than motor

gasoline. When only the first 10 years are included in the average annual VMT calculation PHEV VMT is over 2,800 miles per year less than gasoline.

Comparing the average annual VMT calculated using the first 10 vintages shows that BEVs and PHEVs have further to go to reach annual average VMT parity with motor gasoline vehicles than what is implied using all 25 vintages. When year-over-year growth in BEV and PHEV registrations slows down, their stock by vintage distribution will more closely resemble that of the motor gasoline stock by vintage distribution, the more consistent comparison can be made using all 25 vintages. However, if high growth in new vehicle registrations continues for BEVs and PHEVs resulting in most electric vehicles (EVs) being less than or equal to 10 years old, then a more consistent comparison can be made using a subset of vintages.

Figure 1.9 Annual Average Vehicle Miles Traveled and Vehicle Stock Distribution by Vintage for Select Technology Types, 2024



Source: U.S. Energy Information Administration AEO2025 National Energy Modeling System run ref2025.d032025a

Note 3. Non-Combustion Use of Fossil Fuels. Most fossil fuels consumed in the United States and elsewhere are combusted to produce heat and power. However, some are used directly for non-combustion use as construction materials, chemical feedstocks, lubricants, solvents, and waxes. For example, coal tars from coal coke manufacturing are used as feedstock in the chemical industry, for metallurgical work, and in anti-dandruff shampoos; natural gas is used to make nitrogenous fertilizers and as chemical feedstocks; asphalt and road oil are used for roofing and paving; hydrocarbon gas liquids are used to create intermediate products that are used in making plastics; lubricants, including motor oil and greases, are used in vehicles and various industrial processes; petrochemical feedstocks are used to make plastics, synthetic fabrics, and related products.

Coal

The U.S. Energy Information Administration (EIA) assumes all non-combustion use of coal comes from the process of manufacturing coal coke in the industrial sector. Among the byproducts of the process are "coal tars" or "coal liquids,"

which typically are rich in aromatic hydrocarbons, such as benzene, and are used as chemical feedstock. EIA estimates non-combustion use ratios of coal tar for 1973 forward. Prior to 1998, estimate ratios are based on coal tar production data from the United States International Trade Commission's *Synthetic Organic Chemicals*. For 1998 forward, coal tar production is estimated using chemicals industry coal, coke, and breeze nonfuel use data from EIA, Form EIA-846, "Manufacturing Energy Consumption Survey" (MECS). For Table 1.13b, coal tar values in Table 1.13a are multiplied by 32.0067 million Btu/short ton, which is the product of 4.95 barrels/short ton (the density of coal tar) and 6.466 million Btu/barrel (the approximate heat content of coal tar).

Natural Gas

EIA assumes that all non-combustion use of natural gas takes place in the industrial sector. EIA estimates non-combustion ratios of natural gas using total natural gas nonfuel use data from MECS, and natural gas used as feedstock for hydrogen production data from EIA, Form EIA-820, "Annual Refinery Report." For Table 1.13b, natural gas values in Table 1.13a are multiplied by the heat content factors for natural gas end-use sectors consumption shown in Table A4.

Asphalt and Road Oil

EIA assumes all asphalt and road oil consumption is for non-combustion use. For Table 1.13b, asphalt and road oil values in Table 1.13a are multiplied by 6.636 million Btu/ barrel (the approximate heat content of asphalt and road oil) and the number of days in the period.

Distillate Fuel Oil

EIA assumes that all non-combustion use of distillate fuel oil occurs in the industrial sector. EIA estimates non-combustion ratios of distillate fuel oil using total distillate fuel oil nonfuel use data from MECS. Ratios prior to 1985 are assumed to be equal to the 1985 ratio. For Table 1.13b, distillate fuel oil values in Table 1.13a are multiplied by the heat content factors for distillate fuel oil consumption shown in Table A3 and the number of days in the period. Distillate fuel oil is included in "other" petroleum products.

Hydrocarbon Gas Liquids (HGL)

EIA estimates non-combustion ratios of hydrocarbon gas liquids (HGL), which include ethane, propane, normal butane, isobutane, natural gasoline (pentanes plus), and refinery olefins (ethylene, propylene, butylene, and isobutylene). EIA assumes that 100% of ethane, ethylene, and propylene consumption is for non-combustion use; 85% of normal butane, butylene, isobutane, and isobutylene consumption is for non-combustion use; and 50% of natural gasoline consumption is for non-combustion use. Non-combustion use of propane in the industrial sector is estimated using data from the American Petroleum Institute (API), the Propane Education & Research Council (PERC), and EIA's *Petroleum Supply Annual* (PSA). For 1984 through 2009, propane non-combustion ratios are estimated using API propane and propylene chemical industry sales data. Propane non-combustion ratios prior to 1984 are assumed to be equal to the 1984 ratio. For 2010 through 2016, propane non-combustion ratios are estimated by subtracting API data for total odorized propane sales from PSA data for total propane product supplied. Beginning in 2017, propane non-combustion ratios are estimated by subtracting PERC data for total odorized propane sales from PSA data for total propane product supplied. For Table 1.13b, HGL component values are multiplied by the appropriate heat content factors in Table A1 and the number of days in the period.

Lubricants

EIA assumes all lubricants consumption is for non-combustion use. For Table 1.13b, lubricants values in Table 1.13a are multiplied by 6.065 million Btu/barrel (the approximate heat content of lubricants) and the number of days in the period.

Petrochemical Feedstocks, Naphtha

EIA assumes all naphtha for petrochemical feedstocks is for non-combustion use. For Table 1.13b, naphtha petrochemical feedstock values in 1.13a are multiplied by 5.248 million Btu/barrel (the approximate heat content of naphtha for petrochemical feedstocks) and the number of days in the period.

Petrochemical Feedstocks, Other Oils

EIA assumes all other oils for petrochemical feedstocks are for non-combustion use. For Table 1.13b, other oils petrochemical feedstock values in 1.13a are multiplied by 5.825 million Btu/barrel (the approximate heat content of other oils for petrochemical feedstocks) and the number of days in the period.

Petrochemical Feedstocks, Still Gas

EIA assumes all still gas not burned as refinery fuel or for pipeline gas supplies is for non-combustion use. EIA estimates non-combustion ratios of still gas by subtracting data for all known fuel uses (refinery fuel use from the PSA, and pipeline gas supplies from EIA's *Natural Gas Annual*) from the products supplied values in the PSA. The remainder is assumed to be dispatched to chemical plants as a feedstock for non-combustion use. For Table 1.13b, still gas for petrochemical feedstock values in 1.13a are multiplied by the still gas heat content factors (through 2015, the still gas heat content factor is 6.000 million Btu per fuel oil equivalent barrel; beginning in 2016, the still gas heat content factor is 6.287 million Btu per residual fuel oil equivalent barrel) and the number of days in the period.

Petroleum Coke

EIA assumes all non-combustion use of petroleum coke occurs in the industrial sector. Examples include petroleum coke used in the production of chemicals and metals. EIA estimates non-combustion ratios of petroleum coke by first subtracting data for petroleum coke consumed at refineries (from EIA, Form EIA-820, "Annual Refinery Report") from industrial sector petroleum coke consumption (from MER Table 3.7b), and then multiplying that amount by the nonfuel share of non-refinery petroleum coke consumption (from MECS). Non-combustion ratios prior to 1994 are assumed to be equal to the 1994 ratio. For Table 1.13b, petroleum coke values in 1.13a are multiplied by 5.719 million Btu/barrel (the approximate heat content of marketable petroleum coke) and the number of days in the period.

Residual Fuel Oil

EIA assumes that all non-combustion use of residual fuel oil occurs in the industrial sector. EIA estimates non-combustion ratios of residual fuel oil using total minus chemicals industry residual fuel oil nonfuel use data from MECS. Ratios prior to 1994 are assumed to be equal to the 1994 ratio. For Table 1.13b, residual fuel oil values in Table 1.13a are multiplied by 6.287 million Btu/barrel (the approximate heat content of residual fuel oil) and the number of days in the period. Residual fuel oil is included in "other" petroleum products.

Special Naphthas

EIA assumes all special naphthas consumption is for non-combustion use. For Table 1.13b, special naphthas values in Table 1.13a are multiplied by 5.248 million Btu/barrel (the approximate heat content of special naphthas) and the number of days in the period.

Waxes

EIA assumes all waxes consumption is for non-combustion use. For Table 1.13b, waxes values in Table 1.13a are multiplied by 5.537 million Btu/barrel (the approximate heat content of waxes) and the number of days in the period. Waxes are included in "other" petroleum products.

Miscellaneous Petroleum Products

Miscellaneous products include all finished petroleum products not classified elsewhere. EIA assumes all miscellaneous petroleum products consumption is for non-combustion use. For Table 1.13b, miscellaneous petroleum products values in Table 1.13a are multiplied by 5.796 million Btu/barrel (the approximate heat content of miscellaneous petroleum products) and the number of days in the period. Miscellaneous petroleum products are included in "other" petroleum products.

Table 1.2 Sources

Coal

1949–1988: Coal production data from Table 6.1 are converted to Btu by multiplying by the coal production heat content factors in Table A5.

1989 forward: Coal production data from Table 6.1 are converted to Btu by multiplying by the coal production heat content factors in Table A5. Waste coal supplied data from Table 6.1 are converted to Btu by multiplying by the waste coal supplied heat content factors in Table A5. Coal production (including waste coal supplied) is equal to coal production plus waste coal supplied.

Natural Gas (Dry)

1949 forward: Natural gas (dry) production data from Table 4.1 are converted to Btu by multiplying by the natural gas (dry) production heat content factors in Table A4.

Crude Oil

1949 forward: Crude oil (including lease condensate) production data from Table 3.1 are converted to Btu by multiplying by the crude oil (including lease condensate) production heat content factors in Table A2.

NGPL

1949 forward: Natural gas plant liquids (NGPL) production data from Table 3.1 are converted to Btu by multiplying by the NGPL production heat content factors in Table A2.

Fossil Fuels Total

1949 forward: Total fossil fuels production is the sum of the production values for coal, natural gas (dry), crude oil, and NGPL.

Nuclear Electric Power

1949 forward: Nuclear electricity net generation data from Table 7.2a are converted to Btu by multiplying by the nuclear heat rate factors in Table A6.

Renewable Energy

1949 forward: Table 10.1.

Total Primary Energy Production

1949 forward: Total primary energy production is the sum of the production values for fossil fuels, nuclear electric power, and renewable energy.

Table 1.3 Sources

Coal

1949 forward: Coal consumption data from Table 6.1 are converted to Btu by multiplying by the total coal consumption heat content factors in Table A5.

Natural Gas

1949–1979: Natural gas (including supplemental gaseous fuels) consumption data from Table 4.1 are converted to Btu by multiplying by the total natural gas consumption heat content factors in Table A4.

1980 forward: Natural gas (including supplemental gaseous fuels) consumption data from Table 4.1 are converted to Btu by multiplying by the total natural gas consumption heat content factors in Table A4. Supplemental gaseous fuels data in Btu are estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Natural gas (excluding supplemental gaseous fuels) consumption is equal to natural gas (including supplemental gaseous fuels) consumption minus supplemental gaseous fuels.

Petroleum

1949–1992: Petroleum (excluding biofuels) consumption is equal to total petroleum products supplied from Table 3.6.

1993–2008: Petroleum (excluding biofuels) consumption is equal to total petroleum products supplied from Table 3.6 minus fuel ethanol consumption from Table 10.3.

2009–2011: Petroleum (excluding biofuels) consumption is equal to: total petroleum products supplied from Table 3.6; minus fuel ethanol (minus denaturant) consumption from Table 10.3; minus biodiesel consumption, calculated using

biodiesel data from U.S. Energy Information Administration (EIA), EIA-22M, "Monthly Biodiesel Production Survey"; and biomass-based diesel fuel data from EIA-810, "Monthly Refinery Report," EIA-812, "Monthly Product Pipeline Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1); minus renewable diesel fuel and other biofuels refinery and blender net inputs, calculated using "other renewable diesel fuel" and "other renewable fuels" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the heat content factors for renewable diesel fuel and other biofuels in Table A1).

2012–2020: Petroleum (excluding biofuels) consumption is equal to: total petroleum products supplied from Table 3.6; minus fuel ethanol (minus denaturant) consumption from Table 10.3; minus biodiesel consumption from Table 10.4a; minus renewable diesel fuel and other biofuels refinery and blender net inputs, calculated using "other renewable diesel fuel" and "other renewable fuels" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the heat content factors for renewable diesel fuel and other biofuels in Table A1).

2021 forward: Petroleum (excluding biofuels) consumption is equal to: total petroleum products supplied from Table 3.6; minus fuel ethanol (minus denaturant) consumption from Table 10.3; minus biodiesel, renewable diesel fuel, and other biofuels refinery and blender net inputs and products supplied calculated using "biofuels except fuel ethanol" refinery and blender net inputs and products supplied from U.S. Energy Information Administration (EIA), *Petroleum Supply Annual* and *Petroleum Supply Monthly* (data are converted to Btu by multiplying by the appropriate heat content factors in Table A1).

Coal Coke Net Imports

1949 forward: Table 1.4c.

Fossil Fuels Total

1949 forward: Total fossil fuels consumption is the sum of the consumption values for coal, natural gas, and petroleum, plus coal coke net imports.

Nuclear Electric Power

1949 forward: Nuclear electricity net generation data from Table 7.2a are converted to Btu by multiplying by the nuclear heat rate factors in Table A6.

Renewable Energy

1949 forward: Table 10.1.

Electricity Net Imports

1949 forward: Table 1.4c.

Total Primary Energy Consumption

1949 forward: Total primary energy consumption is the sum of the consumption values for fossil fuels, nuclear electric power, and renewable energy, plus electricity net imports.

Table 1.4a Sources

Coal

1949 forward: Coal imports data from Table 6.1 are converted to Btu by multiplying by the coal imports heat content factors in Table A5.

Coal Coke

1949 forward: Coal coke imports data from U.S. Department of Commerce, Bureau of the Census, Monthly Report IM 145, are converted to Btu by multiplying by the coal coke imports heat content factor in Table A5.

Natural Gas

1949 forward: Natural gas imports data from Table 4.1 are converted to Btu by multiplying by the natural gas imports heat content factors in Table A4.

Crude Oil

1949 forward: Crude oil imports data from Table 3.3b are converted to Btu by multiplying by the crude oil imports heat content factors in Table A2.

Petroleum Products

1949–1992: Petroleum products (excluding biofuels) imports are equal to total petroleum imports from Table 3.3b minus crude oil imports from Table 3.3b; petroleum products (excluding biofuels) imports data are converted to Btu by multiplying by the total petroleum products imports heat content factors in Table A2.

1993–2008: Petroleum products (excluding biofuels) imports are equal to petroleum products (including biofuels) imports (see 1949–1992 sources above) minus fuel ethanol (minus denaturant) imports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below).

2009–2011: Biomass-based diesel fuel imports data are from U.S. Energy Information Administration, Petroleum Supply Annual (PSA), Tables 1 and 25, and Petroleum Supply Monthly (PSM), Tables 1 and 37 (the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1). Petroleum products (excluding biofuels) imports are equal to petroleum products (including biofuels) imports (see 1949–1992 sources above) minus fuel ethanol (minus denaturant) imports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biomass-based diesel fuel imports.

2012–2020: Petroleum products (excluding biofuels) imports are equal to petroleum products (including biofuels) imports (see 1949–1992 sources above) minus fuel ethanol (minus denaturant) imports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biodiesel imports (see “Biomass—Biodiesel”) minus renewable diesel fuel imports (see “Biomass—Renewable Diesel Fuel”).

2021 forward: Petroleum products (excluding biofuels) imports are equal to petroleum products (including biofuels) imports (see 1949–1992 sources above) minus fuel ethanol (minus denaturant) imports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biodiesel imports (see “Biomass—Biodiesel”) minus renewable diesel fuel imports (see “Biomass—Renewable Diesel Fuel”) minus other biofuels imports (see “Biomass—Other Biofuels”).

Total Petroleum

1949 forward: Total petroleum imports are equal to crude oil imports plus petroleum products imports.

Biomass—Fuel Ethanol (Minus Denaturant)

1993 forward: Fuel ethanol (including denaturant) imports data are from PSA/PSM. Fuel ethanol (minus denaturant) production is equal to fuel ethanol (including denaturant) production from Table 10.3 minus denaturant from Table 10.3. Fuel ethanol (minus denaturant) imports are equal to fuel ethanol (including denaturant) imports multiplied by the ratio of fuel ethanol (minus denaturant) production to fuel ethanol (including denaturant) production. Fuel ethanol (minus denaturant) imports data are converted to Btu by multiplying by 3.539 million Btu per barrel, the undenatured ethanol heat content factor in Table A3.

Biomass—Biodiesel

2001 forward: Biodiesel imports data are from Table 10.4a, and are converted to Btu by multiplying by the biodiesel heat content factor in Table A1.

Biomass—Renewable Diesel Fuel

2012 forward: Renewable diesel fuel imports data are from Table 10.4b, and are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1.

Biomass—Other Biofuels

2021 forward: Other biofuels imports data are from Table 10.4c, and are converted to Btu by multiplying by the other biofuels heat content factor in Table A1.

Total Biomass

1993–2000: Total biomass imports are equal to fuel ethanol (minus denaturant) imports.

2001–2011: Total biomass imports are equal to fuel ethanol (minus denaturant) imports plus biodiesel imports.

2012–2020: Total biomass imports are the sum of imports values for fuel ethanol (minus denaturant), biodiesel, and renewable diesel fuel.

2021 forward: Total biomass imports are the sum of imports values for fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels.

Electricity

1949 forward: Electricity imports data from Table 7.1 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Total Primary Energy Imports

1949 forward: Total primary energy imports are the sum of the imports values for coal, coal coke, natural gas, total petroleum, total biomass, and electricity.

Table 1.4b Sources

Coal

1949 forward: Coal exports data from Table 6.1 are converted to Btu by multiplying by the coal exports heat content factors in Table A5.

Coal Coke

1949 forward: Coal coke exports data from U.S. Department of Commerce, Bureau of the Census, Monthly Report EM 545, are converted to Btu by multiplying by the coal coke exports heat content factor in Table A5.

Natural Gas

1949 forward: Natural gas exports data from Table 4.1 are converted to Btu by multiplying by the natural gas exports heat content factors in Table A4.

Crude Oil

1949 forward: Crude oil exports data from Table 3.3b are converted to Btu by multiplying by the crude oil exports heat content factor in Table A2.

Petroleum Products

1949–2009: Petroleum products (excluding biofuels) exports are equal to total petroleum exports from Table 3.3b minus crude oil exports from Table 3.3b; petroleum products (excluding biofuels) exports data are converted to Btu by multiplying by the total petroleum products exports heat content factors in Table A2.

2010: Petroleum products (including biofuels) exports are equal to total petroleum exports from Table 3.3b minus crude oil exports from Table 3.3b; petroleum products (including biofuels) exports data are converted to Btu by multiplying by the total petroleum products exports heat content factors in Table A2. Petroleum products (excluding biofuels) exports are equal to petroleum products (including biofuels) exports minus fuel ethanol (minus denaturant) exports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below).

2011–2018: Biomass-based diesel fuel exports data are from U.S. Energy Information Administration (EIA), Petroleum Supply Annual (PSA), Table 31, and are converted to Btu by multiplying by the biodiesel heat content factor in Table A1. Petroleum products (excluding biofuels) exports are equal to petroleum products (including biofuels) exports (see 2010 sources above) minus fuel ethanol (minus denaturant) exports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biomass-based diesel fuel exports.

2019–2024: Biodiesel exports data are from EIA, PSA, and *Petroleum Supply Monthly* (PSM), and are converted to Btu by multiplying by the biodiesel heat content factor in Table A1. Petroleum products (excluding biofuels) exports are equal to petroleum products (including biofuels) exports (see 2010 sources above) minus fuel ethanol (minus denaturant) exports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biodiesel exports.

2025: Petroleum products (excluding biofuels) exports data are equal to petroleum products (including biofuels) exports (see 2010 sources above) minus fuel ethanol (minus denaturant) exports (see “Biomass—Fuel Ethanol (Minus Denaturant)” sources below) minus biodiesel exports (see “Biomass—Biodiesel” sources below) minus renewable diesel fuel exports (see “Biomass—Renewable Diesel Fuel” sources below) minus other biofuels exports (see “Biomass—Other Biofuels” sources below).

Total Petroleum

1949 forward: Total petroleum exports are equal to crude oil exports plus petroleum products exports.

Biomass—Fuel Ethanol (Minus Denaturant)

2010 forward: Fuel ethanol (including denaturant) exports data are from PSA/PSM. Fuel ethanol (minus denaturant) production is equal to fuel ethanol (including denaturant) production from Table 10.3 minus denaturant from Table 10.3. Fuel ethanol (minus denaturant) exports are equal to fuel ethanol (including denaturant) exports multiplied by the ratio of fuel ethanol (minus denaturant) production to fuel ethanol (including denaturant) production. Fuel ethanol (minus denaturant) exports are converted to Btu by multiplying by 3.539 million Btu per barrel, the undenatured ethanol heat content factor in Table A3.

Biomass—Biodiesel

2001 forward: Biodiesel exports data are from Table 10.4a, and are converted to Btu by multiplying by the biodiesel heat content factor in Table A1.

Biomass—Densified Biomass

2016 forward: Densified biomass exports data are from EIA, Form EIA-63C, “Densified Biomass Fuel Report.”

Biomass—Renewable Diesel Fuel

2025: Renewable diesel fuel exports data are from Table 10.4b, and are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1.

Biomass—Other Biofuels

2025: Other biofuels exports data are from Table 10.4c, and are converted to Btu by multiplying by the other biofuels heat content factor in Table A1.

Total Biomass

2001–2009: Total biomass exports are equal to biodiesel exports.

2010–2015: Total biomass exports are equal to fuel ethanol (minus denaturant) exports plus biodiesel exports.

2016–2024: Total biomass exports are the sum of the exports values for fuel ethanol (minus denaturant), biodiesel, and densified biomass.

2025: Total biomass exports are the sum of the exports values for fuel ethanol (minus denaturant), biodiesel, densified biomass, renewable diesel fuel, and other biofuels.

Electricity

1949 forward: Electricity exports data from Table 7.1 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Total Primary Energy Exports

1949 forward: Total primary energy exports are the sum of the exports values for coal, coal coke, natural gas, total petroleum, total biomass, and electricity.

Table 1.5 Sources

U.S. Department of Commerce, U.S. Census Bureau, Foreign Trade Division:

Petroleum Exports

1974–1987: “U.S. Exports,” FT-410, December issues.

1988 and 1989: “Report on U.S. Merchandise Trade,” final revisions.

1990–1992: “U.S. Merchandise Trade,” final report.

1993–2020: “U.S. International Trade in Goods and Services,” annual revisions.

2022–2024: “U.S. International Trade in Goods and Services,” 2024 annual revisions.

2025 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

Petroleum Imports

1974–1987: “U.S. Merchandise Trade,” FT-900, December issues, 1975–1988.

1988 and 1989: “Report on U.S. Merchandise Trade,” final revisions.

1990–1993: “U.S. Merchandise Trade,” final report.

1994–2020: “U.S. International Trade in Goods and Services,” annual revisions.

2022–2024: “U.S. International Trade in Goods and Services,” 2024 annual revisions.

2025 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

Energy Exports and Imports

1974–1987: U.S. merchandise trade press releases and database printouts for adjustments.

1988: January–July, monthly FT-900 supplement, 1989 issues. August–December, monthly FT-900, 1989 issues.

1989: Monthly FT-900, 1990 issues.

1990–1992: “U.S. Merchandise Trade,” final report.

1993–2020: “U.S. International Trade in Goods and Services,” annual revisions.

2022–2024: “U.S. International Trade in Goods and Services,” 2024 annual revisions.

2025 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

Petroleum Balance

1974 forward: The petroleum balance is calculated by the U.S. Energy Information Administration (EIA) as petroleum imports minus petroleum exports.

Energy Balance

1974 forward: The energy balance is calculated by EIA as energy imports minus energy exports.

Non-Energy Balance

1974 forward: The non-energy balance is calculated by EIA as the total merchandise balance minus the energy balance.

Total Merchandise

1974–1987: U.S. merchandise trade press releases and database printouts for adjustments.

1988: “Report on U.S. Merchandise Trade, 1988 final revisions,” August 18, 1989.

1989: “Report on U.S. Merchandise Trade, 1989 revisions,” July 10, 1990.

1990: “U.S. Merchandise Trade, 1990 final report,” May 10, 1991, and “U.S. Merchandise Trade, December 1992,” February 18, 1993, page 3.

1991: “U.S. Merchandise Trade, 1992 final report,” May 12, 1993.

1992–2020: “U.S. International Trade in Goods and Services,” annual revisions.

2022–2024: “U.S. International Trade in Goods and Services,” 2024 annual revisions.

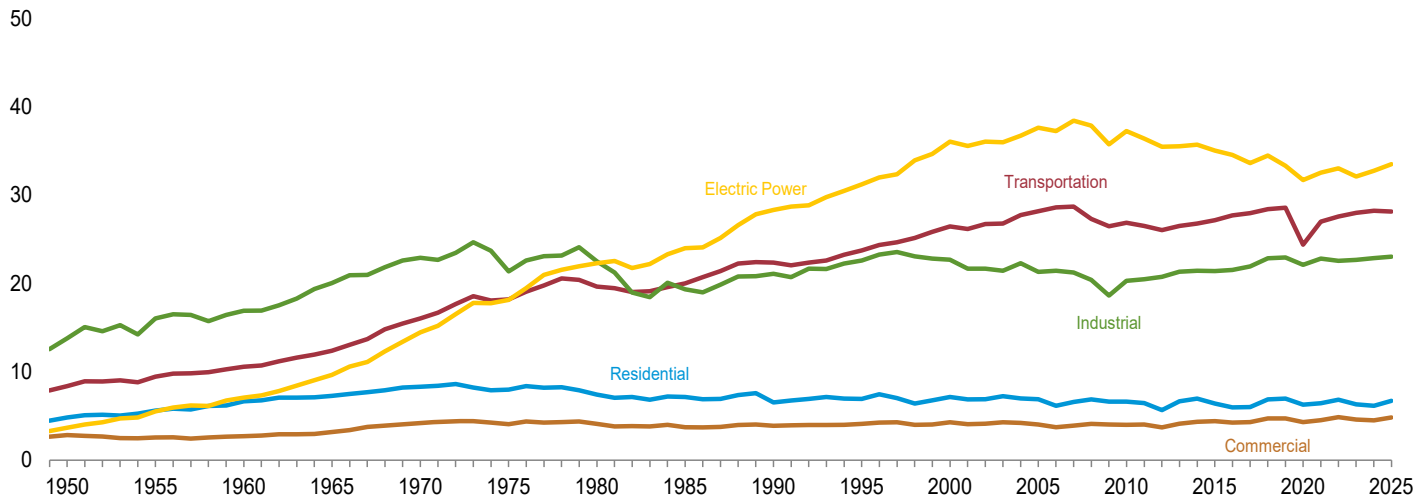
2025 forward: “U.S. International Trade in Goods and Services,” FT-900, monthly.

2. Energy Consumption By Sector

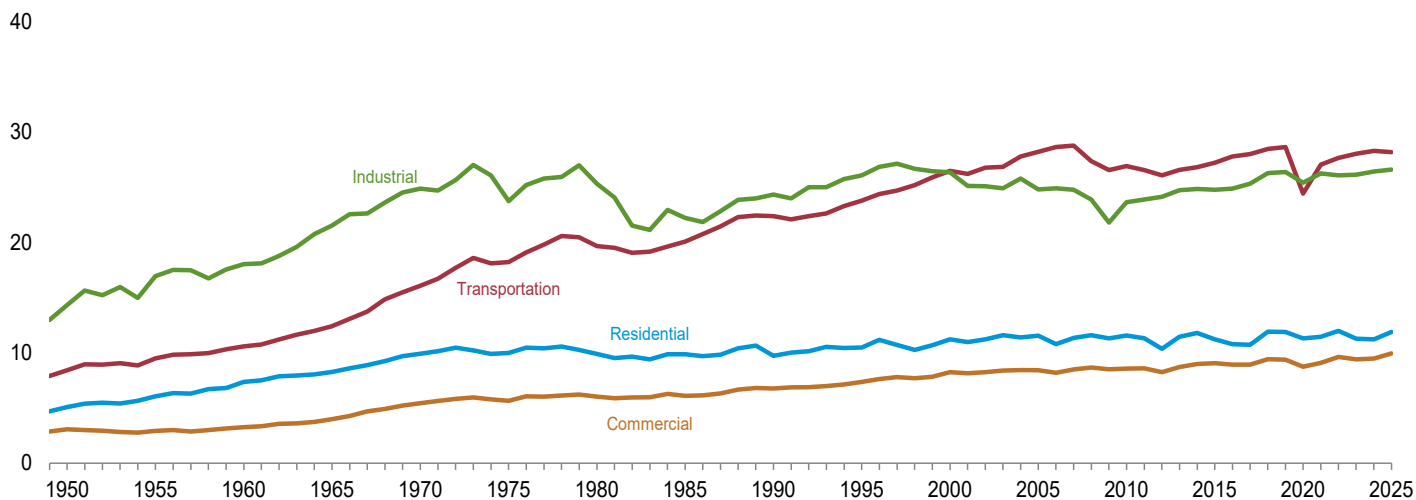
Figure 2.1a Energy Consumption by Sector, 1949–2025

(Quadrillion Btu)

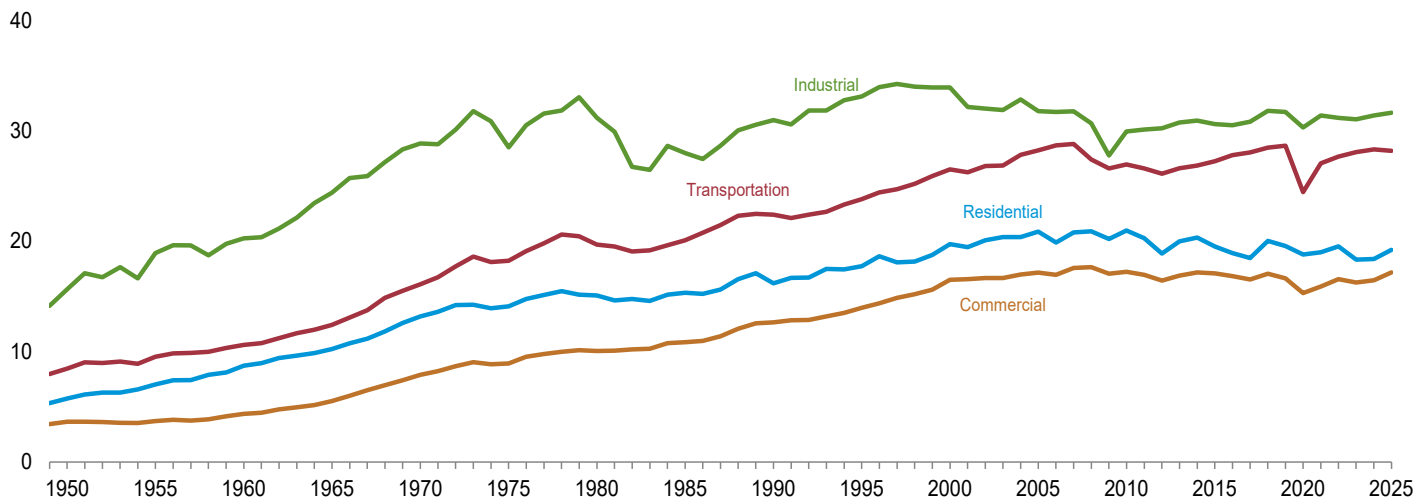
Primary Consumption by Sector



End-Use Consumption by End-Use Sector



Total Consumption by End-Use Sector



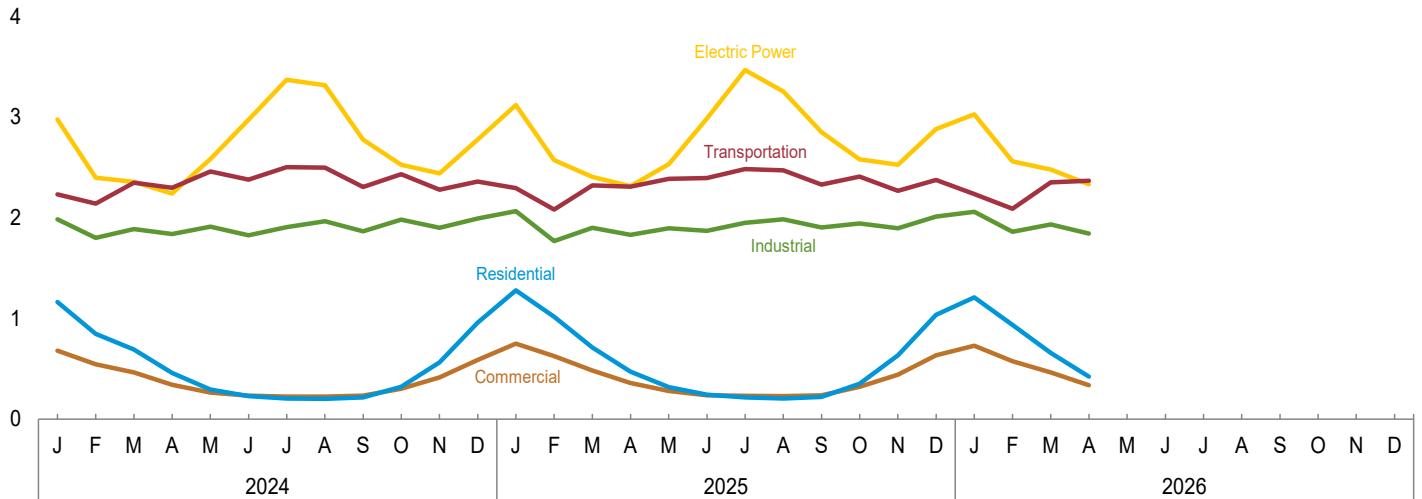
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Sources: Tables 2.1a–2.1b.

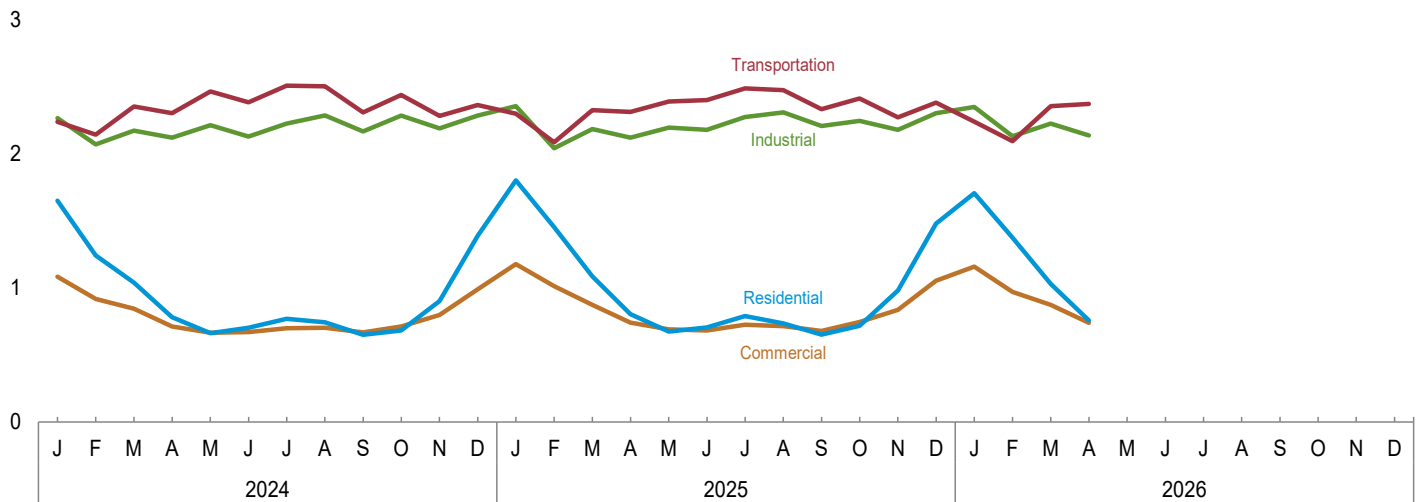
Figure 2.1b Energy Consumption by Sector, Monthly

(Quadrillion Btu)

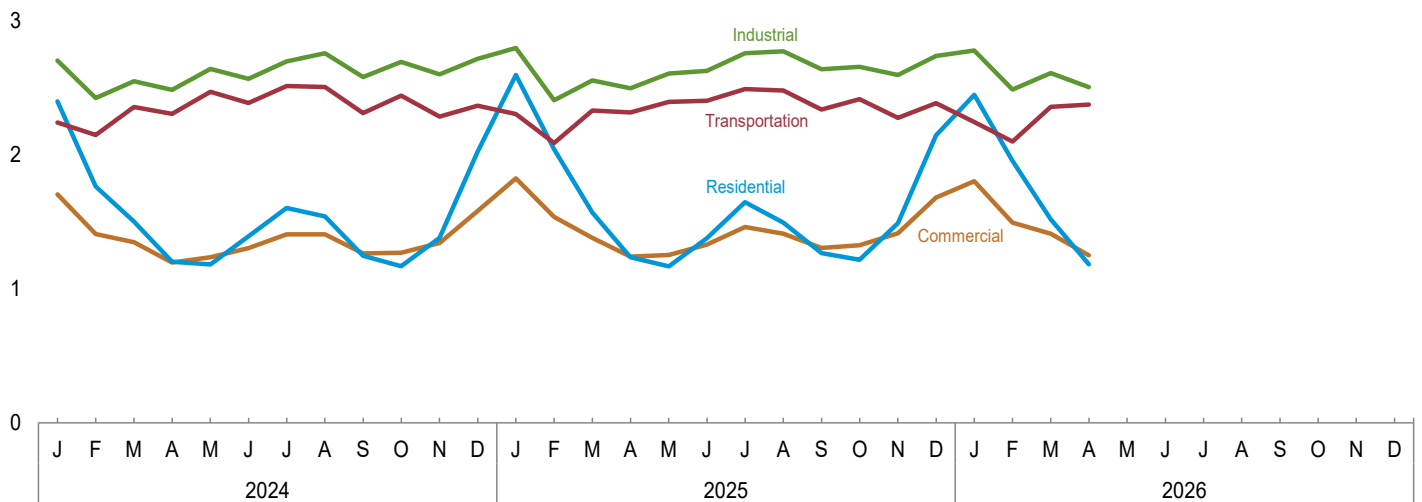
Primary Consumption by Sector



End-Use Consumption by End-Use Sector



Total Consumption by End-Use Sector



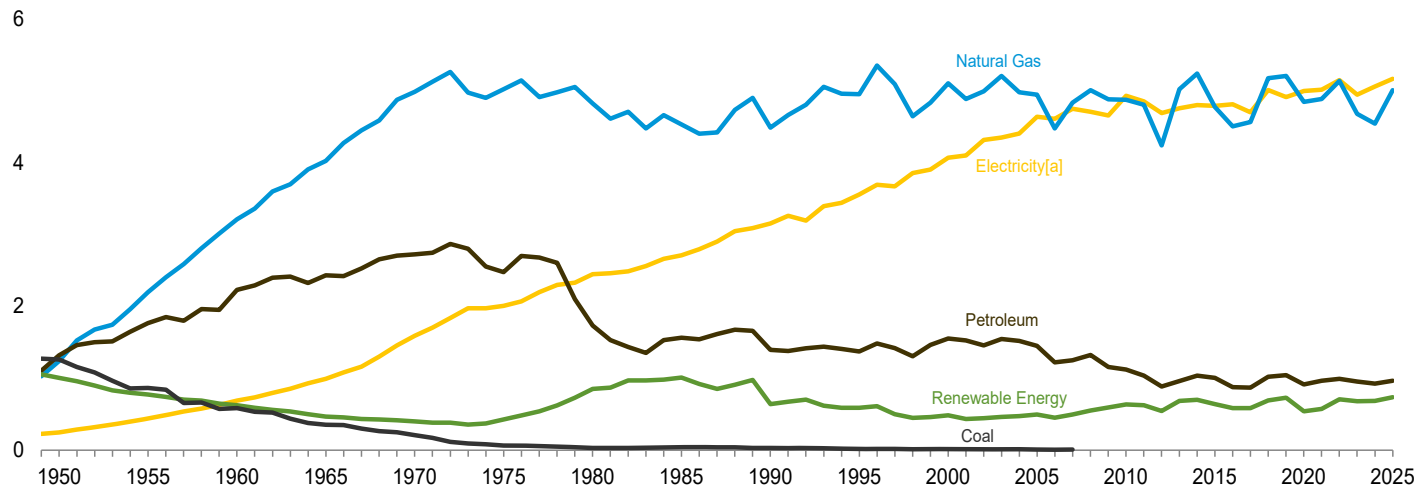
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Sources: Tables 2.1a–2.1b.

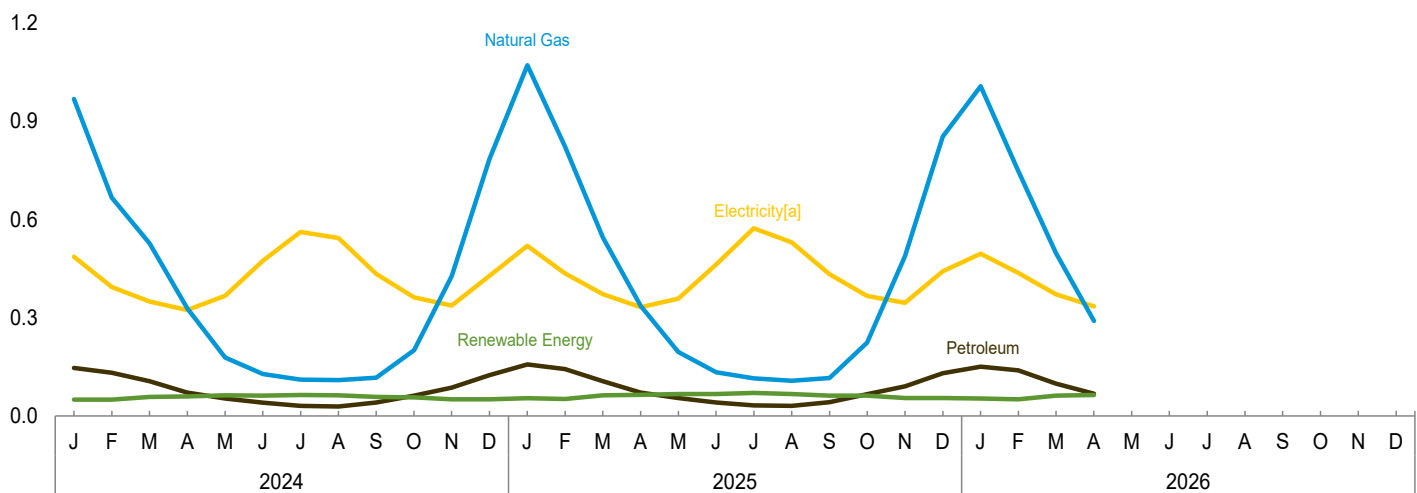
Figure 2.2 Residential Sector Energy Consumption

(Quadrillion Btu)

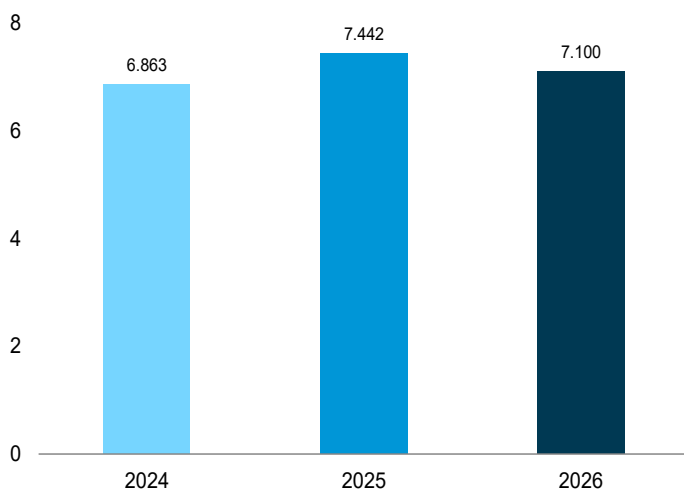
By Major Source, 1949–2025



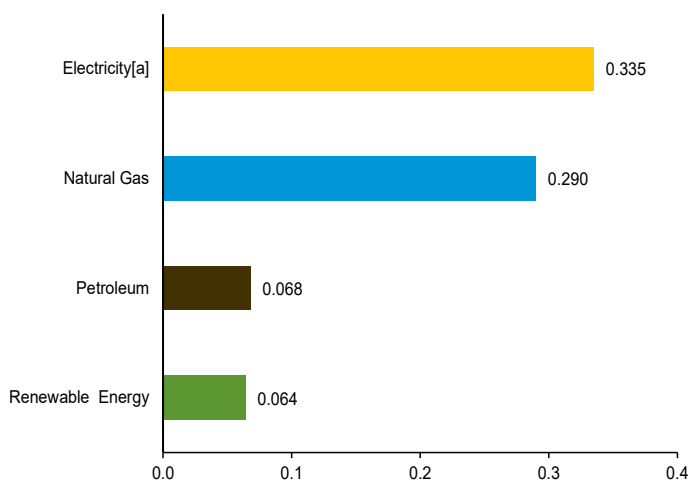
By Major Source, Monthly



Total, January–April



By Major Source, April 2026



[a] Electricity sales to ultimate customers.

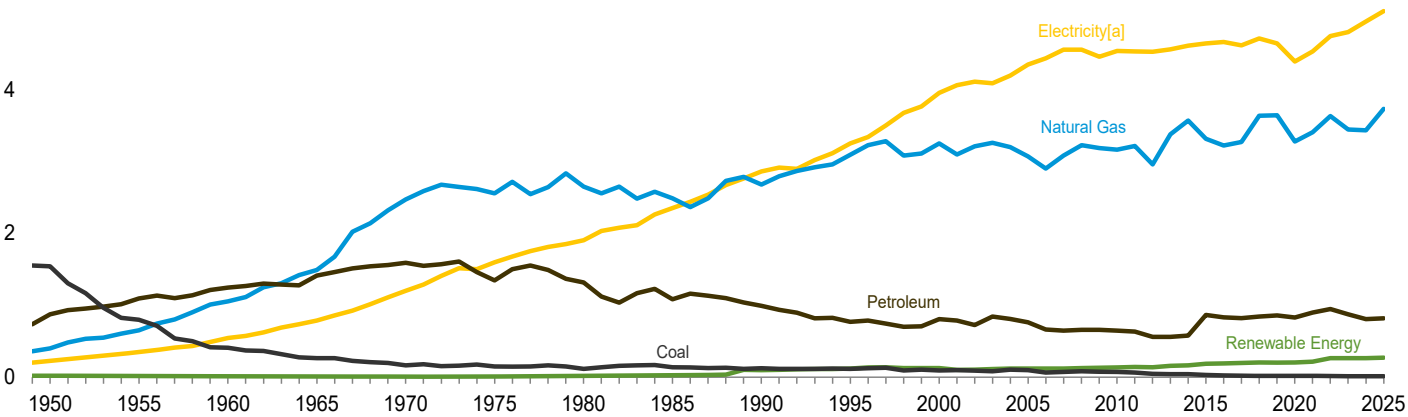
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.2.

Figure 2.3 Commercial Sector Energy Consumption
(Quadrillion Btu)

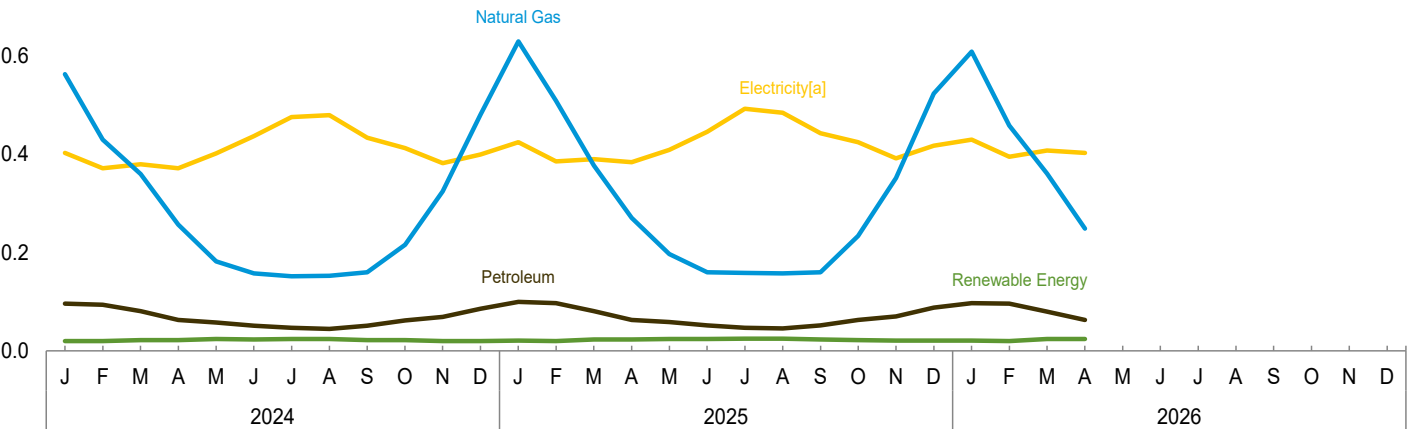
By Major Source, 1949–2025

6



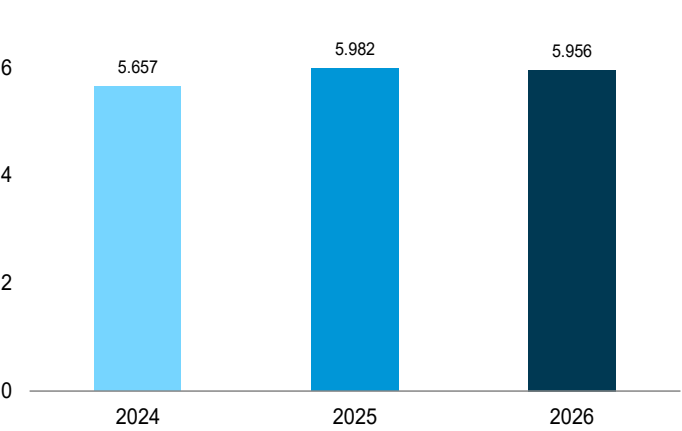
By Major Source, Monthly

0.8

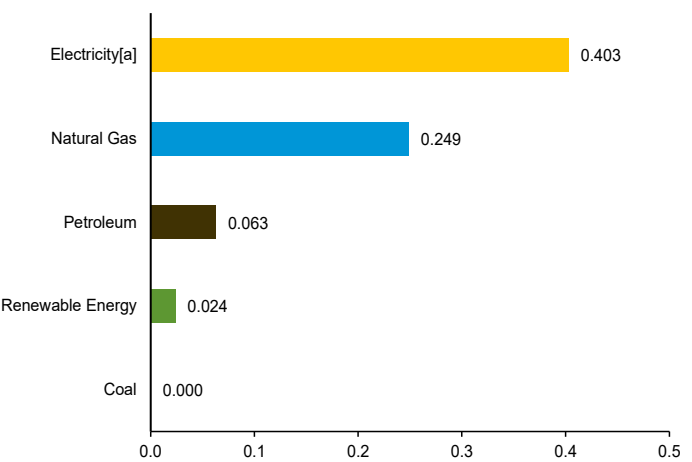


Total, January–April

8



By Major Source, April 2026



[a] Electricity sales to ultimate customers.

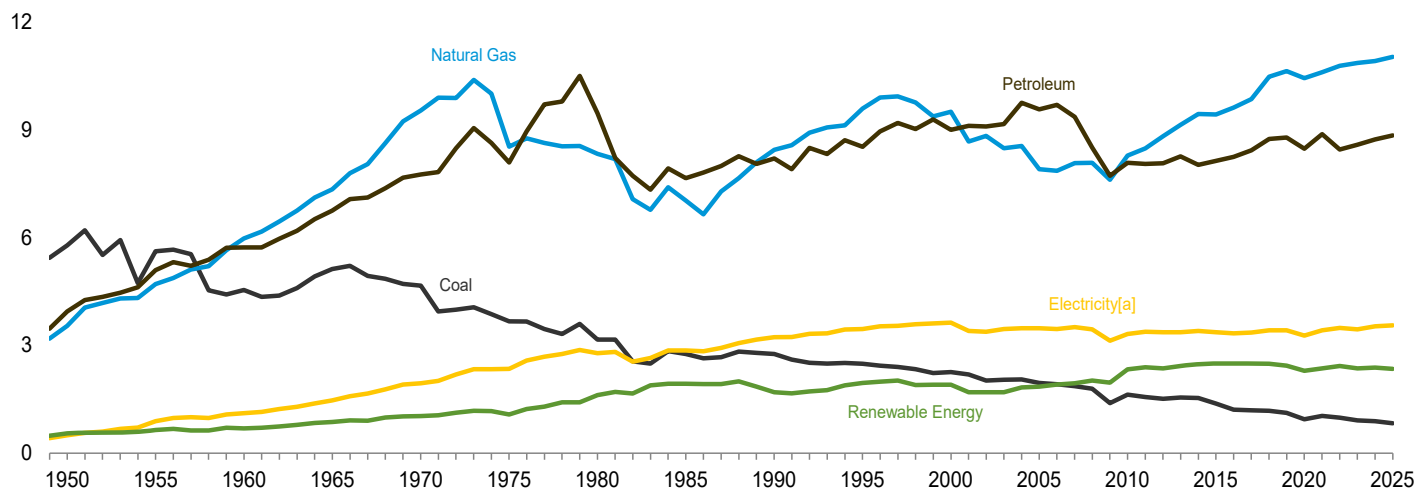
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.3.

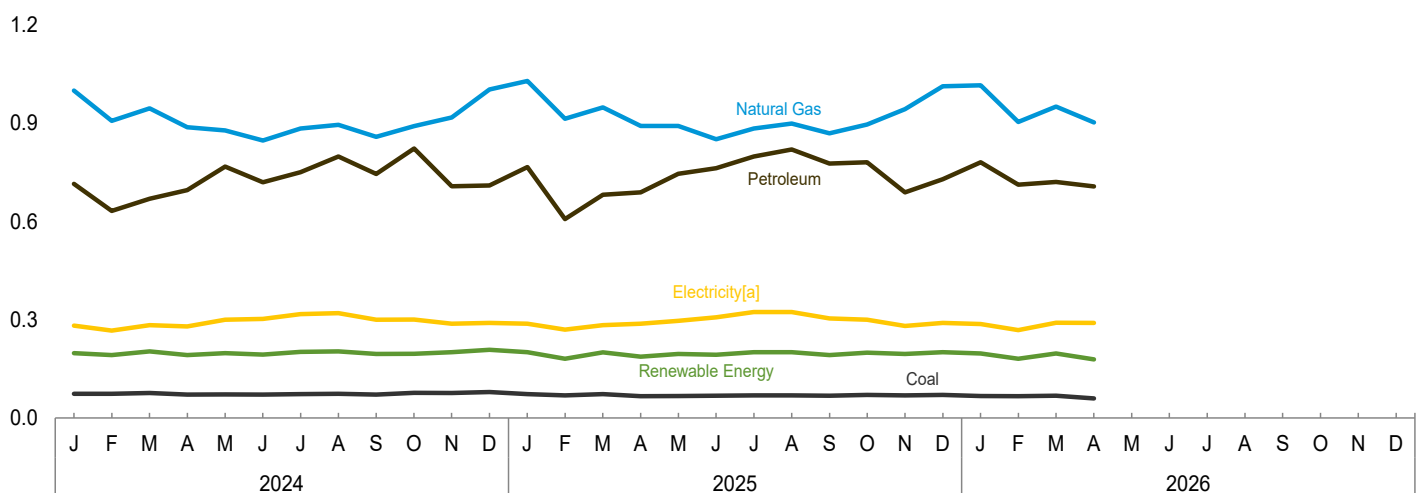
Figure 2.4 Industrial Sector Energy Consumption

(Quadrillion Btu)

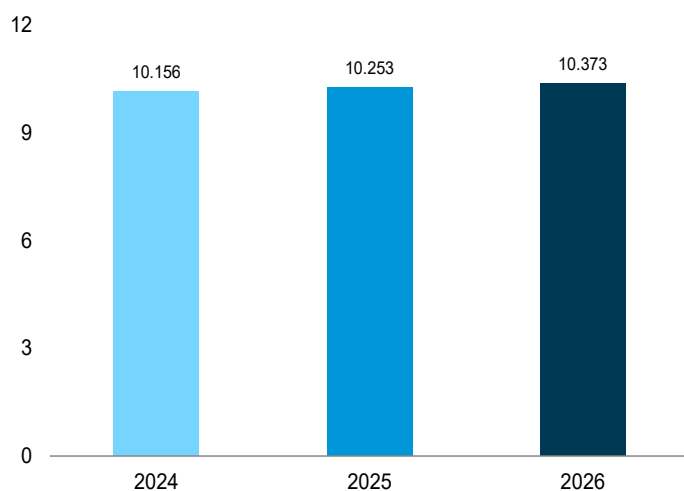
By Major Source, 1949–2025



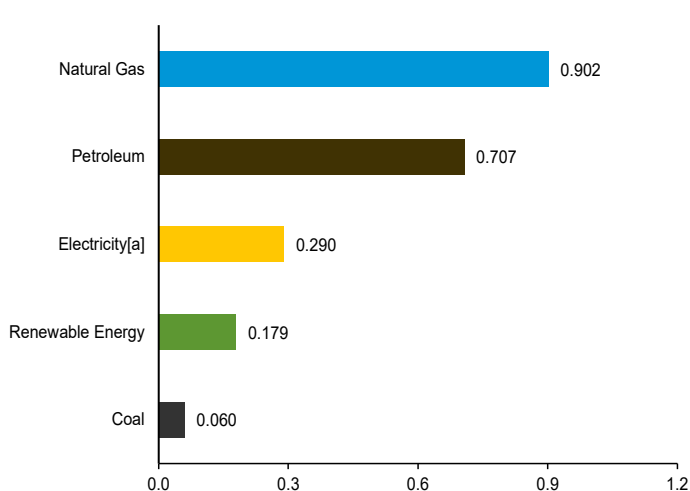
By Major Source, Monthly



Total, January–April



By Major Source, April 2026

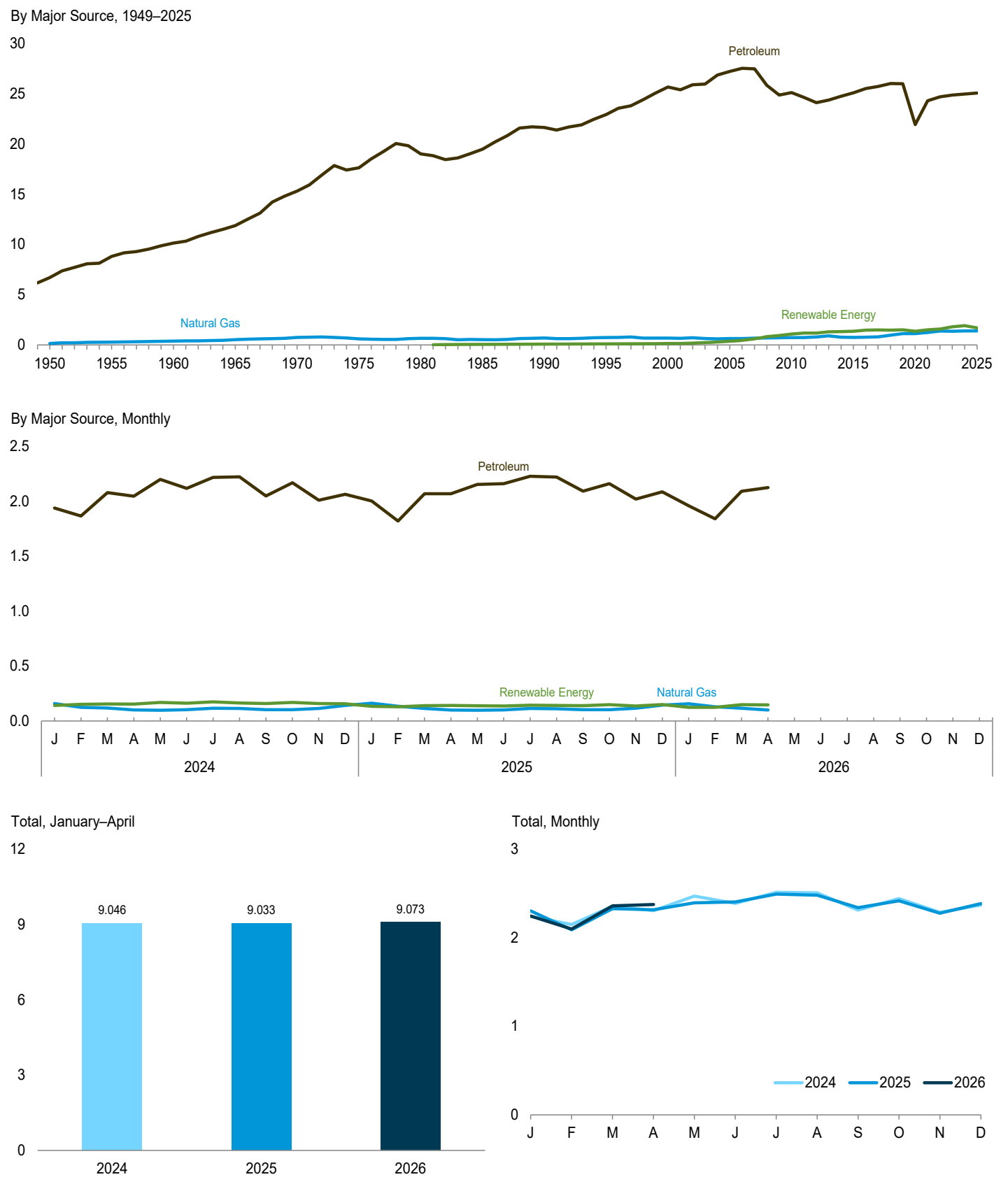


[a] Electricity sales to ultimate customers.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.

Source: Table 2.4.

Figure 2.5 Transportation Sector Energy Consumption
(Quadrillion Btu)



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.
Source: Table 2.5.

Table 2.5 Transportation Sector Energy Consumption
(Trillion Btu)

	End-Use Energy Consumption ^a								Electrical System Energy Losses ^g	Total
	Primary Consumption ^b					Electricity ^f	Total End Use			
	Fossil Fuels				Renewable Energy ^c					
	Coal	Natural Gas ^d	Petroleum ^e	Total	Biomass			Total Primary		
1950 Total	1,564	130	6,690	8,383	NA	8,383	23	8,407	62	8,469
1955 Total	421	254	8,799	9,474	NA	9,474	20	9,494	45	9,539
1960 Total	75	359	10,125	10,560	NA	10,560	10	10,570	21	10,591
1965 Total	16	517	11,866	12,399	NA	12,399	10	12,409	20	12,428
1970 Total	7	745	15,311	16,062	NA	16,062	11	16,073	22	16,094
1975 Total	1	595	17,615	18,211	NA	18,211	10	18,221	21	18,241
1980 Total	(h)	650	19,009	19,659	NA	19,659	11	19,670	23	19,694
1985 Total	(h)	519	19,472	19,992	50	20,042	14	20,056	29	20,084
1990 Total	(h)	679	21,626	22,305	60	22,366	16	22,382	33	22,415
1995 Total	(h)	724	22,920	23,644	112	23,757	17	23,774	35	23,808
2000 Total	(h)	672	25,649	26,321	135	26,456	18	26,474	38	26,512
2005 Total	(h)	624	27,217	27,840	339	28,179	26	28,205	52	28,257
2010 Total	(h)	719	25,100	25,819	1,075	26,894	26	26,920	50	26,970
2011 Total	(h)	734	24,623	25,357	1,166	26,523	26	26,549	48	26,598
2012 Total	(h)	780	24,108	24,888	1,169	26,057	25	26,082	45	26,127
2013 Total	(h)	887	24,361	25,248	1,292	26,541	26	26,567	47	26,614
2014 Total	(h)	760	24,728	25,487	1,314	26,802	26	26,828	47	26,875
2015 Total	(h)	745	25,086	25,831	1,351	27,182	26	27,208	45	27,253
2016 Total	(h)	757	25,515	26,272	1,469	27,741	26	27,767	43	27,810
2017 Total	(h)	799	25,707	26,506	1,474	27,980	26	28,005	42	28,048
2018 Total	(h)	962	26,017	26,979	1,456	28,435	26	28,461	42	28,504
2019 Total	(h)	1,114	25,992	27,106	1,497	28,603	26	28,629	41	28,670
2020 Total	(h)	1,111	21,930	23,041	1,355	24,397	22	24,419	34	24,453
2021 Total	(h)	1,232	24,292	25,524	1,496	27,020	22	27,041	33	27,074
2022 Total	(h)	1,367	24,681	26,048	1,573	27,621	23	27,643	33	27,676
2023 Total	(h)	1,358	24,859	26,218	1,792	28,010	23	28,033	34	28,067
2024 January	(h)	158	1,937	2,095	141	2,235	2	2,237	3	2,240
February	(h)	125	1,865	1,990	151	2,142	2	2,143	2	2,146
March	(h)	118	2,077	2,195	155	2,351	2	2,353	3	2,355
April	(h)	101	2,046	2,147	153	2,301	2	2,302	2	2,305
May	(h)	98	2,197	2,295	168	2,463	2	2,465	3	2,468
June	(h)	103	2,116	2,219	162	2,381	2	2,383	3	2,385
July	(h)	116	2,216	2,332	174	2,506	2	2,508	3	2,511
August	(h)	115	2,222	2,336	164	2,501	2	2,503	3	2,506
September	(h)	102	2,047	2,149	158	2,307	2	2,308	3	2,311
October	(h)	102	2,167	2,269	168	2,436	2	2,438	3	2,441
November	(h)	114	2,008	2,122	158	2,280	2	2,282	3	2,285
December	(h)	142	2,062	2,204	157	2,361	2	2,363	3	2,366
Total	(h)	1,394	24,959	26,353	1,909	28,262	24	28,286	34	28,319
2025 January	(h)	162	2,001	2,163	133	2,296	2	2,299	4	2,302
February	(h)	134	1,819	1,953	130	2,083	2	2,085	3	2,088
March	(h)	115	2,068	2,183	140	2,323	2	2,325	3	2,328
April	(h)	100	2,068	2,168	142	2,310	2	2,312	3	2,314
May	(h)	97	2,152	2,249	139	2,389	2	2,390	3	2,393
June	(h)	101	2,159	2,260	136	2,397	2	2,399	3	2,402
July	(h)	114	2,226	2,340	144	2,485	2	2,487	3	2,490
August	(h)	111	2,220	2,331	142	2,473	2	2,475	3	2,478
September	(h)	102	2,091	2,193	140	2,332	2	2,334	3	2,337
October	(h)	103	2,158	2,261	149	2,410	2	2,412	3	2,415
November	(h)	116	2,018	2,134	137	2,271	2	2,273	3	2,275
December	(h)	145	2,084	2,229	150	2,379	2	2,381	3	2,384
Total	(h)	1,399	25,066	26,464	1,683	28,148	25	28,173	35	28,208
2026 January	(h)	R 157	R 1,958	R 2,114	124	R 2,238	2	R 2,240	3	R 2,244
February	(h)	129	R 1,839	R 1,968	124	R 2,092	2	R 2,094	3	R 2,097
March	(h)	116	R 2,089	R 2,205	148	R 2,354	2	R 2,356	3	R 2,358
April	(h)	100	2,123	2,223	147	2,370	2	2,372	2	2,374
4-Month Total	(h)	502	8,009	8,511	542	9,054	8	9,062	11	9,073
2025 4-Month Total	(h)	510	7,956	8,467	546	9,013	9	9,021	12	9,033
2024 4-Month Total	(h)	502	7,925	8,428	600	9,028	8	9,036	11	9,046

^a Sum of "Total Primary" and "Electricity." See "End-Use Energy Consumption" in Glossary.

^b Energy consumed in the form that it is first accounted for, before any transformation to secondary or tertiary forms of energy. See "Primary Energy Consumption" in Glossary.

^c See Table 10.2c for notes on series components.

^d Natural gas consumed in the operation of pipelines and smaller amounts consumed as vehicle fuel. Does not include supplemental gaseous fuels—see Note 3, "Supplemental Gaseous Fuels," at end of Section 4.

^e Does not include biofuels. Biofuels are included in "Biomass." Includes non-combustion use of lubricants.

^f Electricity sales to ultimate customers reported by electric utilities and, beginning in 1996, other energy service providers.

^g Total losses are calculated as the primary energy consumed by the electric power sector minus the energy content of electricity sales to ultimate customers. Total losses are allocated to the end-use sectors in proportion to each sector's

share of total electricity sales to ultimate customers. See Note 1, "Electrical System Energy Losses," at end of section.

^h Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. NA=Not available.

Notes: • Data are estimates, except for coal totals through 1977; and electricity sales to ultimate customers beginning in 1979. • See Note 2, "Other Energy Losses," at end of section. • See Note 3, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

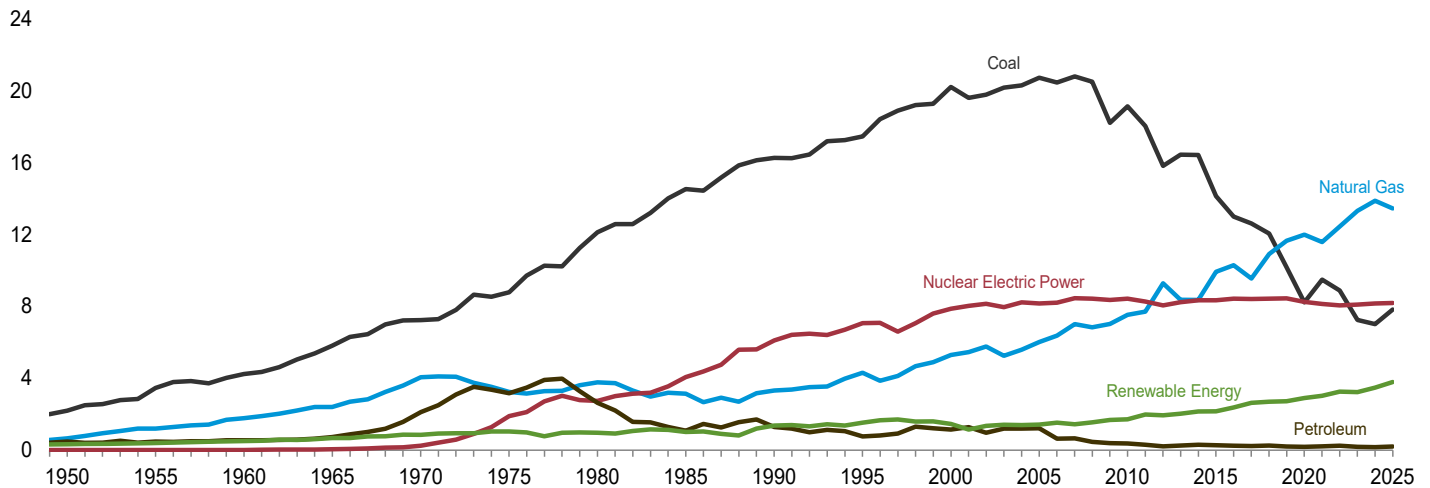
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

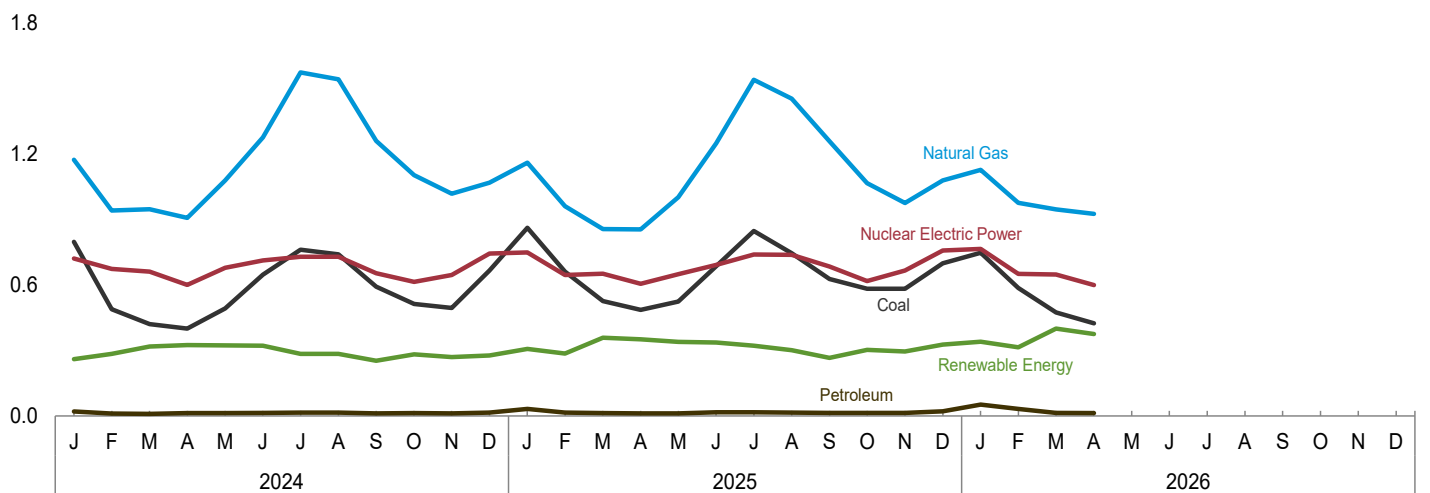
Figure 2.6 Electric Power Sector Energy Consumption

(Quadrillion Btu)

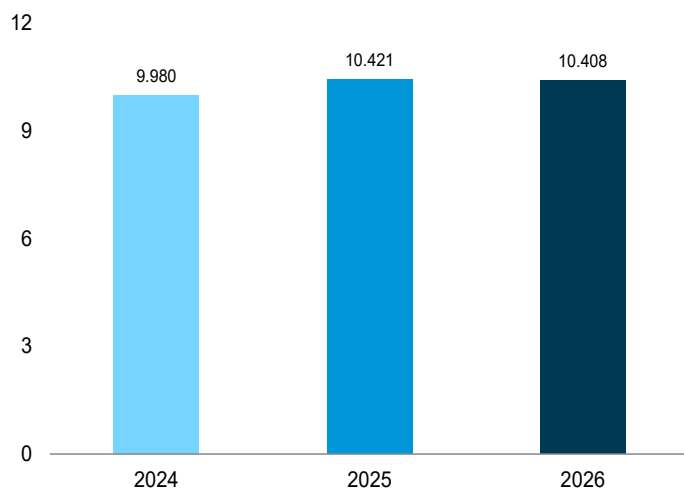
By Major Source, 1949–2025



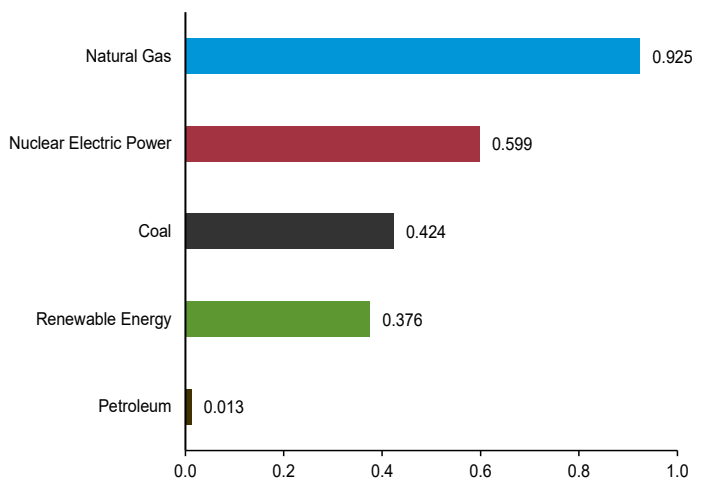
By Major Source, Monthly



Total, January–April



By Major Source, April 2026



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#consumption>.
Source: Table 2.6.

Table 2.6 Electric Power Sector Energy Consumption
(Trillion Btu)

	Primary Consumption ^a													Elec- tricity Net Imports ^f	Total Primary
	Fossil Fuels				Nuclear Electric Power	Renewable Energy ^b									
	Coal	Natural Gas ^c	Petro- leum	Total		Hydro- electric Power ^d	Geo- thermal	Solar ^e	Wind	Bio- mass	Total				
1950 Total	2,199	651	472	3,322	0	327	NA	NA	NA	5	333	6	3,661		
1955 Total	3,458	1,194	471	5,123	0	385	NA	NA	NA	3	389	14	5,525		
1960 Total	4,228	1,785	553	6,565	6	498	(s)	NA	NA	2	499	15	7,086		
1965 Total	5,821	2,395	722	8,938	43	661	1	NA	NA	3	665	(s)	9,646		
1970 Total	7,227	4,054	2,117	13,399	239	845	2	NA	NA	4	851	7	14,495		
1975 Total	8,786	3,240	3,166	15,191	1,900	1,024	11	NA	NA	2	1,037	21	18,149		
1980 Total	12,123	3,778	2,634	18,534	2,739	942	17	NA	NA	4	964	71	22,309		
1985 Total	14,542	3,135	1,090	18,767	4,076	959	32	(s)	(s)	14	1,006	140	23,988		
1990 Total	16,261	3,309	1,289	20,859	6,104	989	53	1	10	317	1,369	8	28,340		
1995 Total	17,466	4,302	755	22,523	7,075	1,042	46	2	11	422	1,522	134	31,254		
2000 Total	20,220	5,293	1,144	26,658	7,862	926	48	2	19	453	1,447	115	36,083		
2005 Total	20,737	6,015	1,222	27,974	8,161	911	50	2	61	406	1,430	85	37,649		
2010 Total	19,133	7,528	370	27,031	8,434	882	52	4	323	459	1,720	89	37,275		
2011 Total	18,035	7,712	295	26,042	8,269	1,083	52	6	410	437	1,988	127	36,426		
2012 Total	15,821	9,287	214	25,322	8,062	934	53	14	480	453	1,935	161	35,480		
2013 Total	16,451	8,376	255	25,082	8,244	904	54	30	572	470	2,030	197	35,554		
2014 Total	16,427	8,362	295	25,085	8,338	880	54	59	619	530	2,143	182	35,747		
2015 Total	14,138	9,926	276	24,341	8,337	845	54	83	650	525	2,158	227	35,063		
2016 Total	12,996	10,301	244	23,542	8,427	909	54	121	774	505	2,363	227	34,558		
2017 Total	12,622	9,555	218	22,395	8,419	1,019	54	180	867	510	2,630	192	33,636		
2018 Total	12,053	10,922	260	23,235	8,438	993	54	216	929	496	2,689	152	34,514		
2019 Total	10,181	11,658	189	22,028	8,452	978	51	243	1,009	448	2,729	133	33,343		
2020 Total	8,229	12,000	184	20,413	8,251	969	53	302	1,152	428	2,904	161	31,730		
2021 Total	9,498	11,583	205	21,285	8,131	854	53	391	1,289	426	3,014	134	32,564		
2022 Total	8,885	12,459	244	21,589	8,061	865	55	487	1,481	374	3,263	141	33,053		
2023 Total	7,247	13,329	176	20,751	8,099	832	56	562	1,436	342	3,228	65	32,143		
2024 January	798	1,173	20	1,991	721	73	5	33	119	31	260	6	2,978		
February	489	941	11	1,441	674	71	4	43	140	27	285	1	2,400		
March	421	947	10	1,379	662	79	5	54	154	27	319	-1	2,359		
April	400	907	13	1,319	601	71	4	65	161	24	325	-2	2,243		
May	492	1,079	13	1,585	679	83	4	76	134	26	323	(s)	2,586		
June	647	1,276	14	1,937	712	76	4	83	132	27	322	5	2,976		
July	761	1,574	16	2,351	729	73	4	83	97	28	285	8	3,374		
August	740	1,542	16	2,299	729	70	4	83	100	29	285	7	3,320		
September	592	1,260	12	1,863	654	54	4	70	100	26	253	7	2,778		
October	513	1,103	13	1,628	614	52	4	67	135	23	282	6	2,530		
November	495	1,018	12	1,524	646	57	4	47	137	25	270	2	2,443		
December	666	1,069	16	1,751	744	66	5	43	135	28	277	7	2,779		
Total	7,014	13,890	166	21,070	8,165	825	53	746	1,541	320	3,485	47	32,767		
2025 January	862	1,160	33	2,055	749	73	5	52	149	29	307	10	3,121		
February	661	961	16	1,638	646	66	4	56	134	25	286	6	2,576		
March	526	856	13	1,395	652	76	5	79	173	27	359	3	2,409		
April	486	855	12	1,353	605	78	4	91	156	22	351	6	2,315		
May	524	1,002	12	1,538	649	83	4	101	126	25	339	8	2,534		
June	686	1,249	17	1,952	692	75	4	108	122	27	337	6	2,988		
July	847	1,540	17	2,405	739	68	4	113	108	28	322	3	3,469		
August	746	1,453	16	2,215	738	68	5	108	93	28	301	4	3,258		
September	627	1,259	14	1,900	684	52	4	95	88	27	266	4	2,854		
October	582	1,067	14	1,664	618	56	4	83	135	25	303	-2	2,583		
November	582	975	14	1,571	666	63	4	63	140	26	295	-4	2,529		
December	699	1,079	22	1,800	757	81	5	52	160	29	327	-2	2,883		
Total	7,829	13,456	201	21,485	8,195	839	53	1,001	1,583	318	3,795	42	33,518		
2026 January	748	1,127	52	1,928	765	95	5	61	152	28	340	-2	3,030		
February	586	976	32	1,594	651	76	4	72	135	27	315	1	2,562		
March	474	946	14	1,434	648	91	5	98	178	28	400	R (s)	R 2,482		
April	424	925	13	1,361	599	76	4	105	168	22	376	-2	2,335		
4-Month Total	2,232	3,974	111	6,316	2,664	339	18	336	632	106	1,431	-3	10,408		
2025 4-Month Total	2,535	3,831	74	6,441	2,652	293	18	278	612	103	1,304	25	10,421		
2024 4-Month Total	2,108	3,968	54	6,130	2,658	294	18	195	573	109	1,188	4	9,980		

^a See "Primary Energy Consumption" in Glossary.
^b See Table 10.2c for notes on series components.
^c Natural gas only; excludes the estimated portion of supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.
^d Conventional hydroelectric power.
^e Solar photovoltaic (PV) and solar thermal electricity net generation in the electric power sector. See Tables 10.2c and 10.5.
^f Net imports equal imports minus exports.
^g Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Data are for fuels consumed to produce electricity and useful thermal output. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • See Note 3, "Energy Consumption Data and Surveys," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: See end of section.

Table 2.7 U.S. Government Energy Consumption by Agency, Fiscal Years
(Trillion Btu)

Fiscal Year ^a	Agri-culture	Defense	DHS ^b	Energy	GSA ^c	HHS ^d	Interior	Justice	NASA ^e	Postal Service	Transportation	Veterans Affairs	Other ^f	Total
1975	9.5	1,360.2	--	50.4	22.3	6.5	9.4	5.9	13.4	30.5	19.3	27.1	10.5	1,565.0
1976	9.3	1,183.3	--	50.3	20.6	6.7	9.4	5.7	12.4	30.0	19.5	25.0	11.2	1,383.4
1977	8.9	1,192.3	--	51.6	20.4	6.9	9.5	5.9	12.0	32.7	20.4	25.9	11.9	1,398.5
1978	9.1	1,157.8	--	50.1	20.4	6.5	9.2	5.9	11.2	30.9	20.6	26.8	12.4	1,360.9
1979	9.2	1,175.8	--	49.6	19.6	6.4	10.4	6.4	11.1	29.3	19.6	25.7	12.3	1,375.4
1980	8.6	1,183.1	--	47.4	18.1	6.0	8.5	5.7	10.4	27.2	19.2	24.8	12.3	1,371.2
1981	7.9	1,239.5	--	47.3	18.0	6.7	7.6	5.4	10.0	27.9	18.8	24.0	11.1	1,424.2
1982	7.6	1,264.5	--	49.0	18.1	6.4	7.4	5.8	10.1	27.5	19.1	24.2	11.6	1,451.4
1983	7.4	1,248.3	--	49.5	16.1	6.2	7.7	5.5	10.3	26.5	19.4	24.1	10.8	1,431.8
1984	7.9	1,292.1	--	51.6	16.2	6.4	8.4	6.4	10.6	27.7	19.8	24.6	10.7	1,482.5
1985	8.4	1,250.6	--	52.2	20.7	6.0	7.8	8.2	10.9	27.8	19.6	25.1	13.1	1,450.3
1986	6.8	1,222.8	--	46.9	14.0	6.2	6.9	8.6	11.2	28.0	19.4	25.0	10.8	1,406.7
1987	7.3	1,280.5	--	48.5	13.1	6.6	6.6	8.1	11.3	28.5	19.0	24.9	11.9	1,466.3
1988	7.8	1,165.8	--	49.9	12.4	6.4	7.0	9.4	11.3	29.6	18.7	26.3	15.8	1,360.3
1989	8.7	1,274.4	--	44.2	12.7	6.7	7.1	7.7	12.4	30.3	18.5	26.2	15.6	1,464.7
1990	9.6	1,241.7	--	43.5	17.5	7.1	7.4	7.0	12.4	30.6	19.0	24.9	17.5	1,438.0
1991	9.6	1,269.3	--	42.1	14.0	6.2	7.1	8.0	12.5	30.8	19.0	25.1	18.1	1,461.7
1992	9.1	1,104.0	--	44.3	13.8	6.8	7.0	7.5	12.6	31.7	17.0	25.3	15.7	1,294.8
1993	9.3	1,048.8	--	43.4	14.1	7.2	7.5	9.1	12.4	33.7	19.4	25.7	16.2	1,246.8
1994	9.4	977.0	--	42.1	14.0	7.5	7.9	10.3	12.6	35.0	19.8	25.6	17.1	1,178.2
1995	9.0	926.0	--	47.3	13.7	6.1	6.4	10.2	12.4	36.2	18.7	25.4	17.1	1,128.5
1996	9.1	904.5	--	44.6	14.5	6.6	4.3	12.1	11.5	36.4	19.6	26.8	17.7	1,107.7
1997	7.4	880.0	--	43.1	14.4	7.9	6.6	12.0	12.0	40.8	19.1	27.3	20.8	1,091.2
1998	7.9	837.1	--	31.5	14.1	7.4	6.4	15.8	11.7	39.5	18.5	27.6	19.5	1,037.1
1999	7.8	810.7	--	27.0	14.4	7.1	7.5	15.4	11.4	39.8	22.6	27.5	19.8	1,010.9
2000	7.4	779.1	--	30.5	17.6	8.0	7.8	19.7	11.1	43.3	21.2	27.0	20.3	993.1
2001	7.4	787.2	--	31.1	18.4	8.5	9.5	19.7	10.9	43.4	17.8	27.7	20.7	1,002.3
2002	7.2	837.5	--	30.7	17.5	8.0	8.2	17.7	10.7	41.6	18.3	27.7	18.4	1,043.4
2003	7.7	895.1	18.3	31.9	18.5	10.1	7.3	22.7	10.8	50.9	5.5	30.6	22.7	1,132.3
2004	7.0	960.7	23.5	31.4	18.3	8.8	8.7	17.5	9.9	50.5	5.2	29.9	20.4	1,191.7
2005	7.5	933.2	18.9	29.6	18.4	9.6	8.6	18.8	10.3	53.5	5.0	30.0	23.2	1,166.4
2006	6.8	843.7	17.1	32.9	18.2	9.3	8.1	23.5	10.2	51.8	4.6	29.3	20.9	1,076.4
2007	6.8	864.6	17.1	31.5	19.1	9.9	7.5	20.7	10.6	45.8	5.6	30.0	21.0	1,090.2
2008	6.5	910.8	22.0	32.1	18.8	10.3	7.1	19.0	10.8	47.1	7.7	29.0	22.4	1,143.4
2009	6.6	874.3	18.6	31.1	18.6	10.8	7.9	16.5	10.2	44.2	4.3	29.9	21.8	1,094.8
2010	6.8	889.9	21.2	31.7	18.8	10.4	7.3	15.7	10.1	43.3	5.7	30.2	21.8	1,112.7
2011	8.3	890.3	20.3	33.1	18.5	10.5	7.3	13.9	10.1	43.0	6.7	30.6	21.4	1,114.1
2012	6.7	828.5	20.1	30.3	16.3	10.0	6.7	15.1	8.9	40.8	5.6	29.7	20.5	1,039.3
2013	7.3	749.5	18.9	28.9	16.4	10.5	6.2	15.3	8.7	41.9	6.2	29.9	20.4	960.1
2014	6.3	730.6	18.5	29.4	17.0	9.5	6.2	15.6	8.3	43.0	6.3	31.4	20.6	942.6
2015	6.2	734.5	17.9	30.1	16.3	9.0	6.8	16.2	8.4	44.0	6.0	30.7	19.9	945.9
2016	6.2	709.2	18.1	28.9	15.8	8.7	6.4	15.6	8.5	43.9	6.0	30.3	19.5	917.2
2017	6.3	707.9	19.2	28.8	15.0	8.8	5.9	15.5	8.6	43.7	6.6	29.1	19.7	915.1
2018	6.1	690.6	16.8	27.3	15.6	10.0	6.1	16.2	8.4	45.5	7.0	29.7	19.0	898.4
2019	5.9	682.1	16.2	27.2	15.4	9.8	6.2	15.8	8.5	46.0	7.1	31.9	19.2	891.2
2020	5.4	648.8	17.1	26.4	14.4	9.5	5.5	14.6	8.1	46.1	6.4	30.6	17.0	850.0
2021	6.4	650.7	15.9	27.5	13.2	9.1	5.4	14.5	8.1	45.5	6.8	30.3	17.6	851.0
2022	8.0	622.5	16.5	26.3	12.8	9.6	6.2	14.5	8.5	48.3	6.6	30.8	17.2	827.6
2023	7.9	605.1	15.8	27.8	12.7	9.6	5.8	14.0	8.0	48.4	8.8	30.8	17.0	811.7
2024	8.2	598.6	15.3	26.6	12.2	9.8	5.7	14.0	8.0	47.8	7.7	31.2	16.4	801.5

^a For 1975 and 1976, the U.S. Government's fiscal year was July 1 through June 30. Beginning in 1977, the U.S. Government's fiscal year is October 1 through September 30 (for example, fiscal year 2014 is October 2013 through September 2014).

^b U.S. Department of Homeland Security.

^c General Services Administration.

^d U.S. Department of Health and Human Services.

^e National Aeronautics and Space Administration.

^f Includes all U.S. government agencies not separately displayed. See <http://ctswebweb.ee.doe.gov/Annual/Report/AgencyReference.aspx> for agency list.

-- = Not applicable.

Notes: • Data in this table are developed using conversion factors that often

differ from those in Tables A1–A6. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all annual data beginning in 1975.

Sources: U.S. Department of Energy, Office of the Undersecretary for Infrastructure, Federal Energy Management Program. See <http://ctswebweb.ee.doe.gov/Annual/Report/Report.aspx>, "A-1 Total Site-Delivered Energy Use in All End-Use Sectors, by Federal Agency (Billion Btu)".

Table 2.8 U.S. Government Energy Consumption by Source, Fiscal Years
(Trillion Btu)

Fiscal Year ^a	Coal	Natural Gas ^b	Petroleum						Other Mobility Fuels ⁱ	Electricity	Purchased Steam and Other ^g	Total
			Aviation Gasoline	Fuel Oil ^c	Jet Fuel	LPG ^d	Motor Gasoline ^e	Total				
1975	77.9	166.2	22.0	376.0	707.4	5.6	63.2	1,174.2	0.0	141.5	5.1	1,565.0
1976	71.3	151.8	11.6	329.7	610.0	4.7	60.4	1,016.4	.0	139.3	4.6	1,383.4
1977	68.4	141.2	8.8	348.5	619.2	4.1	61.4	1,042.1	.0	141.1	5.7	1,398.5
1978	66.0	144.7	6.2	332.3	601.1	3.0	60.1	1,002.9	.0	141.0	6.4	1,360.9
1979	65.1	148.9	4.7	327.1	618.6	3.7	59.1	1,013.1	.0	141.2	7.1	1,375.4
1980	63.5	147.3	4.9	307.7	638.7	3.8	56.5	1,011.6	.2	141.9	6.8	1,371.2
1981	65.1	142.2	4.6	351.3	653.3	3.5	53.2	1,066.0	.2	144.5	6.2	1,424.2
1982	68.6	146.2	3.6	349.4	672.7	3.7	53.1	1,082.5	.2	147.5	6.2	1,451.4
1983	62.4	147.8	2.6	329.5	673.4	3.8	51.6	1,060.8	.2	151.5	9.0	1,431.8
1984	65.3	157.4	1.9	342.9	693.7	3.9	51.2	1,093.6	.2	155.9	10.1	1,482.5
1985	64.8	149.9	1.9	292.6	705.7	3.8	50.4	1,054.3	.2	167.2	13.9	1,450.3
1986	63.8	140.9	1.4	271.6	710.2	3.6	45.3	1,032.1	.3	155.8	13.7	1,406.7
1987	67.0	145.6	1.0	319.5	702.3	3.6	43.1	1,069.5	.4	169.9	13.9	1,466.3
1988	60.2	144.6	6.0	284.8	617.2	2.7	41.2	951.9	.4	171.2	32.0	1,360.3
1989	48.7	152.4	.8	245.3	761.7	3.5	41.1	1,052.4	2.2	188.6	20.6	1,464.7
1990	44.3	159.4	.5	245.2	732.4	3.8	37.2	1,019.1	2.6	193.6	19.1	1,438.0
1991	45.9	154.1	.4	232.6	774.5	3.0	34.1	1,044.7	6.0	192.7	18.3	1,461.7
1992	51.7	151.2	1.0	200.6	628.2	3.0	35.6	868.4	8.4	192.5	22.5	1,294.8
1993	38.3	152.9	.7	187.0	612.4	3.5	34.5	838.1	5.8	193.1	18.6	1,246.8
1994	35.0	143.9	.6	198.5	550.7	3.2	29.5	782.6	7.7	190.9	18.2	1,178.2
1995	31.7	149.4	.3	178.4	522.3	3.0	31.9	735.9	8.4	184.8	18.2	1,128.5
1996	23.3	147.3	.2	170.5	513.0	3.1	27.6	714.4	18.7	184.0	20.1	1,107.7
1997	22.5	153.8	.3	180.0	475.7	2.6	39.0	697.6	14.5	183.6	19.2	1,091.2
1998	23.9	140.4	.2	174.5	445.5	3.5	43.0	666.8	5.9	181.4	18.8	1,037.1
1999	21.2	137.4	.1	162.1	444.7	2.4	41.1	650.4	.4	180.0	21.5	1,010.9
2000	22.7	133.8	.2	171.3	403.1	2.5	43.9	621.0	1.8	193.6	20.2	993.1
2001	18.8	133.7	.2	176.9	415.2	3.1	42.5	638.0	4.8	188.4	18.6	1,002.3
2002	16.9	133.7	.2	165.6	472.9	2.8	41.3	682.8	3.2	188.3	18.5	1,043.4
2003	18.1	135.5	.3	190.8	517.9	3.2	46.3	758.4	3.3	193.8	23.2	1,132.3
2004	17.4	135.3	.2	261.4	508.2	2.9	44.1	816.9	3.1	197.1	22.0	1,191.7
2005	17.1	135.7	.4	241.4	492.2	3.4	48.8	786.1	5.6	197.6	24.3	1,166.4
2006	23.5	132.6	.6	209.3	442.6	2.7	48.3	703.6	2.1	196.7	18.2	1,076.4
2007	20.4	131.5	.4	212.9	461.1	2.7	46.5	723.7	2.9	194.9	16.7	1,090.2
2008	20.8	129.6	.4	198.4	525.4	2.3	49.0	775.4	3.6	196.2	17.9	1,143.4
2009	20.3	131.7	.3	166.4	505.7	3.2	48.3	723.9	10.1	191.3	17.7	1,094.8
2010	20.0	130.1	.4	157.8	535.8	2.5	51.3	747.7	3.0	193.7	18.2	1,112.7
2011	18.5	124.7	.9	166.5	533.6	2.0	52.7	755.8	2.7	193.2	19.1	1,114.1
2012	15.9	116.2	.4	148.6	493.5	1.7	50.1	694.4	3.1	187.2	22.5	1,039.3
2013	14.3	122.5	.7	140.8	424.0	1.9	46.6	614.0	2.8	184.7	21.8	960.1
2014	13.5	125.6	.3	134.6	414.3	1.8	44.9	595.9	3.6	182.1	21.9	942.6
2015	12.6	122.2	.3	135.0	418.9	1.8	46.8	602.8	3.0	184.4	20.9	945.9
2016	10.2	115.4	.3	130.5	403.9	1.7	46.5	583.0	2.7	184.5	21.4	917.2
2017	9.1	115.1	.3	135.1	400.1	1.5	46.4	583.5	2.7	181.7	23.0	915.1
2018	6.2	125.8	.3	129.4	383.2	1.7	45.5	560.1	2.6	180.1	23.6	898.4
2019	5.0	131.7	.3	127.2	376.8	1.9	46.6	552.8	2.1	178.2	21.5	891.2
2020	5.2	128.3	.2	131.0	345.0	1.7	43.3	521.3	1.2	173.8	20.2	850.0
2021	5.3	128.4	.4	123.9	352.0	1.7	44.6	522.6	1.3	173.2	20.3	851.0
2022	3.5	128.3	.2	127.9	326.9	1.6	44.4	501.1	1.2	172.1	21.4	827.6
2023	4.0	131.7	.2	125.5	311.3	1.8	46.7	485.4	1.1	170.5	19.1	811.7
2024	7.5	130.4	.2	122.0	304.1	1.8	46.0	474.1	1.1	170.1	18.1	801.5

^a For 1975 and 1976, the U.S. Government's fiscal year was July 1 through June 30. Beginning in 1977, the U.S. Government's fiscal year is October 1 through September 30 (for example, fiscal year 2014 is October 2013 through September 2014).

^b Natural gas, plus a small amount of supplemental gaseous fuels.

^c Distillate fuel oil, including diesel fuel; and residual fuel oil, including Navy Special.

^d Liquefied petroleum gases, primarily propane.

^e Includes E10 (a mixture of 10% ethanol and 90% motor gasoline) and E15 (a mixture of 15% ethanol and 85% motor gasoline).

^f Other types of fuel used in vehicles and equipment. Primarily includes alternative fuels such as compressed natural gas (CNG); liquefied natural gas (LNG); E85 (see "E85 (Flex fuel)" in Glossary); B20 (a mixture of 20% biodiesel and 80% diesel fuel); B100 (100% biodiesel); hydrogen; and methanol.

^g Other types of energy used in facilities. Primarily includes chilled water, but

also includes small amounts of renewable energy such as wood and solar thermal.

Notes: • Data in this table are developed using conversion factors that often differ from those in Tables A1–A6. • Data include energy consumed at foreign installations and in foreign operations, including aviation and ocean bunkering, primarily by the U.S. Department of Defense. U.S. Government energy use for electricity generation and uranium enrichment is excluded. • Totals may not equal sum of components due to independent rounding.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#consumption> (Excel and CSV files) for all annual data beginning in 1975.

Sources: U.S. Department of Energy, Office of the Undersecretary for Infrastructure, Federal Energy Management Program. See <http://ctsedweb.ee.doe.gov/Annual/Report/Report.aspx>, "A-5 Historical Federal Energy Consumption and Cost Data by Agency and Energy Type (FY 1975 to Present)".

Energy Consumption by Sector

Note 1. Electrical System Energy Losses. Electrical system energy losses are calculated as the difference between total primary consumption by the electric power sector (see Table 2.6) and the total energy content of electricity sales to ultimate customers (see Tables 7.6 and A6). Most of these losses are from the conversion of heat energy into mechanical energy to turn electric generators at fossil fuel, biomass, and nuclear plants. These losses are a necessary feature of the thermodynamic cycles of these power plants (steam-electric, gas-electric, and combined-cycle). Overall, about two thirds of total energy input is lost in conversion. In addition to conversion losses, other losses include power plant use of electricity, transmission and distribution of electricity from power plants to end-use consumers (also called “line losses”), and unaccounted-for electricity. Currently, of electricity generated, approximately 5% is lost in plant use and 7% is lost in transmission and distribution. Total losses are allocated to the end-use sectors in proportion to each sector’s share of total electricity sales.

Note 2. Other Energy Losses. Similar to electrical system energy losses, there are also other energy losses from energy consumption not separately identified. There are losses in the production of energy, the transformation of one form of energy to another form of energy, and the distribution and use of energy. For example, there are transformation losses in the process of refining crude oil into usable petroleum products, processing natural gas into marketable dry gas, and in the process of converting energy from the sun into usable energy with solar panels. All uses of primary energy have efficiency losses, usually in the form of heat, when energy is converted to do useful work. Examples include when motor gasoline is burned to move vehicles, when natural gas is burned to heat homes, or in any household appliance that uses electricity. The Lawrence Livermore National Laboratory estimates primary energy losses by end-use sector by applying an end-use efficiency factor to EIA’s *Monthly Energy Review* consumption data—see <https://flowcharts.llnl.gov/>.

Note 3. Energy Consumption Data and Surveys. Most of the data in this section of the Monthly Energy Review (MER) are developed from a group of energy-related surveys, typically called “supply surveys,” conducted by the U.S. Energy Information Administration (EIA). Supply surveys are directed to suppliers and marketers of specific energy sources. They measure the quantities of specific energy sources produced, or the quantities supplied to the market, or both. The data obtained from EIA’s supply surveys are integrated to yield the summary consumption statistics published in this section (and in Section 1) of the MER.

Users of EIA’s energy consumption statistics should be aware of a second group of energy-related surveys, typically called “consumption surveys.” Consumption surveys gather information on the types of energy consumed by end users of energy, along with the characteristics of those end users that can be associated with energy use. For example, the “Manufacturing Energy Consumption Survey” belongs to the consumption survey group because it collects information directly from end users (the manufacturing establishments). There are important differences between the supply and consumption surveys that need to be taken into account in any analysis that uses both data sources. For information on those differences, see “Energy Consumption by End-Use Sector, A Comparison of Measures by Consumption and Supply Surveys,” DOE/EIA-0533, U.S. Energy Information Administration, Washington, DC, April 6, 1990.

Table 2.2 Sources

Coal

1949–2007: Residential sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the residential and commercial sectors coal consumption heat content factors in Table A5.

Natural Gas

1949–1979: Residential sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Residential sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The residential sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Residential sector natural gas (excluding supplemental

gaseous fuels) consumption is equal to residential sector natural gas (including supplemental gaseous fuels) consumption minus the residential sector portion of supplemental gaseous fuels.

Petroleum

1949 forward: Table 3.8a.

Fossil Fuels Total

1949–2007: Residential sector total fossil fuels consumption is the sum of the residential sector consumption values for coal, natural gas, and petroleum.

2008 forward: Residential sector total fossil fuels consumption is the sum of the residential sector consumption values for natural gas and petroleum.

Renewable Energy

1949 forward: Table 10.2a.

Total Primary Energy Consumption

1949 forward: Residential sector total primary energy consumption is the sum of the residential sector consumption values for fossil fuels and renewable energy.

Electricity Sales to Ultimate Customers

1949 forward: Residential sector electricity sales to ultimate customers from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

End-Use Energy Consumption

1949 forward: Residential sector end-use energy consumption is the sum of residential sector total primary energy consumption and residential sector electricity sales to ultimate customers.

Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity sales to ultimate customers from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the residential sector in proportion to the residential sector's share of total electricity sales to ultimate customers from Table 7.6. See Note 1, "Electrical System Energy Losses."

Total Energy Consumption

1949 forward: Residential sector total energy consumption is the sum of the residential sector consumption values for total primary energy, electricity sales to ultimate customers, and electrical system energy losses.

Table 2.3 Sources

Coal

1949 forward: Commercial sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the residential and commercial sectors coal consumption heat content factors in Table A5.

Natural Gas

1949–1979: Commercial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Commercial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The commercial sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, "Supplemental Gaseous Fuels," at the end of Section 4. Commercial sector natural gas (excluding supplemental gaseous fuels) consumption is equal to commercial sector natural gas (including supplemental gaseous fuels) consumption minus the commercial sector portion of supplemental gaseous fuels.

Petroleum

1949–1992: Table 3.8a.

1993–2008: The commercial sector share of motor gasoline consumption is equal to commercial sector motor gasoline consumption from Table 3.7a divided by motor gasoline product supplied from Table 3.5. Commercial sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the commercial sector share of motor gasoline consumption. Commercial sector petroleum (excluding biofuels) consumption is equal to commercial sector petroleum (including biofuels) consumption from Table 3.8a minus commercial sector fuel ethanol (including denaturant) consumption.

2009 forward: Commercial sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the commercial sector share of motor gasoline consumption (see 1993–2008 sources above). Commercial sector petroleum (excluding biofuels) consumption is equal to commercial sector petroleum (including biofuels) consumption from Table 3.8a minus commercial sector fuel ethanol (minus denaturant) consumption.

Fossil Fuels Total

1949 forward: Commercial sector total fossil fuels consumption is the sum of the commercial sector consumption values for coal, natural gas, and petroleum.

Renewable Energy

1949 forward: Table 10.2a.

Total Primary Energy Consumption

1949 forward: Commercial sector total primary energy consumption is the sum of the commercial sector consumption values for fossil fuels and renewable energy.

Electricity Sales to Ultimate Customers

1949 forward: Commercial sector electricity sales to ultimate customers from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

End-Use Energy Consumption

1949 forward: Commercial sector end-use energy consumption is the sum of commercial sector total primary energy consumption and commercial sector electricity sales to ultimate customers.

Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity sales to ultimate customers from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the commercial sector in proportion to the commercial sector's share of total electricity sales to ultimate customers from Table 7.6. See Note 1, "Electrical System Energy Losses."

Total Energy Consumption

1949 forward: Commercial sector total energy consumption is the sum of the commercial sector consumption values for total primary energy, electricity sales to ultimate customers, and electrical system energy losses.

Table 2.4 Sources

Coal

1949 forward: Coke plants coal consumption from Table 6.2 is converted to Btu by multiplying by the coke plants coal consumption heat content factors in Table A5. Other industrial coal consumption from Table 6.2 is converted to Btu by multiplying by the other industrial coal consumption heat content factors in Table A5. Industrial sector coal consumption is equal to coke plants coal consumption and other industrial coal consumption.

Natural Gas

1949–1979: Industrial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

1980 forward: Industrial sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4. The industrial sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Industrial sector natural gas (excluding supplemental gaseous fuels) consumption is equal to industrial sector natural gas (including supplemental gaseous fuels) consumption minus the industrial sector portion of supplemental gaseous fuels.

Petroleum

1949–1992: Table 3.8b.

1993–2008: The industrial sector share of motor gasoline consumption is equal to industrial sector motor gasoline consumption from Table 3.7b divided by motor gasoline product supplied from Table 3.5. Industrial sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the industrial sector share of motor gasoline consumption. Industrial sector petroleum (excluding biofuels) consumption is equal to industrial sector petroleum (including biofuels) consumption from Table 3.8b minus industrial sector fuel ethanol (including denaturant) consumption.

2009 forward: Industrial sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the industrial sector share of motor gasoline consumption (see 1993–2008 sources above). Industrial sector petroleum (excluding biofuels) consumption is equal to industrial sector petroleum (including biofuels) consumption from Table 3.8b minus industrial sector fuel ethanol (minus denaturant) consumption.

Coal Coke Net Imports

1949 forward: Coal coke net imports are equal to coal coke imports from Table 1.4a minus coal coke exports from Table 1.4b.

Fossil Fuels Total

1949 forward: Industrial sector total fossil fuels consumption is the sum of the industrial sector consumption values for coal, natural gas, and petroleum, plus coal coke net imports.

Renewable Energy

1949 forward: Table 10.2b.

Total Primary Energy Consumption

1949 forward: Industrial sector total primary energy consumption is the sum of the industrial sector consumption values for fossil fuels and renewable energy.

Electricity Sales to Ultimate Customers

1949 forward: Industrial sector electricity sales to ultimate customers from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

End-Use Energy Consumption

1949 forward: Industrial sector end-use energy consumption is the sum of industrial sector total primary energy consumption and residential sector electricity sales to ultimate customers.

Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity sales to ultimate customers from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the industrial sector in

proportion to the industrial sector's share of total electricity sales to ultimate customers from Table 7.6. See Note 1, "Electrical System Energy Losses."

Total Energy Consumption

1949 forward: Industrial sector total energy consumption is the sum of the industrial sector consumption values for total primary energy, electricity sales to ultimate customers, and electrical system energy losses.

Table 2.5 Sources

Coal

1949–1977: Transportation sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the other industrial sector coal consumption heat content factors in Table A5.

Natural Gas

1949 forward: Transportation sector natural gas consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas end-use sectors consumption heat content factors in Table A4.

Petroleum

1949–1992: Table 3.8c.

1993–2008: The transportation sector share of motor gasoline consumption is equal to transportation sector motor gasoline consumption from Table 3.7c divided by motor gasoline product supplied from Table 3.5. Transportation sector fuel ethanol (including denaturant) consumption is equal to total fuel ethanol (including denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption. Transportation sector petroleum (excluding biofuels) consumption is equal to transportation sector petroleum (including biofuels) consumption from Table 3.8c minus transportation sector fuel ethanol (including denaturant) consumption.

2009–2011: Transportation sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption (see 1993–2008 sources above). Transportation sector petroleum (excluding biofuels) consumption is equal to: transportation sector petroleum (including biofuels) consumption from Table 3.8c; minus transportation sector fuel ethanol (minus denaturant) consumption; minus biodiesel consumption, calculated using biodiesel data from U.S. Energy Information Administration (EIA), EIA-22M, "Monthly Biodiesel Production Survey"; and biomass-based diesel fuel data from EIA-810, "Monthly Refinery Report," EIA-812, "Monthly Product Pipeline Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1); minus renewable diesel fuel and other biofuels refinery and blender net inputs, calculated using "other renewable diesel fuel" and "other renewable fuels" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the heat content factors for renewable diesel fuel and other biofuels in Table A1).

2012–2020: Transportation sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption (see 1993–2008 sources above). Transportation sector petroleum (excluding biofuels) consumption is equal to: transportation sector petroleum (including biofuels) consumption from Table 3.8c; minus transportation sector fuel ethanol (minus denaturant) consumption; minus biodiesel consumption from Table 10.4; minus renewable diesel fuel and other biofuels refinery and blender net inputs, calculated using "other renewable diesel fuel" and "other renewable fuels" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the heat content factors for renewable diesel fuel and other biofuels in Table A1).

2021 forward: Transportation sector fuel ethanol (minus denaturant) consumption is equal to total fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption (see 1993–2008 sources above). Transportation sector petroleum (excluding biofuels) consumption is equal to: transportation sector petroleum (including biofuels) consumption from Table 3.8c; minus transportation sector fuel ethanol (minus denaturant) consumption; minus biodiesel, renewable diesel fuel, and other biofuels refinery and

blender net inputs and products supplied, calculated using “biofuels except fuel ethanol” refinery and blender net inputs and products supplied from U.S. Energy Information Administration (EIA), *Petroleum Supply Annual* and *Petroleum Supply Monthly* (data are converted to Btu by multiplying by the appropriate heat content factors in Table A1).

Fossil Fuels Total

1949–1977: Transportation sector total fossil fuels consumption is the sum of the transportation sector consumption values for coal, natural gas, and petroleum.

1978 forward: Transportation sector total fossil fuels consumption is the sum of the transportation sector consumption values for natural gas and petroleum.

Renewable Energy

1981 forward: Table 10.2b.

Total Primary Energy Consumption

1949 –1980: Transportation sector total primary energy consumption is equal to transportation sector fossil fuels consumption.

1981 forward: Transportation sector total primary energy consumption is the sum of the transportation sector consumption values for fossil fuels and renewable energy.

Electricity Sales to Ultimate Customers

1949 forward: Transportation sector electricity sales to ultimate customers from Table 7.6 are converted to Btu by multiplying by the electricity heat content factor in Table A6.

End-Use Energy Consumption

1949 forward: Transportation sector end-use energy consumption is the sum of transportation sector total primary energy consumption and residential sector electricity sales to ultimate customers.

Electrical System Energy Losses

1949 forward: Total electrical system energy losses are equal to electric power sector total primary energy consumption from Table 2.6 minus total electricity sales to ultimate customers from Table 7.6 (converted to Btu by multiplying by the electricity heat content factor in Table A6). Total electrical system energy losses are allocated to the transportation sector in proportion to the transportation sector’s share of total electricity sales to ultimate customers from Table 7.6. See Note 1, “Electrical System Energy Losses.”

Total Energy Consumption

1949 forward: Transportation sector total energy consumption is the sum of the transportation sector consumption values for total primary energy, electricity sales to ultimate customers, and electrical system energy losses.

Table 2.6 Sources

Coal

1949 forward: Electric power sector coal consumption data from Table 6.2 are converted to Btu by multiplying by the electric power sector coal consumption heat content factors in Table A5.

Natural Gas

1949–1979: Electric power sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas electric power sector consumption heat content factors in Table A4.

1980 forward: Electric power sector natural gas (including supplemental gaseous fuels) consumption data from Table 4.3 are converted to Btu by multiplying by the natural gas electric power sector consumption heat content factors in Table A4. The electric power sector portion of supplemental gaseous fuels data in Btu is estimated using the method described in Note 3, “Supplemental Gaseous Fuels,” at the end of Section 4. Electric power sector natural gas (excluding

supplemental gaseous fuels) consumption is equal to electric power sector natural gas (including supplemental gaseous fuels) consumption minus the electric power sector portion of supplemental gaseous fuels.

Petroleum

1949 forward: Table 3.8c.

Fossil Fuels Total

1949 forward: Electric power sector total fossil fuels consumption is the sum of the electric power sector consumption values for coal, natural gas, and petroleum.

Nuclear Electric Power

1949 forward: Nuclear electricity net generation data from Table 7.2a are converted to Btu by multiplying by the nuclear heat rate factors in Table A6.

Renewable Energy

1949 forward: Table 10.2c.

Electricity Net Imports

1949 forward: Electricity net imports are equal to electricity imports from Table 1.4a minus electricity exports from Table 1.4b.

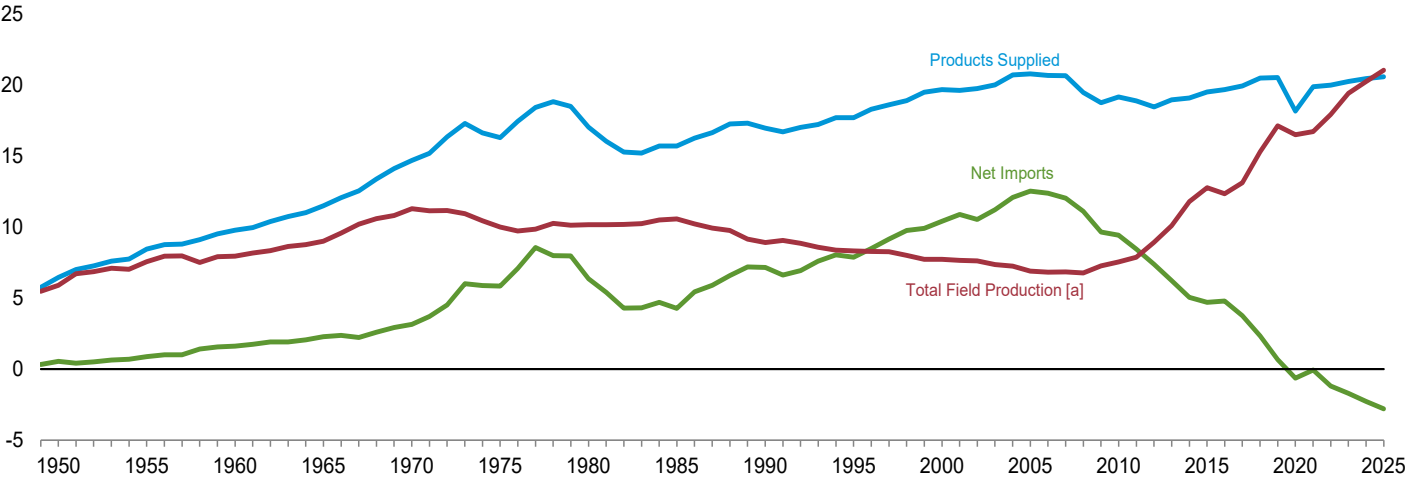
Total Primary Energy Consumption

1949 forward: Electric power sector total primary energy consumption is the sum of the electric power sector consumption values for fossil fuels, nuclear electric power, and renewable energy, plus electricity net imports.

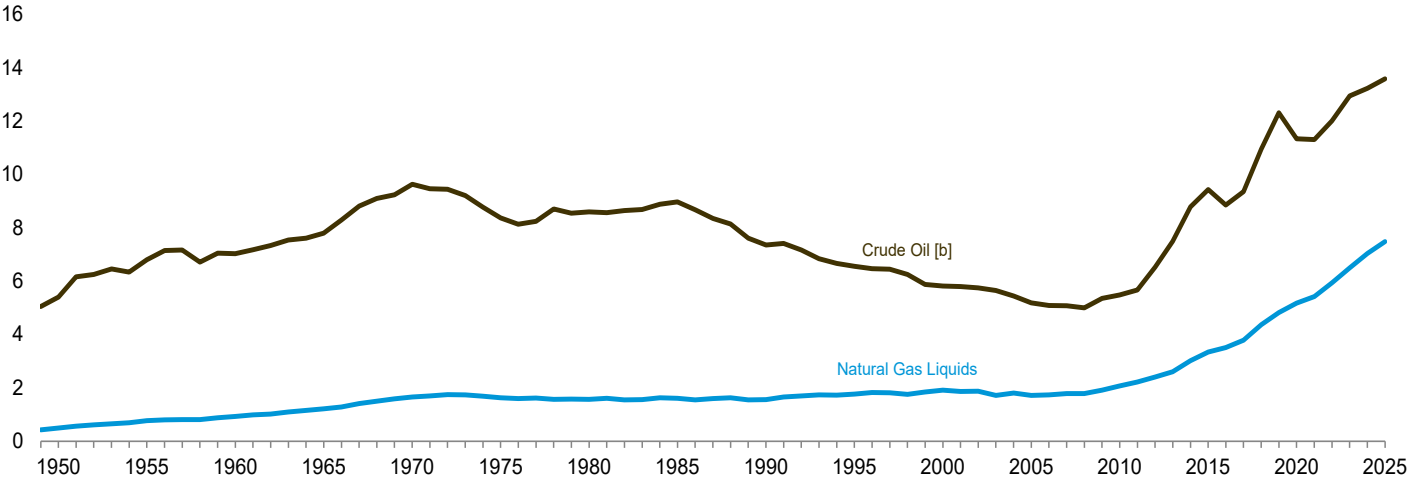
3. Petroleum

Figure 3.1 Petroleum Overview
(Million Barrels Per Day)

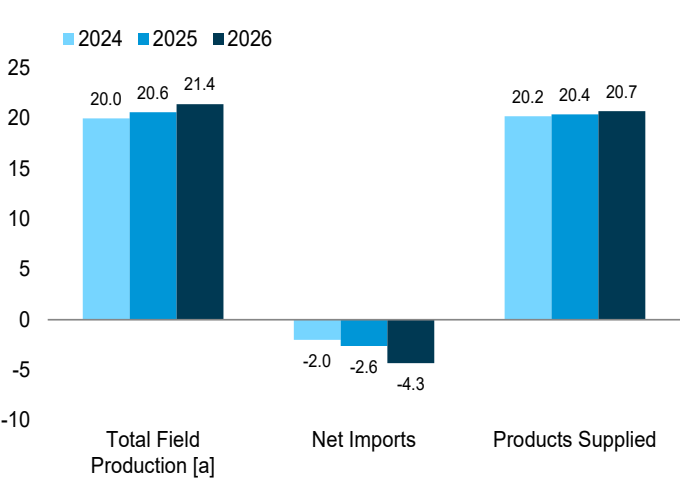
Overview, 1949–2025



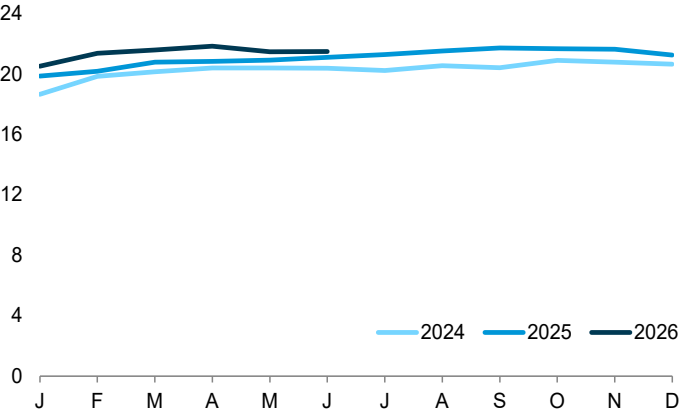
Crude Oil and Natural Gas Liquids Field Production, 1949–2025



Overview, January–June



Total Field Production [a], Monthly



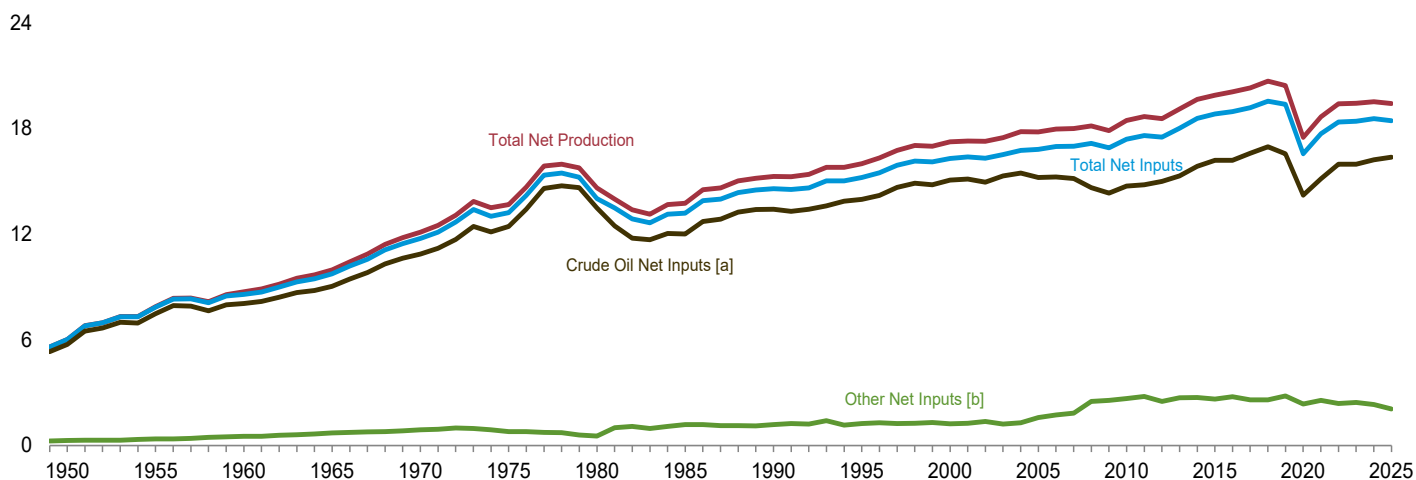
[a] Crude oil, including lease condensate, and natural gas liquids field production.
[b] Includes lease condensate.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.
Source: Table 3.1.

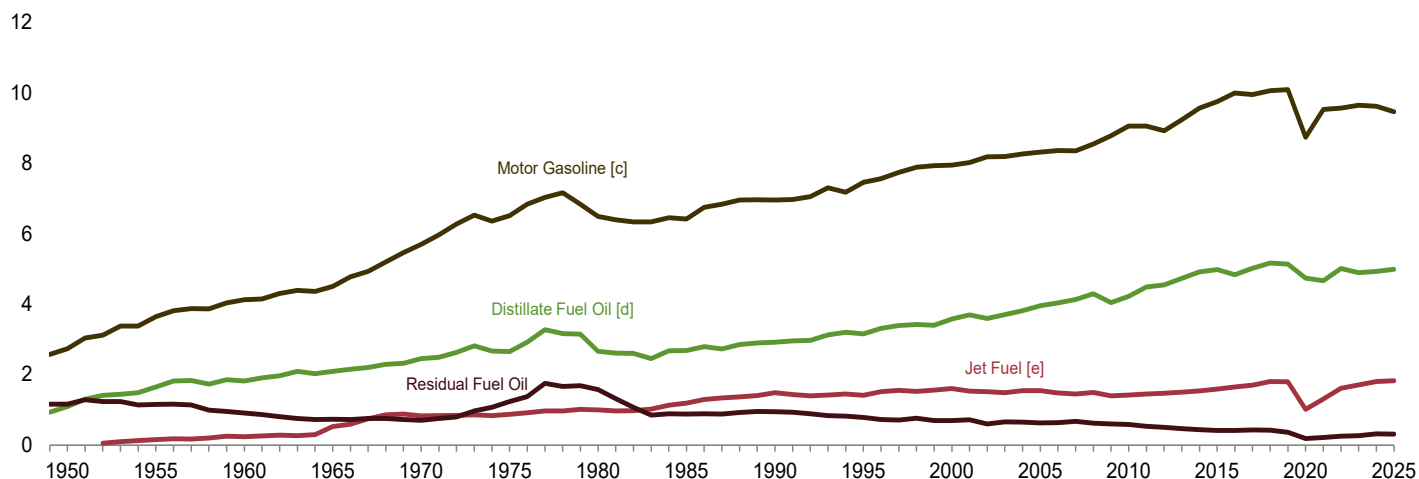
Figure 3.2 Refinery and Blender Net Inputs and Net Production

(Million Barrels per Day)

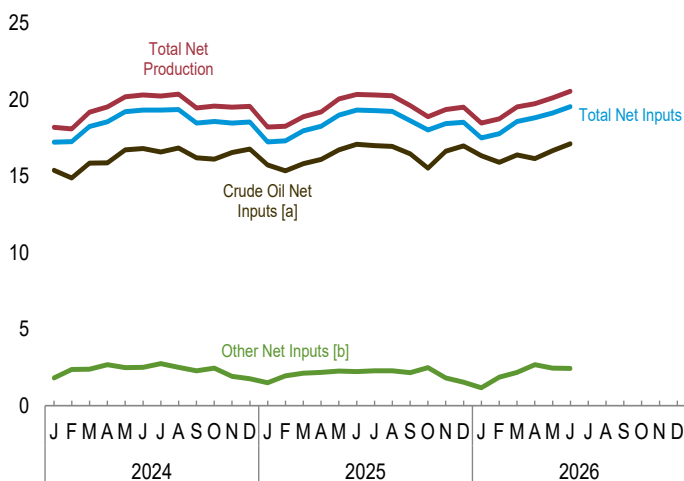
Net Inputs and Net Production, 1949–2025



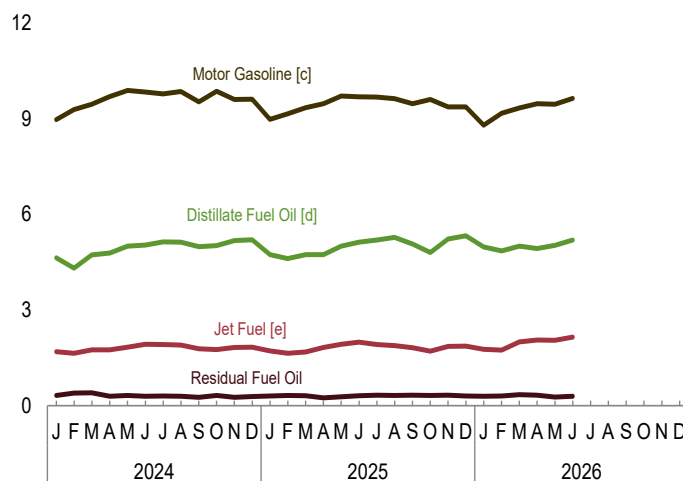
Net Production, Selected Products, 1949–2025



Net Inputs and Net Production, Monthly



Net Production, Selected Products, Monthly



[a] Includes lease condensate.

[b] Natural gas liquids and other liquids.

[c] Beginning in 1993, includes fuel ethanol blended into motor gasoline.

[d] Beginning in 2009, includes biodiesel and renewable diesel fuel blended

into distillate fuel oil.

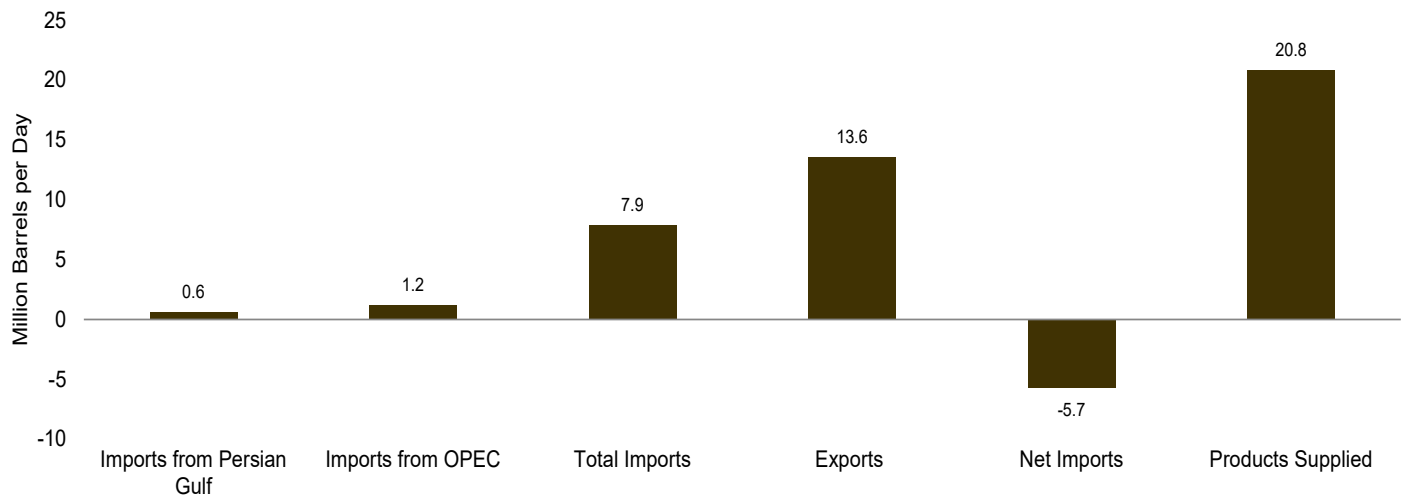
[e] Beginning in 2005, includes kerosene-type jet fuel only.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

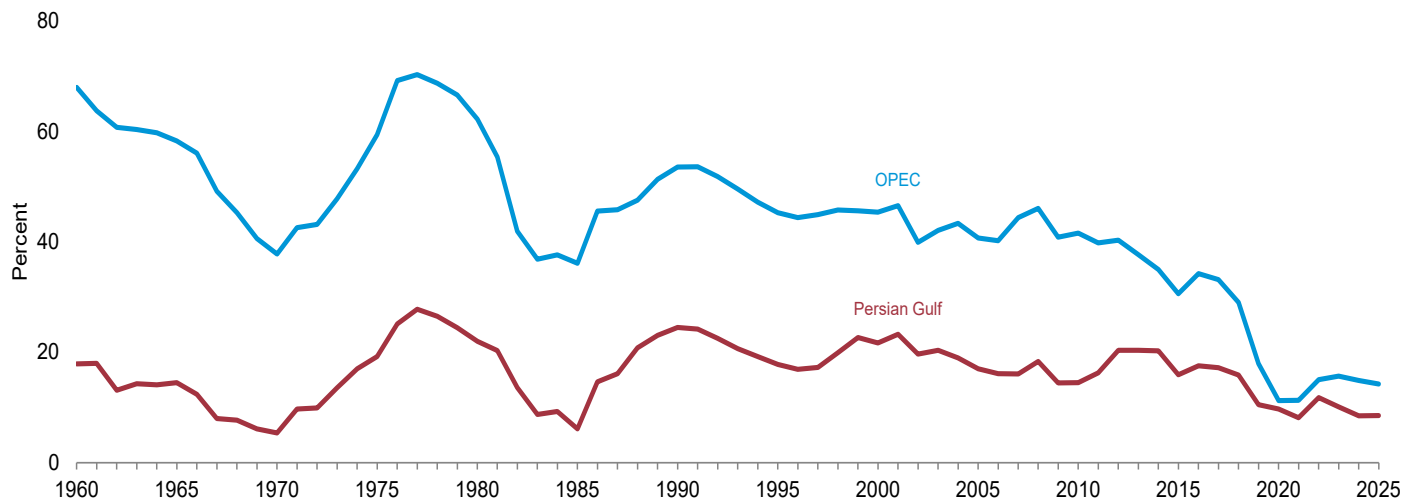
Source: Table 3.2.

Figure 3.3a Petroleum Trade: Overview

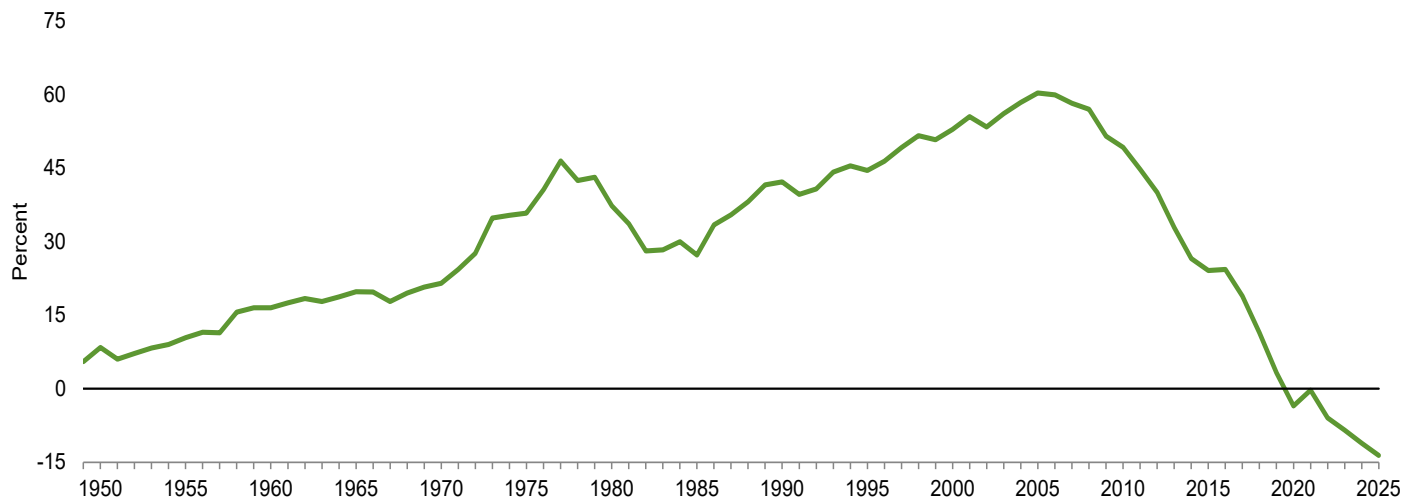
Overview, April 2026



Imports From OPEC and Persian Gulf as Share of Total Imports, 1960–2025



Net Imports as Share of Products Supplied, 1949–2025



Note: OPEC=Organization of the Petroleum Exporting Countries.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Source: Table 3.3a.

Table 3.3a Petroleum Trade: Overview

	Imports From Persian Gulf ^a	Imports From OPEC ^b	Imports	Exports	Net Imports	Products Supplied	As Share of Products Supplied				As Share of Total Imports	
							Imports From Persian Gulf ^a	Imports From OPEC ^b	Imports	Net Imports	Imports From Persian Gulf ^a	Imports From OPEC ^b
Thousand Barrels per Day							Percent					
1950 Average	NA	NA	850	305	545	6,458	NA	NA	13.2	8.4	NA	NA
1955 Average	NA	NA	1,248	368	880	8,455	NA	NA	14.8	10.4	NA	NA
1960 Average	326	1,233	1,815	202	1,613	9,797	3.3	12.6	18.5	16.5	17.9	68.0
1965 Average	359	1,439	2,468	187	2,281	11,512	3.1	12.5	21.4	19.8	14.5	58.3
1970 Average	184	1,294	3,419	259	3,161	14,697	1.3	8.8	23.3	21.5	5.4	37.8
1975 Average	1,165	3,601	6,056	209	5,846	16,322	7.1	22.1	37.1	35.8	19.2	59.5
1980 Average	1,519	4,300	6,909	544	6,365	17,056	8.9	25.2	40.5	37.3	22.0	62.2
1985 Average	311	1,830	5,067	781	4,286	15,726	2.0	11.6	32.2	27.3	6.1	36.1
1990 Average	1,966	4,296	8,018	857	7,161	16,988	11.6	25.3	47.2	42.2	24.5	53.6
1995 Average	1,573	4,002	8,835	949	7,886	17,725	8.9	22.6	49.8	44.5	17.8	45.3
2000 Average	2,488	5,203	11,459	1,040	10,419	19,701	12.6	26.4	58.2	52.9	21.7	45.4
2005 Average	2,334	5,587	13,714	1,165	12,549	20,802	11.2	26.9	65.9	60.3	17.0	40.7
2010 Average	1,711	4,906	11,793	2,353	9,441	19,178	8.9	25.6	61.5	49.2	14.5	41.6
2011 Average	1,861	4,555	11,436	2,986	8,450	18,896	9.9	24.1	60.5	44.7	16.3	39.8
2012 Average	2,156	4,271	10,598	3,205	7,393	18,482	11.7	23.1	57.3	40.0	20.3	40.3
2013 Average	2,009	3,720	9,859	3,621	6,237	18,967	10.6	19.6	52.0	32.9	20.4	37.7
2014 Average	1,875	3,237	9,241	4,176	5,065	19,100	9.8	16.9	48.4	26.5	20.3	35.0
2015 Average	1,507	2,894	9,449	4,738	4,711	19,532	7.7	14.8	48.4	24.1	15.9	30.6
2016 Average	1,766	3,446	10,055	5,261	4,795	19,692	9.0	17.5	51.1	24.3	17.6	34.3
2017 Average	1,746	3,366	10,144	6,376	3,768	19,952	8.8	16.9	50.8	18.9	17.2	33.2
2018 Average	1,578	2,888	9,943	7,601	2,341	20,512	7.7	14.1	48.5	11.4	15.9	29.0
2019 Average	963	1,639	9,141	8,471	670	20,543	4.7	8.0	44.5	3.3	10.5	17.9
2020 Average	766	886	7,863	8,498	-635	18,186	4.2	4.9	43.2	-3.5	9.7	11.3
2021 Average	691	959	8,474	8,536	-62	19,890	3.5	4.8	42.6	-0.3	8.2	11.3
2022 Average	981	1,254	8,329	9,520	-1,191	20,010	4.9	6.3	41.6	-6.0	11.8	15.1
2023 Average	861	1,339	8,526	10,235	-1,709	20,275	4.2	6.6	42.1	-8.4	10.1	15.7
2024 January	647	1,102	8,479	10,145	-1,666	19,789	3.3	5.6	42.8	-8.4	7.6	13.0
February	565	968	8,359	10,931	-2,572	19,972	2.8	4.8	41.9	-12.9	6.8	11.6
March	711	1,228	8,046	10,698	-2,651	20,011	3.6	6.1	40.2	-13.2	8.8	15.3
April	854	1,369	8,621	10,358	-1,737	20,155	4.2	6.8	42.8	-8.6	9.9	15.9
May	890	1,527	9,190	10,417	-1,227	20,888	4.3	7.3	44.0	-5.9	9.7	16.6
June	821	1,310	8,768	10,973	-2,204	20,537	4.0	6.4	42.7	-10.7	9.4	14.9
July	721	1,409	9,087	10,618	-1,531	20,593	3.5	6.8	44.1	-7.4	7.9	15.5
August	708	1,276	8,159	10,834	-2,675	20,985	3.4	6.1	38.9	-12.7	8.7	15.6
September	831	1,266	8,171	10,688	-2,517	20,356	4.1	6.2	40.1	-12.4	10.2	15.5
October	591	1,238	7,874	10,461	-2,587	21,249	2.8	5.8	37.1	-12.2	7.5	15.7
November	694	1,163	8,180	11,474	-3,294	20,367	3.4	5.7	40.2	-16.2	8.5	14.2
December	572	1,209	8,311	10,942	-2,630	20,615	2.8	5.9	40.3	-12.8	6.9	14.5
Average	717	1,257	8,438	10,709	-2,271	20,464	3.5	6.1	41.2	-11.1	8.5	14.9
2025 January	732	1,282	8,310	10,260	-1,950	20,736	3.5	6.2	40.1	-9.4	8.8	15.4
February	589	997	7,766	10,598	-2,832	20,225	2.9	4.9	38.4	-14.0	7.6	12.8
March	680	1,146	7,530	10,673	-3,143	19,950	3.4	5.7	37.7	-15.8	9.0	15.2
April	540	1,000	7,713	10,352	-2,639	20,213	2.7	4.9	38.2	-13.1	7.0	13.0
May	654	1,091	8,009	10,225	-2,215	20,323	3.2	5.4	39.4	-10.9	8.2	13.6
June	699	1,229	7,951	10,715	-2,764	21,007	3.3	5.8	37.8	-13.2	8.8	15.5
July	675	933	7,961	10,325	-2,364	20,984	3.2	4.4	37.9	-11.3	8.5	11.7
August	822	1,302	8,188	10,522	-2,334	21,195	3.9	6.1	38.6	-11.0	10.0	15.9
September	762	1,316	8,330	11,170	-2,840	20,720	3.7	6.4	40.2	-13.7	9.2	15.8
October	612	1,080	7,496	11,024	-3,528	20,846	2.9	5.2	36.0	-16.9	8.2	14.4
November	662	1,060	7,434	11,298	-3,864	20,227	3.3	5.2	36.8	-19.1	8.9	14.3
December	680	1,080	8,289	11,422	-3,133	20,851	3.3	5.2	39.8	-15.0	8.2	13.0
Average	676	1,127	7,917	10,714	-2,798	20,610	3.3	5.5	38.4	-13.6	8.5	14.2
2026 January	817	1,239	8,173	10,780	-2,607	20,650	4.0	6.0	39.6	-12.6	10.0	15.2
February	897	1,461	8,158	11,318	-3,159	21,138	4.2	6.9	38.6	-14.9	11.0	17.9
March	799	1,467	8,155	11,868	-3,713	20,383	3.9	7.2	40.0	-18.2	9.8	18.0
April	^R 583	^R 1,237	^R 7,895	^R 13,610	^R -5,715	^R 20,808	^R 2.8	^R 5.9	^R 37.9	^R -27.5	^R 7.4	^R 15.7
May	NA	NA	^E 7,498	^E 13,031	^E -5,534	^E 20,423	NA	NA	^E 36.7	^E -27.1	NA	NA
June	NA	NA	^E 6,957	^E 11,968	^E -5,011	^E 20,622	NA	NA	^E 33.7	^E -24.3	NA	NA
6-Month Average	NA	NA	^E 7,804	^E 12,101	^E -4,297	^E 20,662	NA	NA	^E 37.8	^E -20.8	NA	NA
2025 6-Month Average	650	1,126	7,882	10,468	-2,585	20,410	3.2	5.5	38.6	-12.7	8.3	14.3
2024 6-Month Average	749	1,253	8,578	10,582	-2,004	20,227	3.7	6.2	42.4	-9.9	8.7	14.6

^a Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).

^b See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. See Table 3.3c for notes on which countries are included in the data.

R=Revised; E=Estimate; NA=Not available.

Notes: • For the feature article "Measuring Dependence on Imported Oil," published in the August 1995 *Monthly Energy Review*, see http://www.eia.gov/totalenergy/data/monthly/pdf/historical/imported_oil.pdf. • Beginning in October 1977, data include Strategic Petroleum Reserve imports. See Table 3.3b. • Annual averages may not equal average of months due to independent rounding. • U.S. geographic coverage is the 50 states and the District of Columbia. U.S. exports include shipments to U.S. territories, and imports include

receipts from U.S. territories.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • 1949–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • 1976–1980: U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • 1981–2024: EIA, *Petroleum Supply Annual*, annual reports, and unpublished revisions. • 2025 and 2026: EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

Figure 3.3b Petroleum Trade: Imports and Exports by Type
(Million Barrels per Day)

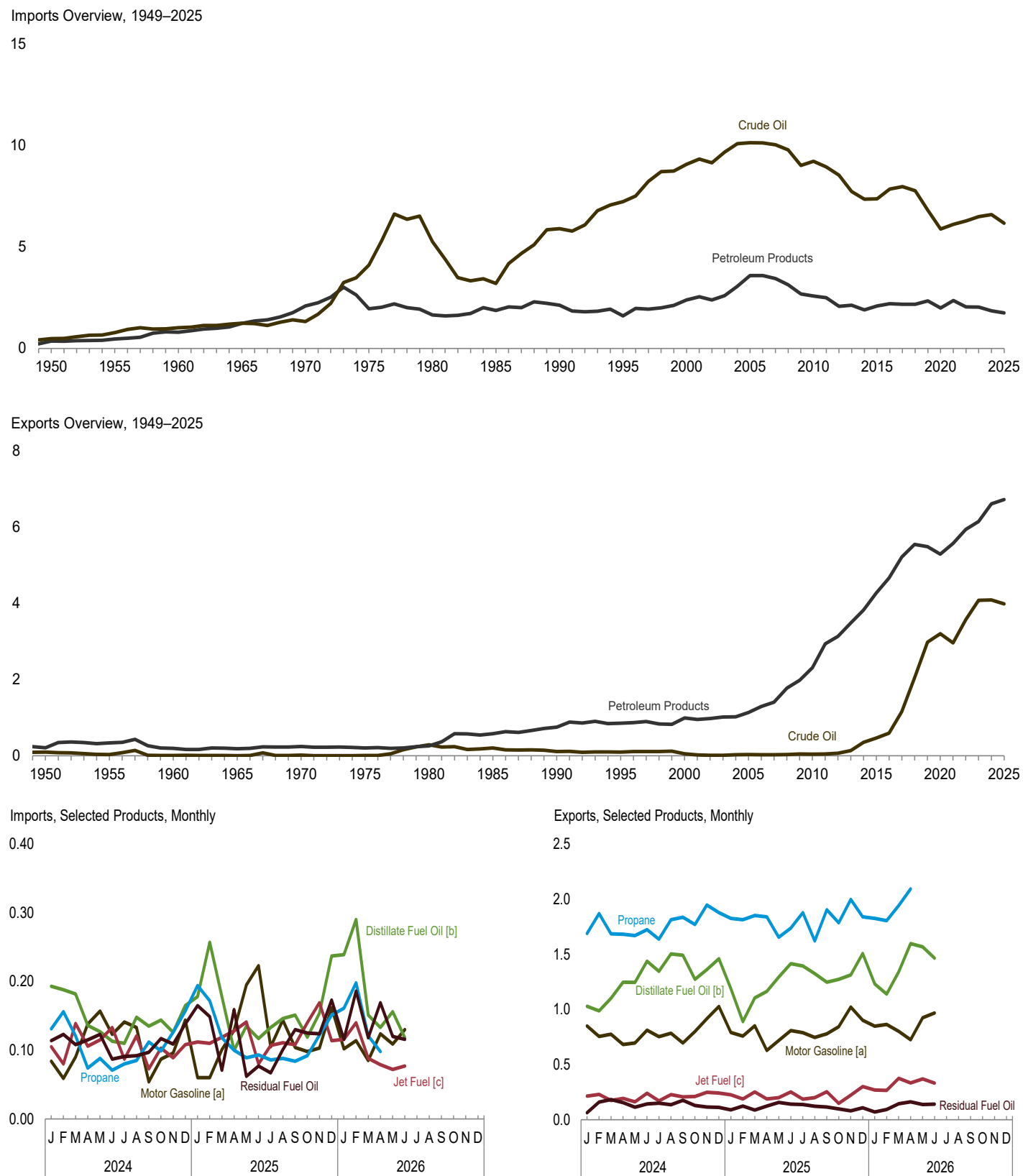


Table 3.3b Petroleum Trade: Imports by Type
(Thousand Barrels per Day)

	Crude Oil ^a		Distillate Fuel Oil	Hydrocarbon Gas Liquids			Total ^d	Jet Fuel ^e	Motor Gasoline ^f	Residual Fuel Oil	Other ^g	Total							
	SPR ^b	Total		Propane/Propylene		Total ^c													
				Propane	Propylene														
1950 Average	--	487	7	NA	NA	--	--	(^e)	(s)	329	27	850							
1955 Average	--	782	12	NA	NA	--	--	(^e)	13	417	24	1,248							
1960 Average	--	1,015	35	NA	NA	NA	4	34	27	637	62	1,815							
1965 Average	--	1,238	36	NA	NA	NA	21	81	28	946	119	2,468							
1970 Average	--	1,324	147	NA	NA	26	58	144	67	1,528	150	3,419							
1975 Average	--	4,105	155	NA	NA	60	185	133	184	1,223	70	6,056							
1980 Average	44	5,263	142	NA	NA	84	226	80	140	939	120	6,909							
1985 Average	118	3,201	200	NA	NA	67	235	39	381	510	501	5,067							
1990 Average	27	5,894	278	NA	NA	115	197	108	342	504	695	8,018							
1995 Average	--	7,230	193	95	6	102	192	106	265	187	662	8,835							
2000 Average	8	9,071	295	154	7	161	256	162	427	352	897	11,459							
2005 Average	52	10,126	329	219	14	233	374	190	603	530	1,562	13,714							
2010 Average	--	9,213	228	93	29	121	179	98	134	366	1,574	11,793							
2011 Average	--	8,935	179	82	28	110	183	69	105	328	1,637	11,436							
2012 Average	--	8,527	126	85	31	116	170	55	44	256	1,421	10,598							
2013 Average	--	7,730	155	103	24	127	182	84	45	225	1,438	9,859							
2014 Average	--	7,344	195	89	19	108	143	94	49	173	1,242	9,241							
2015 Average	--	7,363	200	104	19	124	156	132	71	192	1,335	9,449							
2016 Average	--	7,850	147	120	22	142	180	147	59	205	1,468	10,055							
2017 Average	--	7,969	151	133	23	156	196	160	32	189	1,448	10,144							
2018 Average	--	7,768	175	139	18	157	197	124	45	211	1,422	9,943							
2019 Average	--	6,801	202	133	16	149	207	164	94	149	1,525	9,141							
2020 Average	--	5,875	218	113	13	126	160	150	106	166	1,188	7,863							
2021 Average	--	6,114	288	114	14	128	173	158	108	186	1,446	8,474							
2022 Average	--	6,281	188	115	13	127	174	120	100	202	1,264	8,329							
2023 Average	--	6,489	169	107	15	122	169	127	118	110	1,344	8,526							
2024 January	--	6,626	193	131	15	146	201	105	84	114	1,155	8,479							
February	--	6,536	188	156	15	171	219	80	59	123	1,154	8,359							
March	--	6,180	182	121	14	135	182	139	90	108	1,165	8,046							
April	--	6,593	136	74	15	88	134	106	138	115	1,400	8,621							
May	--	7,043	127	88	15	103	150	115	157	123	1,474	9,190							
June	--	6,685	113	71	16	87	141	133	123	87	1,487	8,768							
July	--	7,116	110	80	15	95	150	87	141	91	1,393	9,087							
August	--	6,326	148	85	14	99	152	121	133	92	1,187	8,159							
September	--	6,455	135	113	15	127	188	73	54	97	1,169	8,171							
October	--	6,352	144	99	15	115	168	103	87	117	903	7,874							
November	--	6,578	126	126	16	142	199	89	96	109	985	8,180							
December	--	6,557	165	157	13	170	236	108	144	138	963	8,311							
Average	--	6,588	147	108	15	123	177	105	109	109	1,203	8,438							
2025 January	--	6,649	178	194	12	207	268	112	60	165	879	8,310							
February	--	6,045	257	172	13	185	242	110	60	149	903	7,766							
March	--	5,756	178	118	17	135	191	119	101	71	1,115	7,530							
April	--	6,033	100	101	13	114	173	128	129	159	991	7,713							
May	--	6,259	135	89	14	103	159	141	195	62	1,060	8,009							
June	--	6,165	117	93	13	105	155	80	223	77	1,134	7,951							
July	--	6,328	133	86	14	99	150	107	105	67	1,072	7,961							
August	--	6,283	146	88	15	102	161	111	144	101	1,242	8,188							
September	--	6,401	151	84	12	96	163	108	104	130	1,273	8,330							
October	--	5,898	119	92	11	103	179	140	98	125	937	7,496							
November	--	5,780	154	122	13	135	220	169	103	124	883	7,434							
December	--	6,410	237	151	10	161	246	114	162	173	946	8,289							
Average	--	6,169	158	115	13	128	192	120	124	117	1,037	7,917							
2026 January	--	6,469	239	161	11	173	251	116	102	116	880	8,173							
February	--	6,457	290	198	12	210	274	140	114	186	697	8,158							
March	--	6,536	151	121	14	135	230	88	85	118	947	8,155							
April	--	R 6,257	R 133	R 98	R 14	R 111	R 200	R 79	R 124	R 169	R 933	R 7,895							
May	--	E 5,882	E 156	NA	NA	E 87	NA	E 72	E 109	E 120	NA	E 7,498							
June	--	E 5,453	E 118	NA	NA	E 90	NA	E 77	E 130	E 116	NA	E 6,957							
6-Month Average	--	E 6,174	E 180	NA	NA	E 133	NA	E 95	E 111	E 137	NA	E 7,804							
2025 6-Month Average	--	6,154	160	127	14	141	198	115	129	113	1,015	7,882							
2024 6-Month Average	--	6,611	157	106	15	122	171	113	109	112	1,306	8,578							

^a Includes lease condensate.

^b "SPR" is the Strategic Petroleum Reserve, which began in October 1977. Through 2003, includes crude oil imports by SPR only; beginning in 2004, includes crude oil imports by SPR, and crude oil imports into SPR by others.

^c Propane and propylene. Through 1983, also includes 40% of "Butane-Propane Mixtures" and 30% of "Ethane-Propane Mixtures."

^d Ethane, propane, normal butane, isobutane, natural gasoline (pentanes plus), and refinery olefins (ethylene, propylene, butylene, and isobutylene). Through 1983, also includes plant condensate and unfractionated stream.

^e Beginning in 1965, includes kerosene-type jet fuel. (Through 1964, kerosene-type jet fuel is included with kerosene in "Other.") For 1956–2004, also includes naphtha-type jet fuel. (Through 1955, naphtha-type jet fuel is included in "Motor Gasoline." Beginning in 2005, naphtha-type jet fuel is included in "Other.")

^f Finished motor gasoline. Through 1955, also includes naphtha-type jet fuel. Through 1963, also includes aviation gasoline and special naphthas. Through 1980, also includes motor gasoline blending components.

^g Asphalt and road oil, aviation gasoline blending components, kerosene, lubricants, petrochemical feedstocks, petroleum coke, unfinished oils, waxes, and miscellaneous products. Through 1964, also includes kerosene-type jet fuel. Beginning in 1964, also includes finished aviation gasoline and special naphthas.

Beginning in 1981, also includes motor gasoline blending components. Beginning in 1993, also includes fuel ethanol. Beginning in 2005, also includes naphtha-type jet fuel. Beginning in 2009, also includes biofuels (excluding fuel ethanol) and other hydrocarbons. For 2011–2018, also includes oxygenates (excluding fuel ethanol).

R=Revised. E=Estimate. NA=Not available. --=Not applicable. --=No data reported. (s)=Less than 500 barrels per day.

Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • 1949–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • 1976–1980: U.S. Energy Information Administration (EIA), *Energy Data Reports, Petroleum Statement, Annual*, annual reports. • 1981–2024: EIA, *Petroleum Supply Annual*, annual reports, and unpublished revisions. • 2025 and 2026: EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

Table 3.3c Petroleum Trade: Imports From OPEC Countries
(Thousand Barrels per Day)

	Algeria ^a	Iraq	Kuwait ^b	Libya ^c	Nigeria ^d	Saudi Arabia ^b	United Arab Emirates	Venezuela	Other ^e	Total OPEC
1960 Average	(^a)	22	182	(^c)	(^d)	84	NA	911	34	1,233
1965 Average	(^a)	16	74	42	(^d)	158	14	994	142	1,439
1970 Average	8	—	48	47	(^d)	30	63	989	109	1,294
1975 Average	282	2	16	232	762	715	117	702	773	3,601
1980 Average	488	28	27	554	857	1,261	172	481	432	4,300
1985 Average	187	46	21	4	293	168	45	605	461	1,830
1990 Average	280	518	86	—	800	1,339	17	1,025	231	4,296
1995 Average	234	—	218	—	627	1,344	10	1,480	88	4,002
2000 Average	225	620	272	—	896	1,572	15	1,546	57	5,203
2005 Average	478	531	243	56	1,166	1,537	18	1,529	28	5,587
2010 Average	510	415	197	70	1,023	1,096	2	988	606	4,906
2011 Average	358	459	191	15	818	1,195	10	951	558	4,555
2012 Average	242	476	305	61	441	1,365	3	960	419	4,271
2013 Average	115	341	328	59	281	1,329	3	806	459	3,720
2014 Average	110	369	311	6	92	1,166	13	789	379	3,237
2015 Average	108	229	204	7	81	1,059	4	827	375	2,894
2016 Average	182	424	210	16	235	1,106	14	796	463	3,446
2017 Average	189	604	145	65	334	955	34	674	366	3,366
2018 Average	176	521	79	56	189	901	58	586	321	2,888
2019 Average	78	341	45	63	193	530	27	92	269	1,639
2020 Average	15	176	28	9	75	522	19	—	42	886
2021 Average	40	157	33	91	125	430	40	—	44	959
2022 Average	59	311	42	79	105	559	39	—	59	1,254
2023 Average	72	316	46	80	160	439	32	132	62	1,339
2024 January	73	217	16	56	179	386	16	159	—	1,102
February	42	161	45	74	154	348	2	142	—	968
March	75	228	31	134	148	373	59	180	—	1,228
April	28	350	42	51	248	382	54	213	—	1,369
May	89	273	84	132	175	486	36	241	11	1,527
June	87	292	113	41	137	311	81	226	22	1,310
July	79	286	61	92	219	321	40	311	—	1,409
August	70	258	64	92	153	333	45	263	—	1,276
September	61	321	41	24	168	388	57	205	2	1,266
October	69	222	64	108	165	221	71	295	23	1,238
November	79	284	36	68	107	269	82	236	2	1,163
December	107	236	47	61	161	219	69	297	11	1,209
Average	72	261	54	78	168	336	51	231	6	1,257
2025 January	28	230	61	112	133	377	41	300	(s)	1,282
February	119	194	86	—	81	281	5	221	9	997
March	50	227	99	44	135	235	94	262	—	1,146
April	39	232	14	40	227	207	66	175	—	1,000
May	66	229	42	48	182	334	36	133	20	1,091
June	56	275	12	91	282	396	2	90	23	1,229
July	68	307	21	65	122	322	—	6	22	933
August	124	330	35	103	217	417	15	39	22	1,302
September	99	210	97	78	228	339	104	102	60	1,316
October	42	177	30	104	161	354	40	135	37	1,080
November	49	285	21	65	113	320	24	139	46	1,060
December	74	284	39	72	127	323	6	137	17	1,080
Average	68	249	46	69	167	326	36	144	21	1,127
2026 January	87	344	41	43	80	401	9	200	35	1,239
February	15	310	40	111	139	527	6	293	20	1,461
March	76	256	17	47	113	493	6	439	20	1,467
April	78	134	11	58	46	421	—	482	7	1,237
4-Month Average	65	261	27	64	94	459	5	354	21	1,349
2025 4-Month Average	58	221	65	50	145	276	53	241	2	1,110
2024 4-Month Average	55	240	33	79	182	373	33	174	—	1,168

^a Algeria joined OPEC in 1969. For 1960–1968, Algeria is included in "Total Non-OPEC" on Table 3.3d.

^b Through 1970, includes half the imports from the Neutral Zone between Kuwait and Saudi Arabia. Beginning in 1971, imports from the Neutral Zone are reported as originating in either Kuwait or Saudi Arabia depending on the country reported to U.S. Customs.

^c Libya joined OPEC in 1962. For 1960 and 1961, Libya is included in "Total Non-OPEC" on Table 3.3d.

^d Nigeria joined OPEC in 1971. For 1960–1970, Nigeria is included in "Total Non-OPEC" on Table 3.3d.

^e Includes these countries for the dates indicated: Angola (2007–2023), Congo-Brazzaville (June 2018 forward), Ecuador (1973–1992 and November 2007–2019), Equatorial Guinea (May 2017 forward), Gabon (1975–1994 and July 2016 forward), Indonesia (1962–2008 and January–November 2016), Iran (1960 forward), and Qatar (1961–2018).

NA=Not available. —=No data reported. (s)=Less than 500 barrels per day.

Notes: • See "Organization of the Petroleum Exporting Countries (OPEC)" in

Glossary. Petroleum imports not classified as "OPEC" on this table are included on Table 3.3d. • The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been produced from Middle East crude oil. • Includes imports for the Strategic Petroleum Reserve, which began in October 1977. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1960 and monthly data beginning in 1973.

Sources: • **1960–1972:** Bureau of Mines, *Minerals Yearbook*, annual reports. • **1973–1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976–1980:** U.S. Energy Information Administration (EIA), *Energy Data Reports, Petroleum Statement, Annual*, annual reports. • **1981–2024:** EIA, *Petroleum Supply Annual*, annual reports. • **2025 and 2026:** EIA, *Petroleum Supply Monthly*, monthly reports.

Table 3.3d Petroleum Trade: Imports From Non-OPEC Countries
(Thousand Barrels per Day)

	Brazil	Canada	Colombia	Ecuador ^a	Mexico	Nether-lands	Norway	Russia ^b	United Kingdom	U.S. Virgin Islands	Other	Total Non-OPEC
1960 Average	1	120	42	NA	16	NA	NA	—	(s)	NA	NA	581
1965 Average	—	323	51	—	48	1	—	—	(s)	—	606	1,029
1970 Average	2	766	46	—	42	39	—	3	11	189	1,027	2,126
1975 Average	5	846	9	(a)	71	19	17	14	14	406	1,052	2,454
1980 Average	3	455	4	(a)	533	2	144	1	176	388	903	2,609
1985 Average	61	770	23	(a)	816	58	32	8	310	247	913	3,237
1990 Average	49	934	182	(a)	755	55	102	45	189	282	1,128	3,721
1995 Average	8	1,332	219	97	1,068	15	273	25	383	278	1,136	4,833
2000 Average	51	1,807	342	128	1,373	30	343	72	366	291	1,453	6,257
2005 Average	156	2,181	196	283	1,662	151	233	410	396	328	2,130	8,127
2010 Average	272	2,535	365	(a)	1,284	108	89	612	256	253	1,112	6,887
2011 Average	253	2,729	433	(a)	1,206	100	113	624	159	186	1,077	6,881
2012 Average	226	2,946	433	(a)	1,035	99	75	477	149	12	874	6,327
2013 Average	151	3,142	389	(a)	919	89	54	460	147	—	786	6,138
2014 Average	160	3,388	318	(a)	842	85	45	330	117	—	720	6,004
2015 Average	215	3,765	395	(a)	758	57	61	371	123	—	811	6,554
2016 Average	167	3,780	483	(a)	669	60	76	441	122	(s)	812	6,610
2017 Average	224	4,054	362	(a)	682	62	79	389	111	—	814	6,778
2018 Average	171	4,292	333	(a)	719	62	94	375	146	—	862	7,055
2019 Average	193	4,432	373	(a)	650	113	91	520	146	—	984	7,502
2020 Average	126	4,125	284	186	751	82	29	540	85	1	770	6,977
2021 Average	143	4,340	203	168	711	126	72	673	104	22	952	7,514
2022 Average	193	4,365	242	169	808	83	41	147	106	—	921	7,075
2023 Average	257	4,435	228	140	910	84	40	^c (s)	95	—	998	7,187
2024 January	305	4,857	289	87	717	39	28	—	90	—	965	7,377
February	240	4,810	196	131	690	89	5	—	212	—	1,018	7,391
March	283	4,425	200	114	577	82	7	—	109	6	1,016	6,818
April	216	4,527	321	105	643	137	43	—	86	(s)	1,174	7,253
May	347	4,707	267	187	661	132	77	—	146	—	1,139	7,663
June	291	4,519	224	153	747	108	34	—	120	—	1,263	7,458
July	299	4,918	289	169	517	164	62	—	100	—	1,161	7,678
August	346	4,406	216	125	572	110	60	—	108	—	939	6,882
September	188	4,567	271	114	636	110	67	—	116	—	836	6,905
October	257	4,577	261	116	563	55	27	—	107	—	673	6,636
November	356	4,591	297	174	620	87	7	—	60	—	827	7,017
December	236	4,937	233	16	571	106	62	—	76	10	856	7,103
Average	281	4,654	255	124	626	102	40	—	110	1	988	7,181
2025 January	192	4,991	250	113	484	63	74	—	89	1	770	7,029
February	249	4,760	197	113	552	69	71	—	22	—	737	6,769
March	232	4,320	188	107	479	84	14	—	85	—	875	6,384
April	153	4,211	296	134	454	126	48	—	112	—	1,179	6,713
May	323	4,284	244	107	517	196	50	—	129	—	1,069	6,919
June	254	4,189	204	119	505	200	18	—	96	—	1,136	6,722
July	325	4,597	274	172	431	114	39	—	72	—	1,005	7,028
August	307	4,294	270	66	524	136	20	—	106	—	1,162	6,886
September	301	4,615	214	128	570	65	21	—	101	—	1,000	7,014
October	144	4,390	155	53	519	70	12	—	116	—	956	6,415
November	103	4,280	185	37	583	44	18	—	106	22	995	6,374
December	191	4,992	224	97	441	78	9	—	67	7	1,102	7,208
Average	231	4,493	225	104	504	104	32	—	92	2	1,000	6,789
2026 January	236	4,719	228	96	463	26	18	—	78	—	1,070	6,934
February	144	4,722	302	35	443	74	12	—	29	—	937	6,698
March	151	4,690	208	106	452	56	1	—	119	11	893	6,689
April	81	4,679	214	79	407	75	—	—	49	5	1,070	6,658
4-Month Average	154	4,702	237	80	441	57	8	—	70	4	993	6,746
2025 4-Month Average	206	4,569	233	117	491	86	51	—	78	(s)	892	6,723
2024 4-Month Average	262	4,653	252	109	657	86	21	—	123	2	1,043	7,206

^a Ecuador was a member of OPEC from 1973–1992 and November 2007–2019. For those time periods, Ecuador is included in "Total OPEC" on Table 3.3c.

^b Through 1992, may include imports from republics other than Russia in the former U.S.S.R. See "Union of Soviet Socialist Republics (U.S.S.R.);" in Glossary.

^c A small amount of Russian crude oil entered the United States in November 2023 from the Bahamas. The oil originated in Russia and was exported to the Bahamas prior to the signing of Executive Order 14066 on March 8, 2022.

NA=Not available. —=No data reported. (s)=Less than 500 barrels per day.

Notes: • See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary. Petroleum imports not classified as "OPEC" on Table 3.3c are included on this table. • The country of origin for petroleum products may not be the country of origin for the crude oil from which the products were produced. For example, refined products imported from West European refining areas may have been

produced from Middle East crude oil. • Includes imports for the Strategic Petroleum Reserve, which began in October 1977. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1960 and monthly data beginning in 1973.

Sources: • **1960–1972:** Bureau of Mines, *Minerals Yearbook*, annual reports. • **1973–1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976–1980:** U.S. Energy Information Administration (EIA), *Energy Data Reports, Petroleum Statement, Annual*, annual reports. • **1981–2024:** EIA, *Petroleum Supply Annual*, annual reports. • **2025 and 2026:** EIA, *Petroleum Supply Monthly*, monthly reports.

Table 3.3e Petroleum Trade: Exports by Type
(Thousand Barrels per Day)

	Crude Oil ^a	Distillate Fuel Oil	Hydrocarbon Gas Liquids		Jet Fuel ^d	Motor Gasoline ^e	Residual Fuel Oil	Other ^f	Total
			Propane ^b	Total ^c					
1950 Average	95	34	NA	4	(d)	68	44	58	305
1955 Average	32	67	NA	12	(s)	95	93	69	368
1960 Average	8	27	NA	8	(s)	37	51	71	202
1965 Average	3	10	NA	21	3	2	41	108	187
1970 Average	14	2	13	27	6	1	54	154	259
1975 Average	6	1	13	26	2	2	15	158	209
1980 Average	287	3	10	21	1	1	33	197	544
1985 Average	204	67	48	64	13	10	197	225	781
1990 Average	109	109	28	41	43	55	211	287	857
1995 Average	95	183	38	59	26	104	136	12	949
2000 Average	50	173	53	78	32	144	139	46	1,040
2005 Average	32	138	37	60	53	136	251	496	1,165
2010 Average	42	656	109	164	84	296	405	706	2,353
2011 Average	47	854	124	249	97	479	424	835	2,986
2012 Average	67	1,007	171	314	132	409	388	886	3,205
2013 Average	134	1,134	302	468	156	373	362	994	3,621
2014 Average	351	1,101	423	703	163	442	364	1,052	4,176
2015 Average	465	1,176	615	966	168	476	326	1,161	4,738
2016 Average	591	1,179	799	1,211	175	635	298	1,171	5,261
2017 Average	1,158	1,381	914	1,404	184	749	308	1,192	6,376
2018 Average	2,048	1,289	949	1,602	223	879	321	1,240	7,601
2019 Average	2,982	1,306	1,098	1,830	220	815	229	1,090	8,471
2020 Average	3,206	1,187	1,262	2,081	96	722	148	1,058	8,498
2021 Average	2,963	1,069	1,327	2,309	107	816	97	1,173	8,536
2022 Average	3,576	1,204	1,399	2,409	178	867	110	1,175	9,520
2023 Average	4,082	1,116	1,618	2,681	173	816	125	1,242	10,235
2024 January	3,903	1,030	1,689	2,713	215	851	64	1,370	10,145
February	4,593	987	1,870	2,899	230	755	160	1,306	10,931
March	4,333	1,102	1,687	2,769	174	776	183	1,361	10,698
April	3,991	1,248	1,683	2,857	193	682	156	1,231	10,358
May	4,217	1,246	1,671	2,718	162	696	114	1,265	10,417
June	4,160	1,438	1,725	2,855	241	813	144	1,321	10,973
July	4,263	1,347	1,638	2,766	172	753	150	1,168	10,618
August	3,985	1,505	1,815	2,896	229	785	137	1,297	10,834
September	3,796	1,492	1,837	3,060	207	697	176	1,261	10,688
October	3,865	1,273	1,771	2,927	211	800	129	1,255	10,461
November	4,289	1,362	1,948	3,223	249	917	116	1,318	11,474
December	3,752	1,461	1,878	3,093	242	1,027	112	1,255	10,942
Average	4,093	1,291	1,767	2,897	210	797	137	1,284	10,709
2025 January	3,931	1,191	1,827	3,043	227	791	89	989	10,260
February	4,294	891	1,814	3,110	188	758	125	1,231	10,598
March	4,043	1,106	1,853	3,077	252	853	88	1,254	10,673
April	3,883	1,164	1,841	3,152	189	629	124	1,210	10,352
May	3,629	1,294	1,655	3,041	201	719	158	1,182	10,225
June	3,762	1,416	1,739	3,031	252	809	141	1,303	10,715
July	3,520	1,395	1,878	3,214	187	790	138	1,082	10,325
August	4,025	1,326	1,622	2,866	200	747	123	1,236	10,522
September	4,338	1,248	1,905	3,241	254	779	115	1,194	11,170
October	4,412	1,274	1,786	3,064	149	844	99	1,182	11,024
November	3,888	1,313	1,998	3,374	223	1,023	81	1,397	11,298
December	4,146	1,508	1,840	3,102	302	903	108	1,353	11,422
Average	3,987	1,263	1,813	3,109	219	804	116	1,217	10,714
2026 January	3,922	1,232	1,826	3,149	270	849	70	1,288	10,780
February	4,345	1,141	1,806	3,343	267	865	94	1,262	11,318
March	4,043	1,341	1,943	3,527	376	803	146	1,632	11,868
April	R 5,593	R 1,597	R 2,093	R 3,659	R 334	R 726	163	R 1,538	R 13,610
May	E 5,303	E 1,568	NA	NA	E 370	E 925	E 139	NA	E 13,031
June	E 4,223	E 1,466	NA	NA	E 332	E 969	E 141	NA	E 11,968
6-Month Average	E 4,572	E 1,394	NA	NA	E 326	E 856	E 126	NA	E 12,101
2025 6-Month Average	3,919	1,181	1,788	3,075	219	760	121	1,194	10,468
2024 6-Month Average	4,197	1,175	1,719	2,800	202	763	137	1,309	10,582

^a Includes lease condensate.

^b Through 1983, also includes 40% of "Butane-Propane Mixtures." Through 2012, also includes propylene.

^c Ethane, propane, normal butane, isobutane, and natural gasoline (pentanes plus). Through 2012, also includes refinery olefins (ethylene, propylene, butylene, and isobutylene).

^d Beginning in 1965, includes kerosene-type jet fuel. (Through 1964, kerosene-type jet fuel is included with kerosene in "Other.") For 1953–2004, also includes naphtha-type jet fuel. (Through 1952, naphtha-type jet fuel is included in the products from which it was blended: motor gasoline, kerosene, and distillate fuel oil. Beginning in 2005, naphtha-type jet fuel is included in "Other.")

^e Finished motor gasoline. Through 1952, also includes naphtha-type jet fuel. Through 1963, also includes aviation gasoline and special naphthas. Through 1980, also includes motor gasoline blending components.

^f Asphalt and road oil, kerosene, lubricants, petrochemical feedstocks, petroleum coke, unfinished oils, waxes, and miscellaneous products. Through 1964, also includes kerosene-type jet fuel. Beginning in 1964, also includes finished aviation gasoline and special naphthas. Beginning in 1981, also includes

motor gasoline blending components. Beginning in 2005, also includes naphtha-type jet fuel. For 2009–2018, also includes oxygenates (excluding fuel ethanol). Beginning in 2010, also includes fuel ethanol. Beginning in 2011, also includes biofuels (excluding fuel ethanol).

R=Revised. E=Estimate. NA=Not available. (s)=Less than 500 barrels per day. Notes: • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **1949–1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976–1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981–2024:** EIA, *Petroleum Supply Annual*, annual reports, and unpublished revisions. • **2025 and 2026:** EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

Table 3.3f Petroleum Trade: Exports by Country of Destination
(Thousand Barrels per Day)

	Brazil	Canada	China	India	Japan	Mexico	Nether-lands	Singa-pore	South Korea	United Kingdom	Other	Total
1960 Average	4	34	NA	NA	62	18	6	NA	NA	12	NA	202
1965 Average	3	26	NA	NA	40	27	10	NA	NA	12	NA	187
1970 Average	7	31	NA	NA	69	33	15	NA	NA	12	NA	259
1975 Average	6	22	NA	1	27	42	23	NA	NA	7	NA	209
1980 Average	4	108	—	1	32	28	23	6	2	7	335	544
1985 Average	3	74	—	2	108	61	44	24	27	14	424	781
1990 Average	2	91	—	6	92	89	54	15	60	11	438	857
1995 Average	16	73	2	3	76	125	33	46	57	14	505	949
2000 Average	28	110	3	3	90	358	42	36	20	10	342	1,040
2005 Average	39	181	12	11	56	268	25	43	16	21	492	1,165
2010 Average	123	233	52	10	88	448	165	128	13	19	1,073	2,353
2011 Average	157	351	73	17	79	570	248	121	15	35	1,320	2,986
2012 Average	166	416	85	36	89	565	239	115	16	41	1,435	3,205
2013 Average	179	549	129	41	117	532	274	136	13	36	1,616	3,621
2014 Average	217	809	89	70	150	559	241	124	46	53	1,817	4,176
2015 Average	188	955	191	78	166	690	226	122	65	89	1,968	4,738
2016 Average	260	935	203	140	250	880	265	147	108	92	1,980	5,261
2017 Average	395	871	447	200	350	1,081	251	210	176	186	2,209	6,376
2018 Average	400	1,024	374	297	466	1,194	337	185	382	272	2,670	7,601
2019 Average	474	1,035	196	460	555	1,158	451	126	580	336	3,102	8,471
2020 Average	438	932	715	471	519	1,042	456	167	451	350	2,959	8,498
2021 Average	418	835	632	566	488	1,156	419	227	565	318	2,913	8,536
2022 Average	394	845	641	486	501	1,152	533	391	550	414	3,613	9,520
2023 Average	239	850	993	402	589	1,162	833	355	625	392	3,794	10,235
2024 January	323	893	886	297	491	1,083	905	217	602	523	3,925	10,145
February	221	788	944	363	597	1,133	1,122	371	636	425	4,331	10,931
March	166	891	833	485	588	1,160	825	411	897	327	4,113	10,698
April	254	914	1,001	505	487	1,024	914	169	558	513	4,020	10,358
May	186	816	1,032	452	480	1,122	855	353	877	290	3,953	10,417
June	312	770	877	594	733	1,245	1,024	378	834	388	3,819	10,973
July	322	916	849	394	584	1,174	1,156	158	617	445	4,003	10,618
August	249	816	696	427	629	1,213	1,254	373	818	438	3,921	10,834
September	306	872	849	461	761	1,165	993	440	719	385	3,737	10,688
October	203	821	753	387	625	1,104	1,153	383	576	529	3,925	10,461
November	282	1,075	858	505	675	1,275	1,285	222	697	486	4,116	11,474
December	273	807	861	517	551	1,372	1,227	460	530	433	3,909	10,942
Average	258	865	869	449	600	1,173	1,059	328	697	432	3,980	10,709
2025 January	271	880	856	357	449	1,150	1,097	228	531	391	4,049	10,260
February	340	955	925	606	718	1,043	860	430	700	261	3,760	10,598
March	345	843	835	473	738	1,242	1,060	218	784	345	3,789	10,673
April	378	801	557	717	591	996	1,137	178	690	340	3,967	10,352
May	343	713	464	705	649	1,026	1,312	66	699	261	3,986	10,225
June	423	1,033	384	805	570	1,192	1,282	152	582	263	4,028	10,715
July	288	1,127	583	391	683	1,009	981	147	581	289	4,246	10,325
August	392	955	485	728	589	961	990	191	649	274	4,308	10,522
September	267	869	686	786	788	1,067	881	116	951	374	4,386	11,170
October	555	809	689	640	876	1,069	1,053	173	857	353	3,949	11,024
November	292	834	722	562	733	1,199	1,466	127	741	472	4,148	11,298
December	459	827	649	511	745	1,133	1,625	141	699	440	4,191	11,422
Average	363	887	651	606	677	1,091	1,147	179	705	339	4,069	10,714
2026 January	331	734	736	437	677	901	1,424	71	684	473	4,313	10,780
February	211	1,010	744	516	583	1,101	1,686	72	658	301	4,435	11,318
March	237	899	878	698	885	943	1,235	184	1,050	429	4,431	11,868
April	343	905	763	801	1,286	964	1,650	462	1,054	348	5,033	13,610
4-Month Average	282	884	781	614	861	974	1,493	198	865	390	4,552	11,894
2025 4-Month Average	333	868	792	535	622	1,110	1,042	260	676	336	3,894	10,469
2024 4-Month Average	241	872	915	412	540	1,100	939	292	675	447	4,094	10,528

NA=Not available. —=No data reported.

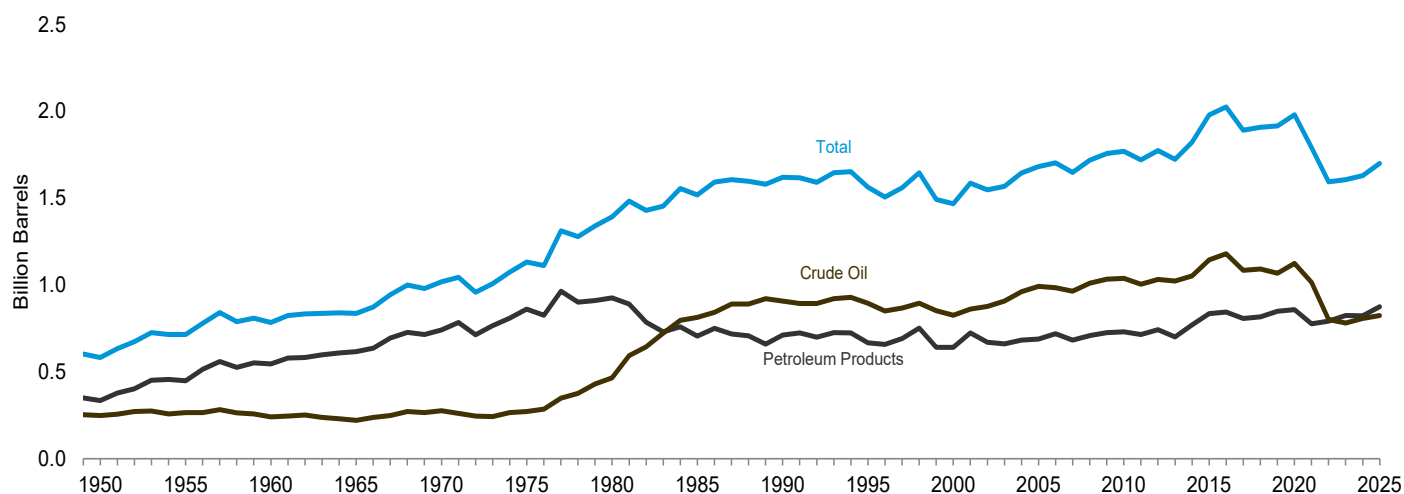
Notes: • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1960 and monthly data beginning in 1981.

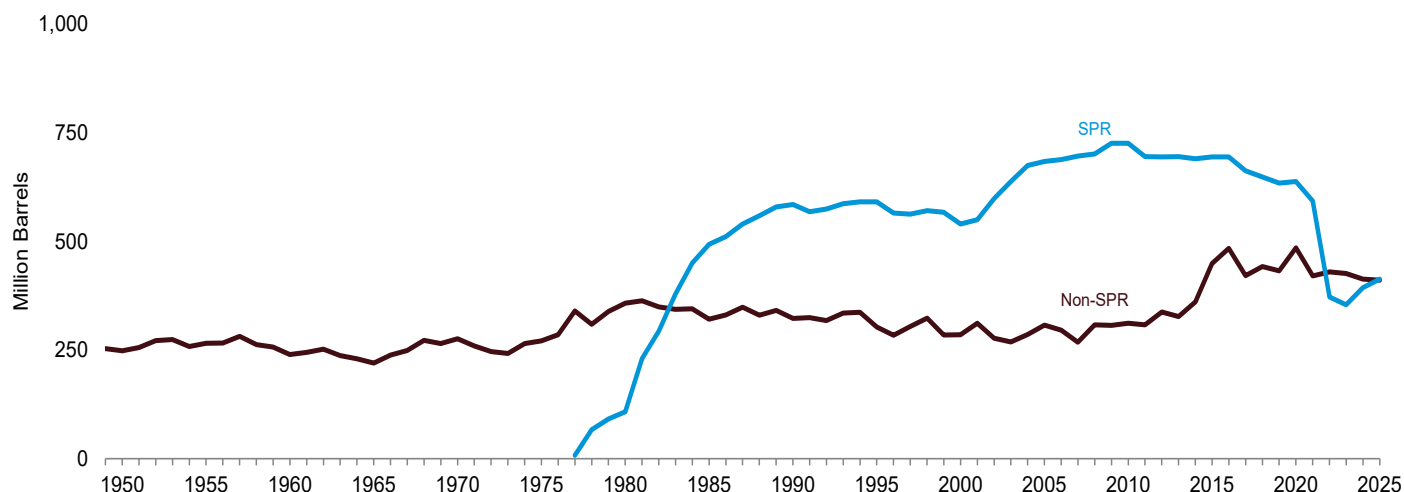
Sources: • **1960–1972:** Bureau of Mines, *Minerals Yearbook*, annual reports. • **1973–1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976–1980:** U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports. • **1981–2024:** EIA, *Petroleum Supply Annual*, annual reports. • **2025 and 2026:** EIA, *Petroleum Supply Monthly*, monthly reports.

Figure 3.4 Petroleum Stocks

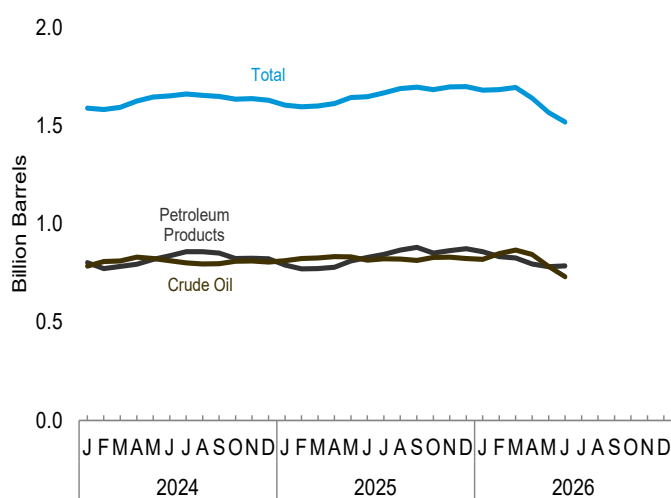
Overview, 1949–2025



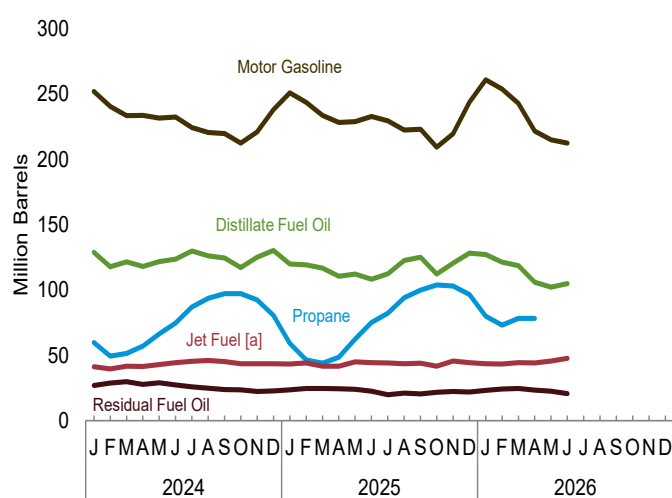
SPR and Non-SPR Crude Oil Stocks, 1949–2025



Overview, Monthly



Selected Products, Monthly



[a] Includes kerosene-type jet fuel only.

Notes: • SPR=Strategic Petroleum Reserve. • Stocks are at end of period.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Source: Table 3.4.

Table 3.4 Petroleum Stocks
(Million Barrels)

	Crude Oil ^a			Distillate Fuel Oil ^e	Hydrocarbon Gas Liquids				Jet Fuel ⁱ	Motor Gasoline ^j	Residual Fuel Oil ^k	Other ^l	Total						
	SPR ^b	Non-SPR ^{c,d}	Total ^d		Propane/Propylene			Total ^h											
					Propane	Propylene ^f	Total ^g												
1950 Year	--	248	248	72	NA	NA	NA	2	(ⁱ)	116	41	104	583						
1955 Year	--	266	266	111	NA	NA	NA	7	3	165	39	123	715						
1960 Year	--	240	240	138	NA	NA	NA	23	7	195	45	137	785						
1965 Year	--	220	220	155	NA	NA	NA	35	19	175	56	176	836						
1970 Year	--	276	276	195	NA	NA	NA	44	28	209	54	181	1,018						
1975 Year	--	271	271	209	NA	NA	82	133	30	235	74	181	1,133						
1980 Year	108	358	466	205	NA	NA	71	137	42	261	92	189	1,392						
1985 Year	493	321	814	144	NA	NA	39	82	40	223	50	165	1,519						
1990 Year	586	323	908	132	NA	NA	49	104	52	220	49	156	1,621						
1995 Year	592	303	895	130	NA	NA	43	100	40	202	37	158	1,563						
2000 Year	541	286	826	118	NA	NA	41	88	45	196	36	159	1,468						
2005 Year	685	308	992	136	NA	NA	57	117	42	208	37	148	1,682						
2010 Year	727	312	1,039	164	46	2	47	118	43	219	41	145	1,770						
2011 Year	696	308	1,004	149	48	2	50	121	41	223	34	146	1,720						
2012 Year	695	338	1,033	135	63	2	64	148	40	231	34	154	1,775						
2013 Year	696	327	1,023	128	40	1	42	121	37	228	38	149	1,724						
2014 Year	691	361	1,052	136	72	2	74	170	38	240	34	151	1,822						
2015 Year	695	449	1,144	161	91	2	93	192	40	235	42	164	1,979						
2016 Year	695	485	1,180	166	77	2	79	196	43	239	41	161	2,025						
2017 Year	663	422	1,084	146	62	2	64	187	41	237	29	167	1,892						
2018 Year	649	443	1,092	140	64	2	66	184	42	247	28	176	1,908						
2019 Year	635	433	1,068	140	80	2	81	212	40	254	31	172	1,917						
2020 Year	638	485	1,124	161	70	1	71	228	39	243	30	156	1,981						
2021 Year	594	421	1,015	130	64	1	65	193	36	232	26	161	1,792						
2022 Year	372	430	802	119	77	1	78	211	35	224	31	172	1,595						
2023 Year	355	426	781	130	80	1	81	223	40	241	24	167	1,606						
2024 January	358	428	786	129	60	1	61	185	41	252	27	170	1,590						
February	361	448	809	118	50	1	50	163	40	241	29	183	1,583						
March	364	448	812	122	52	1	52	170	42	234	30	187	1,595						
April	367	465	832	118	57	1	58	188	42	234	28	185	1,626						
May	370	455	825	122	66	1	68	214	43	232	29	181	1,647						
June	373	440	814	124	75	1	76	235	45	233	27	176	1,652						
July	375	428	803	130	87	1	88	265	46	224	26	169	1,662						
August	380	418	797	126	94	1	95	278	46	221	25	163	1,656						
September	383	415	798	125	97	1	99	277	45	220	24	162	1,650						
October	387	424	811	117	97	2	99	269	44	213	24	158	1,636						
November	392	421	813	125	92	1	94	254	44	221	22	160	1,639						
December	394	413	807	130	81	1	82	226	44	238	23	162	1,630						
2025 January	395	419	814	120	59	1	60	185	43	251	24	169	1,606						
February	395	430	825	119	47	1	47	163	44	244	25	177	1,597						
March	397	432	828	117	44	1	45	174	42	234	25	182	1,601						
April	399	435	834	111	49	1	50	195	42	228	25	181	1,614						
May	402	431	833	112	63	1	64	225	45	229	24	176	1,644						
June	403	414	817	108	75	1	76	253	44	233	23	170	1,648						
July	403	420	823	113	82	1	84	274	44	230	20	165	1,668						
August	405	417	822	123	94	1	95	295	44	222	21	163	1,690						
September	407	408	815	125	100	1	101	305	44	223	21	165	1,697						
October	410	421	831	112	104	1	105	305	42	209	22	163	1,684						
November	412	421	832	121	103	1	105	292	46	220	22	165	1,698						
December	413	411	825	128	97	1	98	272	44	244	22	165	1,700						
2026 January	415	406	821	127	80	1	81	232	44	261	23	173	1,682						
February	415	435	850	121	73	1	74	216	43	254	24	176	1,685						
March	415	453	868	119	78	1	79	222	45	243	25	174	1,695						
April	R 395	R 450	R 845	R 106	R 78	R 1	R 80	R 231	44	R 222	R 23	R 171	R 1,641						
May	E 354	E 431	E 784	E 102	NA	NA	E 84	RF 241	E 46	E 215	E 23	RE 157	E 1,568						
June	E 321	E 411	E 732	E 105	NA	NA	E 91	F 250	E 48	E 213	E 21	E 153	E 1,520						

^a Includes lease condensate.
^b "SPR" is the Strategic Petroleum Reserve, which began in October 1977. Crude oil stocks in the SPR include non-U.S. stocks held under foreign or commercial storage agreements.
^c All crude oil stocks other than those in SPR.
^d Beginning in 1981, includes stocks of Alaskan crude oil in transit.
^e Excludes stocks in the Northeast Home Heating Oil Reserve. Beginning in 2009, includes biodiesel and renewable diesel fuel blended into distillate fuel oil. Beginning in 2021, also includes renewable heating oil blended into distillate fuel oil.
^f Includes propylene stocks at refineries only.
^g Propane and propylene. Through 1983, also includes 40% of "Butane-Propane Mixtures" and 30% of "Ethane-Propane Mixtures."
^h Ethane, propane, normal butane, isobutane, natural gasoline (pentanes plus), and refinery olefins (ethylene, propylene, butylene, and isobutylene). Through 1983, also includes plant condensate and unfractionated stream.
ⁱ Beginning in 1965, includes kerosene-type jet fuel. (Through 1964, kerosene-type jet fuel is included with kerosene in "Other.") For 1952–2004, also includes naphtha-type jet fuel. (Through 1951, naphtha-type jet fuel is included in the products from which it was blended—gasoline, kerosene, and distillate fuel oil. Beginning in 2005, naphtha-type jet fuel is included in "Other.")
^j Includes finished motor gasoline and motor gasoline blending components; excludes oxygenates. Through 1963, also includes aviation gasoline and special naphthas.
^k Through 2019, includes residual fuel oil stocks at (or in) refineries, bulk

terminals, and pipelines. Beginning in 2020, includes residual fuel oil stocks at refineries and bulk terminals only.
^l Asphalt and road oil, aviation gasoline blending components, kerosene, lubricants, petrochemical feedstocks, petroleum coke, unfinished oils, waxes, and miscellaneous products. Through 1964, also includes kerosene-type jet fuel. Beginning in 1964, also includes finished aviation gasoline and special naphthas. Beginning in 1993, also includes fuel ethanol. Beginning in 2005, also includes naphtha-type jet fuel. For 2005–2018, also includes oxygenates (excluding fuel ethanol). Beginning in 2009, also includes biofuels (excluding fuel ethanol) and other hydrocarbons.
R=Revised. E=Estimate. F=Forecast. NA=Not available. --=Not applicable.
Notes: • Stocks are at end of period. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: • **1949–1975:** Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports. • **1976–1980:** U.S. Energy Information Administration (EIA), *Energy Data Reports, Petroleum Statement, Annual*, annual reports. • **1981–2024:** EIA, *Petroleum Supply Annual*, annual reports, and unpublished revisions. • **2025 and 2026:** EIA, *Petroleum Supply Monthly*, monthly reports, and unpublished revisions; and, for the current two months, *Weekly Petroleum Status Report* data system, Short-Term Integrated Forecasting System, and *Monthly Energy Review* data system calculations.

Figure 3.5 Petroleum Products Supplied by Type
(Million Barrels per Day)

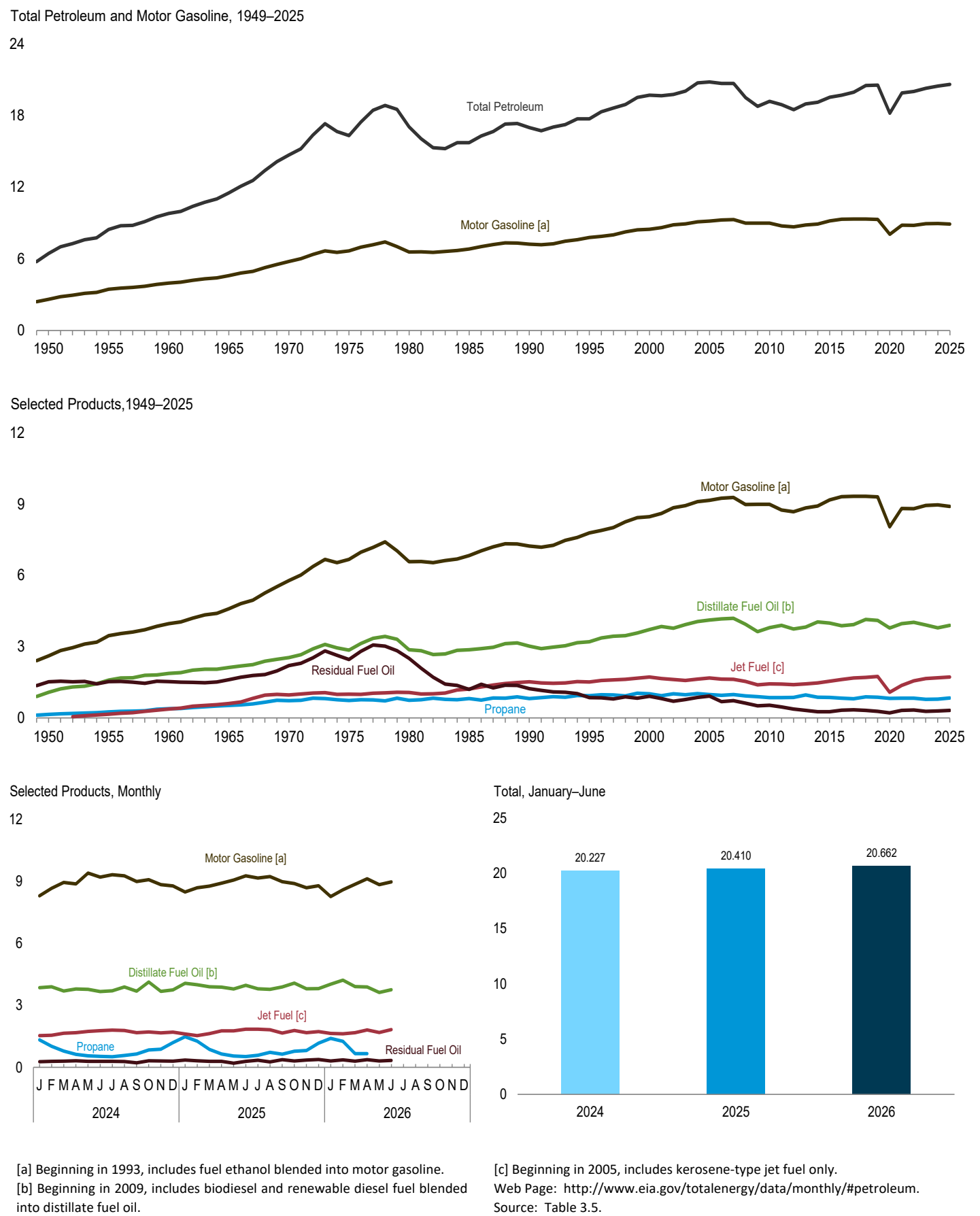
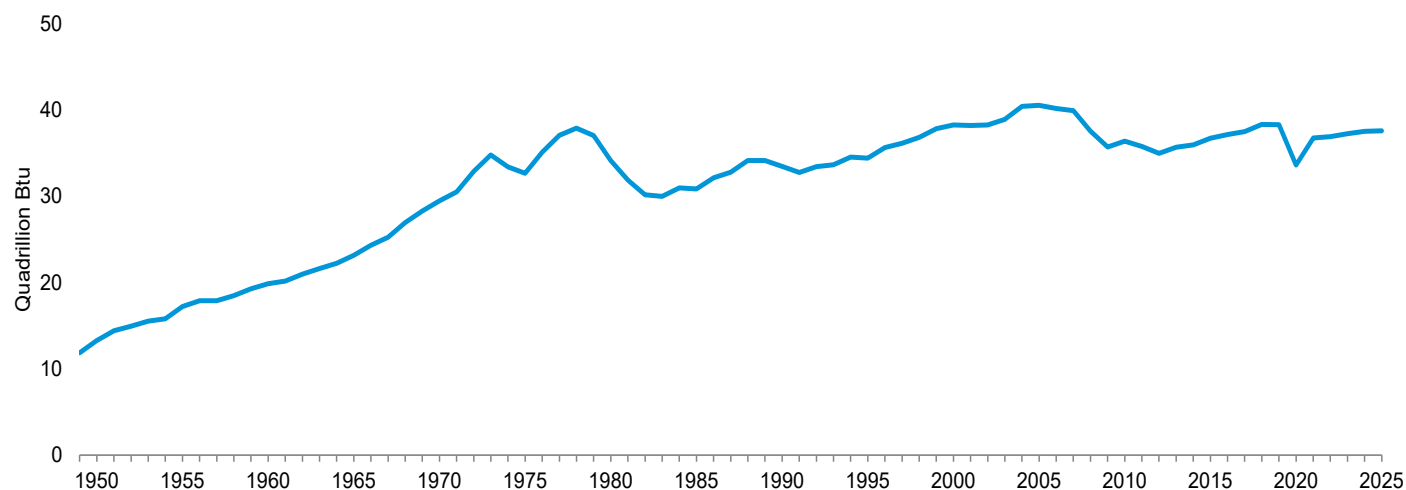
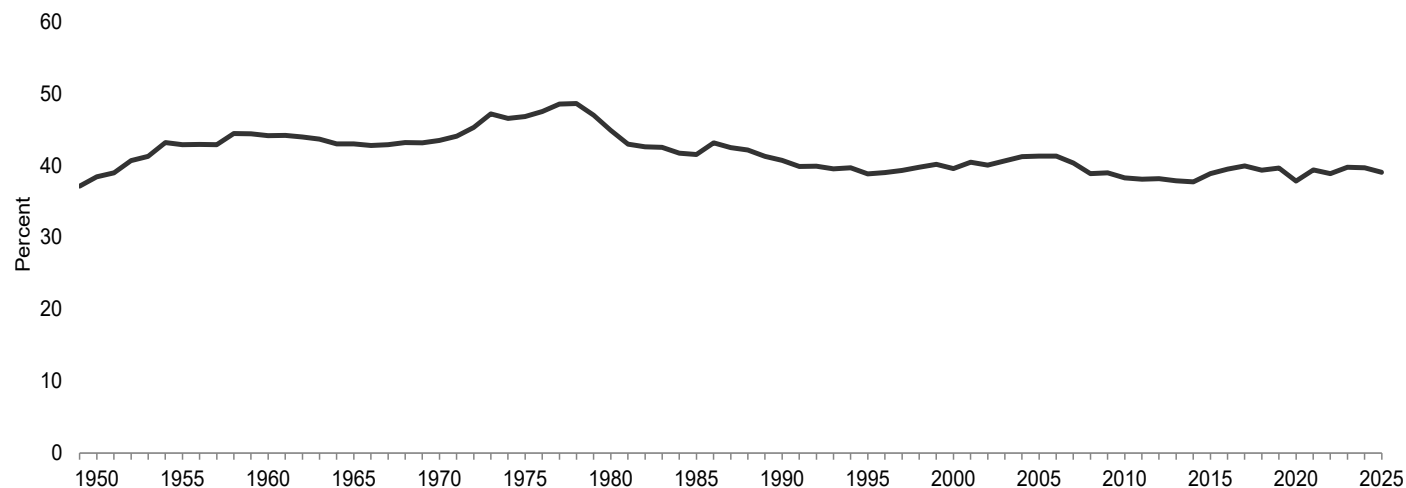


Figure 3.6 Heat Content of Petroleum Products Supplied by Type

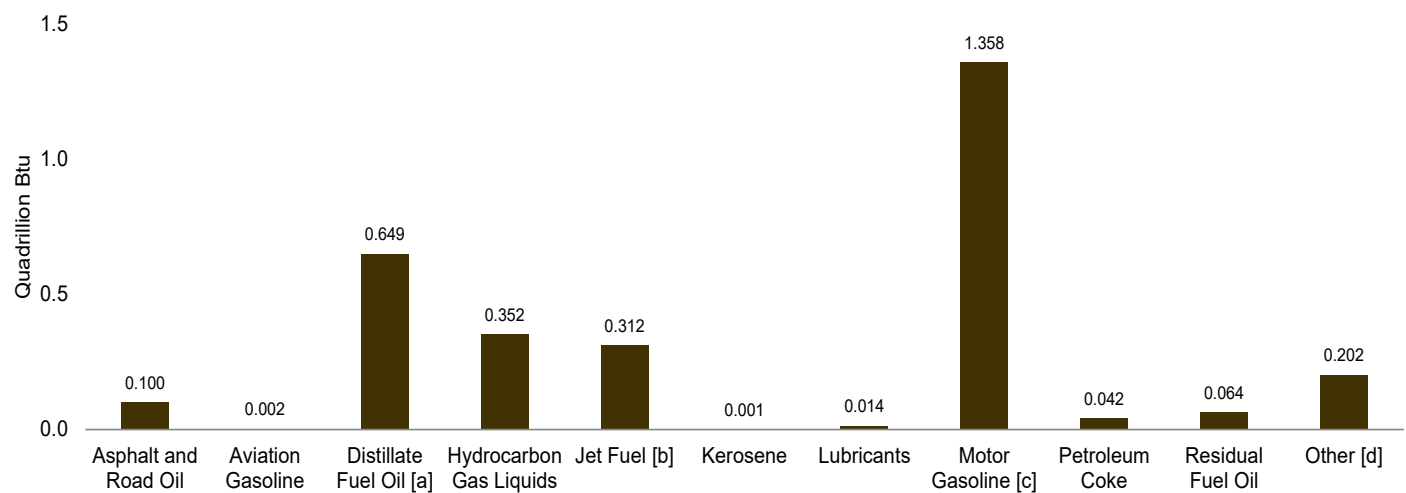
Total, 1949–2025



Petroleum Products Supplied as Share of Total Energy Consumption, 1949–2025



By Product, June 2026



[a] Includes biodiesel and renewable diesel fuel blended into distillate fuel oil.

[b] Includes kerosene-type jet fuel only.

[c] Includes fuel ethanol blended into motor gasoline.

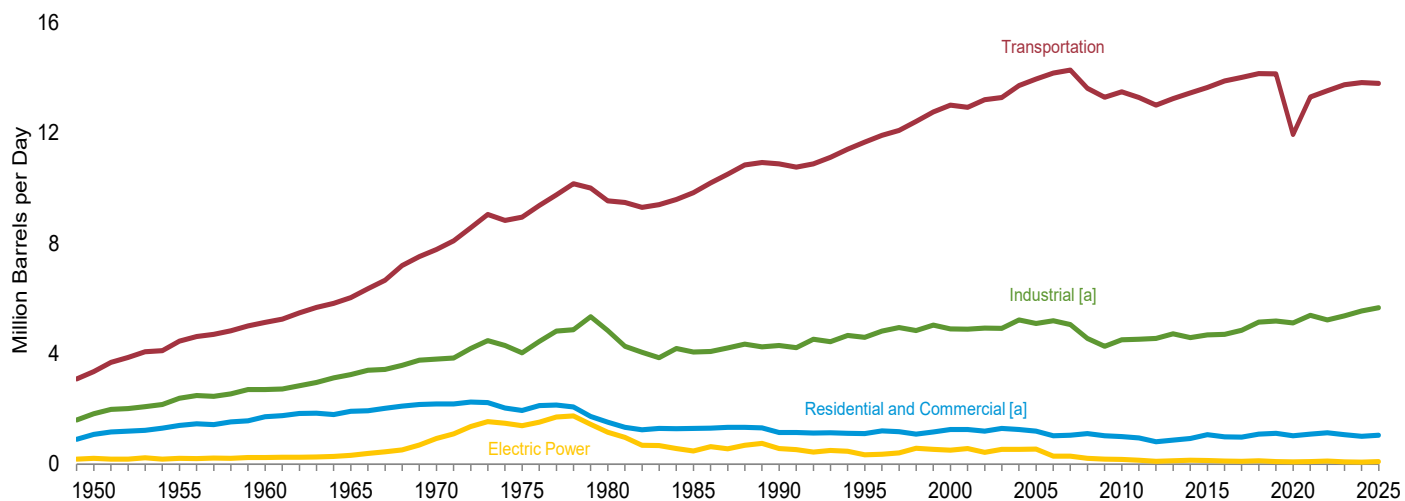
[d] All petroleum products not separately displayed.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

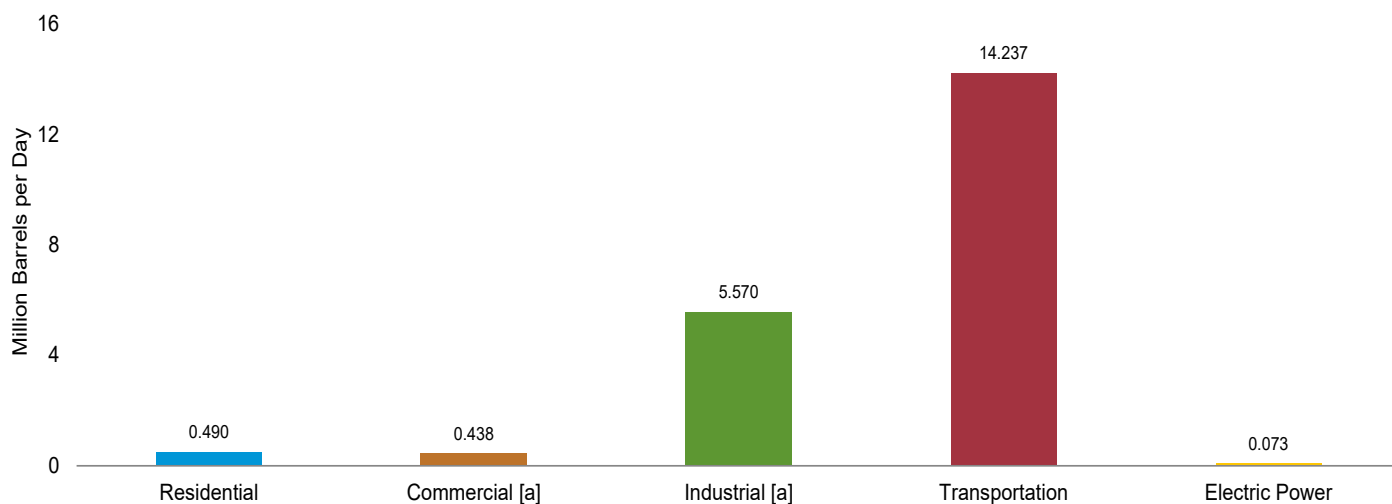
Sources: Tables 1.1 and 3.6.

Figure 3.7 Petroleum Consumption by Sector

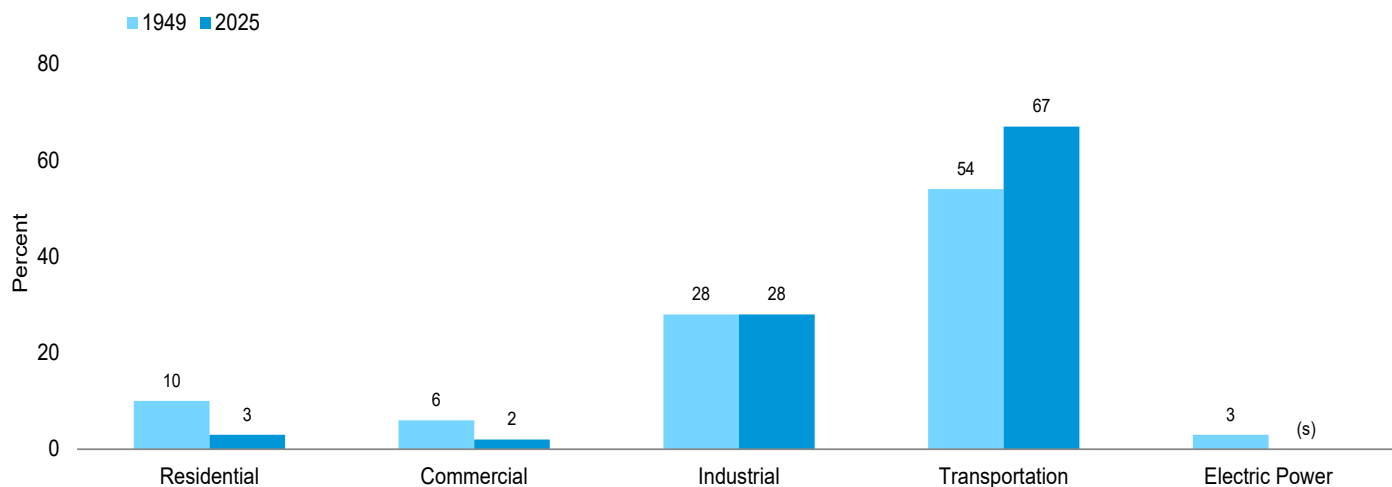
By Sector, 1949–2025



By Sector, April 2026



Sector Shares, 1949 and 2025



[a] Includes combined-heat-and-power plants and a small number of electricity-only plants.

(s)=Less than 0.5 percent.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.
Sources: Tables 3.7a–3.7c.

Table 3.7a Petroleum Consumption: Residential and Commercial Sectors
(Thousand Barrels per Day)

	Residential Sector				Commercial Sector ^a						
	Distillate Fuel Oil	HGL ^b	Kero-sene	Total	Distillate Fuel Oil	HGL ^b	Kero-sene	Motor Gasoline ^{c,d}	Petroleum Coke	Residual Fuel Oil	Total
		Propane				Propane					
1950 Average	390	104	168	662	123	28	23	52	NA	185	411
1955 Average	562	144	179	885	177	38	24	69	NA	209	519
1960 Average	736	217	171	1,123	232	58	23	35	NA	243	590
1965 Average	805	275	161	1,242	251	74	26	40	NA	281	672
1970 Average	883	392	144	1,419	276	102	30	45	NA	311	764
1975 Average	850	365	78	1,293	276	92	24	46	NA	214	653
1980 Average	617	222	51	890	243	63	20	56	NA	245	626
1985 Average	514	224	77	815	297	68	16	50	NA	99	530
1990 Average	460	252	31	742	252	73	6	58	0	100	489
1995 Average	426	282	36	743	225	78	11	10	(s)	62	385
2000 Average	424	395	46	865	230	107	14	23	(s)	40	415
2005 Average	402	366	40	809	210	94	10	24	(s)	50	389
2010 Average	266	378	14	658	185	100	2	28	(s)	27	343
2011 Average	248	351	9	608	186	102	2	24	(s)	23	336
2012 Average	228	281	4	513	168	96	1	21	(s)	14	300
2013 Average	233	331	4	568	163	108	(s)	22	(s)	11	304
2014 Average	253	349	7	609	169	114	1	29	(s)	3	318
2015 Average	262	318	5	584	171	106	1	^d 204	(s)	2	483
2016 Average	206	306	7	518	154	107	1	203	(s)	2	467
2017 Average	205	307	4	517	153	111	1	196	(s)	2	462
2018 Average	241	361	4	606	153	126	1	199	(s)	1	480
2019 Average	223	402	5	630	155	130	1	200	(s)	1	487
2020 Average	193	352	5	551	131	143	1	201	(s)	1	477
2021 Average	225	345	5	575	156	155	1	203	(s)	1	516
2022 Average	227	360	4	591	158	144	1	239	(s)	1	542
2023 Average	222	337	7	566	154	131	1	210	(s)	1	497
2024 January	354	686	11	1,051	245	231	2	162	(s)	2	642
February	428	533	6	967	296	188	1	170	(s)	3	657
March	287	447	6	740	199	164	1	175	0	2	541
April	193	312	9	514	133	127	1	174	0	1	436
May	161	192	9	362	112	94	1	184	(s)	1	392
June	142	128	7	277	98	76	1	180	(s)	1	356
July	95	117	1	214	66	73	(s)	182	0	1	322
August	82	121	(s)	202	57	74	(s)	181	0	(s)	312
September	143	141	(s)	284	99	79	(s)	176	0	1	355
October	188	241	1	430	130	107	(s)	178	0	1	416
November	221	417	7	644	153	156	1	173	0	1	484
December	294	593	9	897	204	205	1	172	(s)	2	584
Average	215	327	6	547	149	131	1	176	(s)	1	458
2025 January	362	^R 744	19	1,125	251	249	3	166	(s)	2	671
February	453	622	19	^R 1,094	314	215	3	170	(s)	3	705
March	294	431	12	736	203	162	2	172	0	2	541
April	197	311	5	513	136	129	1	174	0	1	442
May	165	211	5	^R 380	114	101	1	177	0	1	394
June	145	135	5	285	100	80	1	181	0	1	363
July	97	124	2	223	67	77	(s)	179	0	1	324
August	84	128	3	215	58	78	1	181	0	1	318
September	146	148	(s)	295	101	84	(s)	176	0	1	362
October	192	263	2	457	133	116	(s)	174	0	1	424
November	226	437	11	^R 674	156	164	2	170	0	1	493
December	301	614	16	931	208	213	2	172	(s)	2	598
Average	220	346	8	574	153	139	1	174	(s)	1	468
2026 January	^R 359	698	22	^R 1,080	^R 249	236	3	162	(s)	2	^R 653
February	^R 450	597	11	^R 1,058	^R 312	208	2	168	(s)	3	^R 693
March	^R 292	386	4	^R 681	^R 202	150	1	173	(s)	2	^R 528
April	196	283	11	490	136	121	2	179	0	1	438
4-Month Average	322	490	12	824	223	179	2	170	(s)	2	576
2025 4-Month Average	324	527	14	864	225	189	2	170	(s)	2	588
2024 4-Month Average	314	495	8	818	218	178	1	170	(s)	2	569

^a Commercial sector fuel use, including that at commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^b Hydrocarbon gas liquids.

^c Finished motor gasoline. Through 1963, also includes special naphthas. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

^d There is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors. Beginning in 2015, the commercial and industrial sector shares of motor gasoline consumption are larger than in 2014, while the transportation sector share is smaller.

^R=Revised. NA=Not available. (s)=Less than 500 barrels per day and greater than -500 barrels per day.

Notes: • Data are estimates. • For total petroleum consumption by all sectors, see petroleum products supplied data in Table 3.5. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

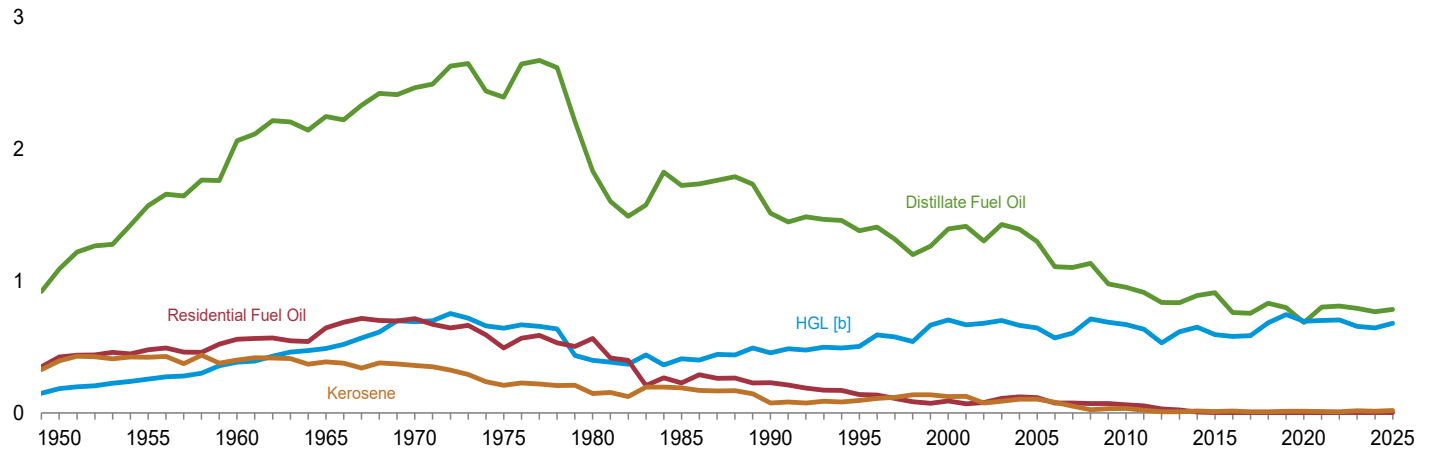
Sources: See end of section.

Due to the suspension of Form EIA-782A, *Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report*, sectoral distillate and residual fuel oil consumption after April 2022 are estimates.

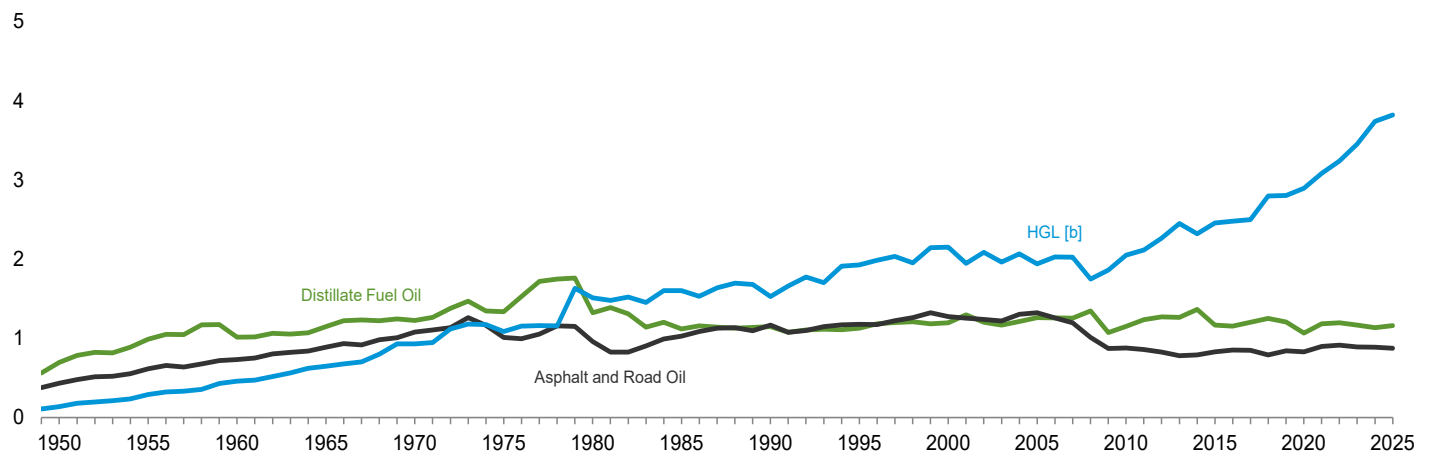
Figure 3.8a Heat Content of Petroleum Consumption by End-Use Sector, 1949–2025

(Quadrillion Btu)

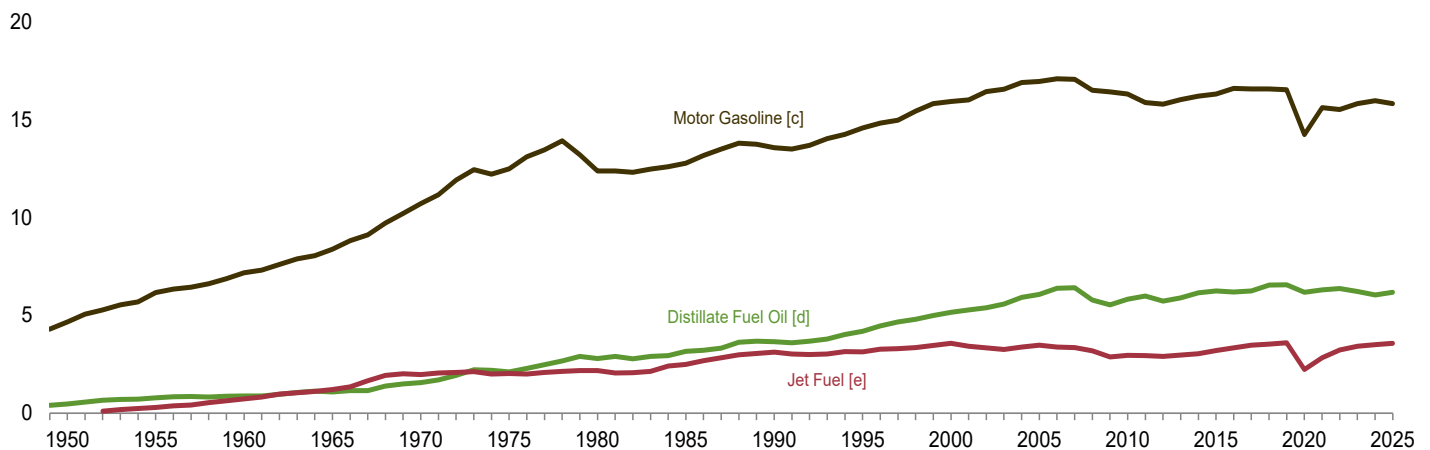
Residential and Commercial [a] Sectors, Selected Products



Industrial [a] Sector, Selected Products



Transportation Sector, Selected Products



[a] Includes combined-heat-and-power plants and a small number of electricity-only plants.

[b] Hydrocarbon gas liquids.

[c] Beginning in 1993, includes fuel ethanol blended into motor gasoline.

[d] Beginning in 2009, includes biodiesel and renewable diesel fuel blended into distillate fuel oil.

[e] Beginning in 2005, includes kerosene-type jet fuel only.

Note: Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term “petroleum consumption” in Tables 3.7a–3.8c. Other measurements of consumption by fuel type or sector may differ. For example, jet fuel product supplied may not equal jet fuel consumed by U.S.-flagged aircraft.

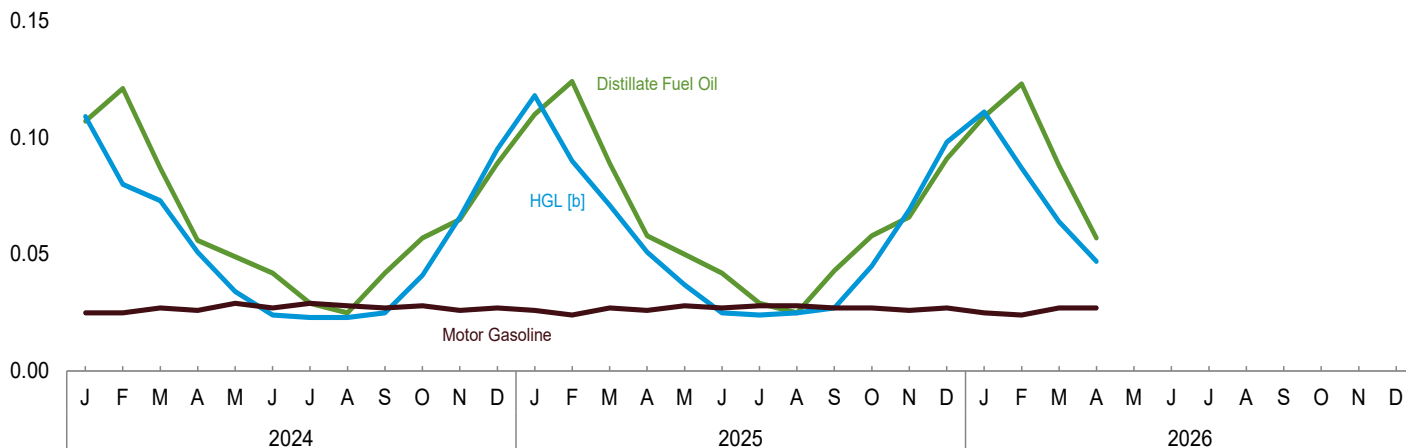
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Sources: Tables 3.8a–3.8c.

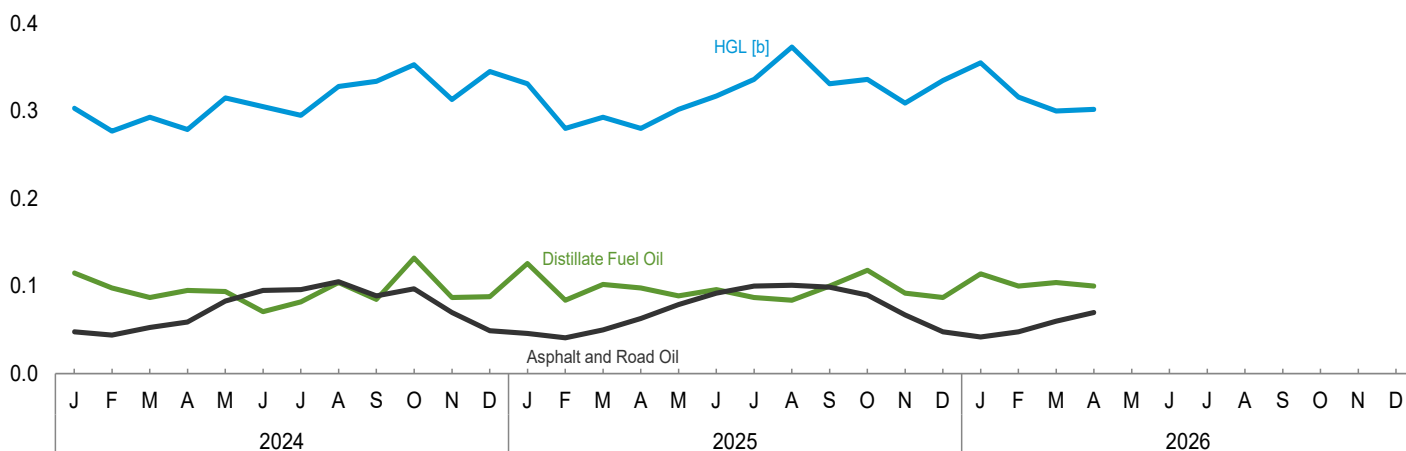
Figure 3.8b Heat Content of Petroleum Consumption by End-Use Sector, Monthly

(Quadrillion Btu)

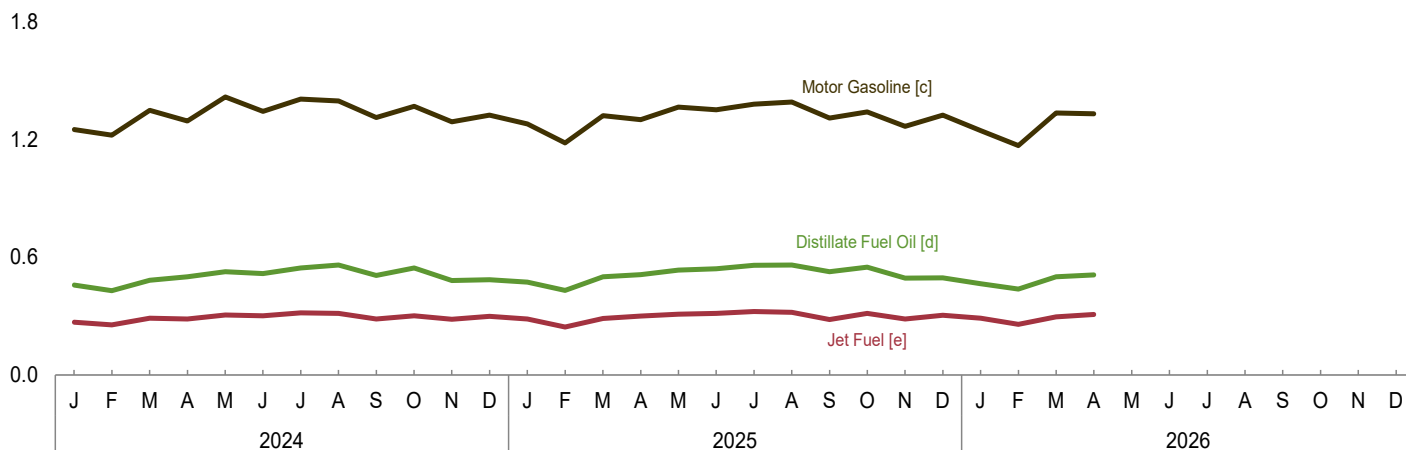
Residential and Commercial [a] Sectors, Selected Products



Industrial [a] Sector, Selected Products



Transportation Sector, Selected Products



[a] Includes combined-heat-and-power plants and a small number of electricity-only plants.

[b] Hydrocarbon gas liquids.

[c] Includes fuel ethanol blended into motor gasoline.

[d] Includes biodiesel and renewable diesel fuel blended into distillate fuel oil.

[e] Includes kerosene-type jet fuel only.

Note: Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. Other measurements of consumption by fuel type or sector may differ. For example, jet fuel product supplied may not equal jet fuel consumed by U.S.-flagged aircraft.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#petroleum>.

Sources: Tables 3.8a–3.8c.

Table 3.8a Heat Content of Petroleum Consumption: Residential and Commercial Sectors
(Trillion Btu)

	Residential Sector				Commercial Sector ^a						
	Distillate Fuel Oil	HGL ^b Propane	Kero-sene	Total	Distillate Fuel Oil	HGL ^b Propane	Kero-sene	Motor Gasoline ^{c,d}	Petroleum Coke	Residual Fuel Oil	Total
1950 Total	829	146	347	1,322	262	39	47	100	NA	424	872
1955 Total	1,194	202	371	1,767	377	54	51	133	NA	480	1,095
1960 Total	1,568	305	354	2,228	494	81	48	67	NA	559	1,248
1965 Total	1,713	386	334	2,432	534	103	54	77	NA	645	1,413
1970 Total	1,878	549	298	2,726	587	143	61	86	NA	714	1,592
1975 Total	1,807	512	161	2,479	587	130	49	89	NA	492	1,346
1980 Total	1,316	312	107	1,734	518	88	41	107	NA	565	1,318
1985 Total	1,092	315	159	1,566	631	95	33	96	NA	228	1,083
1990 Total	978	353	64	1,395	536	102	12	111	0	230	991
1995 Total	904	395	74	1,374	478	109	22	18	(s)	141	769
2000 Total	904	556	95	1,554	490	151	30	44	(s)	92	807
2005 Total	853	514	84	1,450	447	132	22	46	(s)	116	762
2010 Total	562	530	29	1,120	391	140	5	52	(s)	62	650
2011 Total	523	493	19	1,034	391	143	3	44	(s)	54	635
2012 Total	482	396	8	886	355	136	1	39	(s)	31	562
2013 Total	491	463	8	963	344	152	1	40	(s)	24	561
2014 Total	533	490	14	1,036	357	160	2	54	1	8	581
2015 Total	551	446	10	1,007	360	148	1	^d 376	1	4	890
2016 Total	435	430	14	878	326	150	2	375	(s)	4	858
2017 Total	432	431	8	871	323	156	1	361	(s)	4	845
2018 Total	508	507	8	1,022	323	176	1	366	(s)	3	870
2019 Total	471	563	11	1,045	327	182	2	369	(s)	2	883
2020 Total	408	495	11	914	276	201	2	371	(s)	2	853
2021 Total	474	484	9	967	328	217	1	375	(s)	3	925
2022 Total	479	504	8	992	332	202	1	440	(s)	3	979
2023 Total	468	472	15	955	324	184	2	386	(s)	3	900
2024 January	63	82	2	147	44	27	(s)	25	(s)	(s)	97
February	72	59	1	132	50	21	(s)	25	(s)	(s)	96
March	51	53	1	106	36	20	(s)	27	0	(s)	83
April	33	36	2	71	23	15	(s)	26	0	(s)	64
May	29	23	2	53	20	11	(s)	29	(s)	(s)	60
June	25	15	1	40	17	9	(s)	27	(s)	(s)	53
July	17	14	(s)	31	12	9	(s)	29	0	(s)	49
August	15	14	(s)	29	10	9	(s)	28	0	(s)	47
September	25	16	(s)	41	17	9	(s)	27	0	(s)	53
October	34	29	(s)	62	23	13	(s)	28	0	(s)	64
November	38	48	1	87	26	18	(s)	26	0	(s)	71
December	53	71	2	125	36	24	(s)	27	(s)	(s)	88
Total	454	460	12	925	314	184	2	324	(s)	3	828
2025 January	65	89	3	157	45	30	(s)	26	(s)	(s)	101
February	73	67	3	143	51	23	(s)	24	(s)	(s)	99
March	53	51	2	106	36	19	(s)	27	0	(s)	83
April	34	36	1	71	24	15	(s)	26	0	(s)	65
May	29	25	1	55	20	12	(s)	28	0	(s)	61
June	25	16	1	41	17	9	(s)	27	0	(s)	54
July	17	15	(s)	32	12	9	(s)	28	0	(s)	49
August	15	15	1	31	10	9	(s)	28	0	(s)	48
September	25	17	(s)	42	18	10	(s)	27	0	(s)	54
October	34	31	(s)	66	24	14	(s)	27	0	(s)	65
November	39	50	2	91	27	19	(s)	26	0	(s)	72
December	54	73	3	130	37	25	(s)	27	(s)	(s)	90
Total	464	485	17	966	321	194	3	321	(s)	3	843
2026 January	64	83	4	151	^R 45	28	1	25	(s)	(s)	99
February	^R 73	64	2	^R 139	50	22	(s)	24	(s)	(s)	97
March	52	46	1	99	36	18	(s)	27	(s)	(s)	^R 82
April	34	33	2	68	23	14	(s)	27	0	(s)	65
4-Month Total	223	226	8	457	155	82	1	103	(s)	2	343
2025 4-Month Total	224	243	9	476	155	87	1	103	(s)	2	349
2024 4-Month Total	220	230	6	455	152	83	1	104	(s)	1	341

^a Commercial sector fuel use, including that at commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^b Hydrocarbon gas liquids.

^c Finished motor gasoline. Through 1963, also includes special naphthas. Beginning in 1993, also includes fuel ethanol blended into motor gasoline.

^d There is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors. Beginning in 2015, the commercial and industrial sector shares of motor gasoline consumption are larger than in 2014, while the transportation sector share is smaller.

^R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu and greater than -0.5 trillion Btu.

Notes: • Data are estimates. • For total heat content of petroleum consumption by all sectors, see data for heat content of petroleum products supplied in Table 3.6. Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. See Note 1, "Petroleum Products Supplied and Petroleum Consumption," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#petroleum> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Due to the suspension of Form EIA-782A, *Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report*, sectoral distillate and residual fuel oil consumption after April 2022 are estimates.

Note 1. Petroleum Products Supplied and Petroleum Consumption. Total petroleum products supplied is the sum of the products supplied for each petroleum product, crude oil, unfinished oils, and gasoline blending components. This also includes petroleum products supplied for non-combustion use in the industrial and transportation sectors (see Tables 1.13a and 1.13b). In general, except for crude oil, product supplied of each product is computed as follows: field production, plus transfers to crude oil supply, plus biofuels plant net production, plus refinery and blender net production, plus imports, plus net receipts, plus adjustments, minus stock change, minus refinery and blender net inputs, minus exports. Crude oil product supplied is the sum of crude oil burned on leases and at pipeline pump stations as reported on Form EIA-813, "Monthly Crude Oil Report." Prior to 1983, crude oil burned on leases and used at pipeline pump stations was reported as either distillate or residual fuel oil and was included as product supplied for these products. Petroleum product supplied (see Tables 3.5 and 3.6) is an approximation of petroleum consumption and is synonymous with the term "Petroleum Consumption" in Tables 3.7a–3.8c.

Note 2. Petroleum Survey Respondents. The U.S. Energy Information Administration (EIA) uses a number of sources and methods to maintain the survey respondent lists. On a regular basis, survey managers review such industry publications as the *Oil & Gas Journal* and *Oil Daily* for information on facilities or companies starting up or closing down operations. Those sources are augmented by articles in newspapers, communications from respondents indicating changes in status, and information received from survey systems.

To supplement routine frames maintenance and to provide more thorough coverage, a comprehensive frames investigation is conducted every 3 years. This investigation results in the reassessment and recompilation of the complete frame for each survey. The effort also includes the evaluation of the impact of potential frame changes on the historical time series of data from these respondents. The results of this frame study are usually implemented in January to provide a full year under the same frame.

Note 3. Historical Petroleum Data. Detailed information on petroleum data through 1993 can be found in Notes 1–6 on pages 60 and 61 in the July 2013 *Monthly Energy Review* (MER) at <http://www.eia.gov/totalenergy/data/monthly/archive/00351307.pdf>. The notes discuss:

Note 1, "Petroleum Survey Respondents": In 1993, EIA added numerous companies that produce, blend, store, or import oxygenates to the monthly surveys.

Note 2, "Motor Gasoline": In 1981, EIA expanded its universe to include nonrefinery blenders and separated blending components from finished motor gasoline as a reporting category. In 1993, EIA made adjustments to finished motor gasoline product supplied data to more accurately account for fuel ethanol and motor gasoline blending components blended into finished motor gasoline.

Note 3, "Distillate and Residual Fuel Oils": In 1981, EIA eliminated the requirement to report crude oil in pipelines or burned on leases as either distillate or residual fuel oil.

Note 4, "Petroleum New Stock Basis": In 1975, 1979, 1981, and 1983, EIA added numerous respondents to bulk terminal and pipeline surveys; in 1984, EIA made changes in the reporting of natural gas liquids; and in 1993, EIA changed how it collected bulk terminal and pipeline stocks of oxygenates. These changes affected stocks reported and stock change calculations.

Note 5, "Stocks of Alaskan Crude Oil": In 1981, EIA began to include data for stocks of Alaskan crude oil in transit.

Note 6, "Petroleum Data Discrepancies": In 1976, 1978, and 1979, there are some small discrepancies between data in the MER and the *Petroleum Supply Annual*.

Table 3.1 Sources

1949–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports.

1976–1980: U.S. Energy Information Administration (EIA), Energy Data Reports, *Petroleum Statement, Annual*, annual reports.

1981–2001: EIA, *Petroleum Supply Annual* (PSA), annual reports.

2002 forward: EIA, PSA, annual reports, and revisions at <https://www.eia.gov/petroleum/data.php#summary>; *Petroleum Supply Monthly*, monthly reports, and revisions at <https://www.eia.gov/petroleum/data.php#summary>; revisions to crude oil production, total field production, and adjustments (based on crude oil production data from: Form EIA-914, "Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report"; state government agencies; U.S. Department of the Interior, Bureau of Safety and Environmental Enforcement, and predecessor agencies; and Form EIA-182, "Domestic Crude Oil First Purchase Report"); and, for the current two months, *Weekly Petroleum Status Report* data system and *Monthly Energy Review* data system calculations.

Table 3.2 Sources

1949–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports; and U.S. Energy Information Administration (EIA) estimates. (For 1967–1975, refinery and blender net production estimates for propylene are equal to "Propane/Propylene Production at Refineries for Chemical Use"; and estimates for propane are equal to total propane/propylene minus propylene.)

1976–1980: EIA, Energy Data Reports, *Petroleum Statement, Annual*, annual reports, and estimates. (Refinery and blender net production estimates for propylene are equal to "Propane/Propylene Production at Refineries for Chemical Use"; and estimates for propane are equal to total propane/propylene minus propylene.)

1981–2024: EIA, *Petroleum Supply Annual*, annual reports, revisions at <https://www.eia.gov/petroleum/data.php#summary>, and estimates. (For 1981–1985, refinery and blender net production estimates for propylene are equal to "Propane/Propylene Production at Refineries for Petrochemical Use"; and estimates for propane are equal to total propane/propylene minus propylene. For 1986–1988, refinery and blender net production estimates for propylene are created using the 1989 annual propylene share of "Net Refinery Production of Propane/Propylene"; and estimates for propane are equal to total propane/propylene minus propylene.)

2025 and 2026: EIA, *Petroleum Supply Monthly*, monthly reports; and, for the current two months, *Weekly Petroleum Status Report* data system, Short-Term Integrated Forecasting System, and *Monthly Energy Review* data system calculations.

Table 3.5 Sources

1949–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports; and U.S. Energy Information Administration (EIA) estimates. (For 1949–1966, product supplied estimates for total propane/propylene are created using sales and shipments data from Bureau of Mines, Mineral Industry Surveys, *Sales of Liquefied Petroleum Gases and Ethane*, annual reports, and *Shipments of Liquefied Petroleum Gases and Ethane*, annual reports—annual growth rates of sales and shipments are applied to the 1967 total propane/propylene product supplied value to create historical annual estimates. For 1949–1966, product supplied estimates for propylene are created using the 1967 annual propylene share of total propane/propylene product supplied; and estimates for propane are equal to total propane/propylene minus propylene. For 1967–1975, product supplied estimates for propylene are equal to propylene refinery and blender net production from Table 3.2; and estimates for propane are equal to total propane/propylene minus propylene.)

1976–1980: EIA, Energy Data Reports, *Petroleum Statement, Annual*, annual reports, and estimates. (Product supplied estimates for propylene are equal to propylene refinery and blender net production from Table 3.2; and estimates for propane are equal to total propane/propylene minus propylene.)

1981–2024: EIA, *Petroleum Supply Annual*, annual reports, revisions at <https://www.eia.gov/petroleum/data.php#summary>, and estimates. (For 1981–1992, product supplied estimates for propylene are equal to propylene refinery and blender

net production from Table 3.2; and estimates for propane are equal to total propane/propylene minus propylene. For 1993–2009, product supplied estimates for propylene are equal to propylene refinery and blender net production from Table 3.2, plus propylene imports from Table 3.3b; and estimates for propane are equal to total propane/propylene minus propylene.)

2025 and 2026: EIA, *Petroleum Supply Monthly*, monthly reports, and revisions at <https://www.eia.gov/petroleum/data.php#summary>; and, for the current two months, *Weekly Petroleum Status Report* data system, Short-Term Integrated Forecasting System, and *Monthly Energy Review* data system calculations.

Table 3.6 Sources

Asphalt and Road Oil

Product supplied data in thousand barrels per day for asphalt and road oil are from Table 3.5, and are converted to trillion Btu by multiplying by the asphalt and road oil heat content factor in Table A1.

Aviation Gasoline

Product supplied data in thousand barrels per day for aviation gasoline are from Table 3.5, and are converted to trillion Btu by multiplying by the aviation gasoline (finished) heat content factor in Table A1.

Distillate Fuel Oil

1949–2008: Product supplied data in thousand barrels per day for distillate fuel oil are from Table 3.5, and are converted to trillion Btu by multiplying by the distillate fuel oil heat content factors in Table A3.

2009–2011: Consumption data for biodiesel are calculated using biodiesel data from U.S. Energy Information Administration (EIA), EIA-22M, “Monthly Biodiesel Production Survey”; and “biomass-based diesel fuel” data from EIA-810, “Monthly Refinery Report,” EIA-812, “Monthly Product Pipeline Report,” and EIA-815, “Monthly Bulk Terminal and Blender Report” (the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1). Refinery and blender net inputs data for renewable diesel fuel are set equal to “other renewable diesel fuel” data from EIA-810, “Monthly Refinery Report,” and EIA-815, “Monthly Bulk Terminal and Blender Report” (the data are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1). Product supplied data for distillate fuel oil from Table 3.5, minus consumption data for biodiesel and refinery and blender net inputs data for renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total distillate fuel oil product supplied is the sum of values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

2012–2020: Consumption data for biodiesel are from Table 10.4a. Refinery and blender net inputs data for renewable diesel fuel are set equal to “other renewable diesel fuel” data from EIA-810, “Monthly Refinery Report,” and EIA-815, “Monthly Bulk Terminal and Blender Report” (the data are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1). Product supplied data for distillate fuel oil from Table 3.5, minus consumption data for biodiesel and refinery and blender net inputs data for renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total distillate fuel oil product supplied is the sum of the values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

2021 forward: Refinery and blender net inputs data for biodiesel and renewable diesel fuel are set equal to refinery and blender net inputs data from EIA-810, “Monthly Refinery Report,” and EIA-815, “Monthly Bulk Terminal and Blender Report” (the data are converted to Btu by multiplying by the biodiesel and renewable diesel fuel heat content factors in Table A1). Product supplied data for distillate fuel oil from Table 3.5, minus refinery and blender net inputs data for biodiesel and renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total distillate fuel oil product supplied is the sum of the values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

Hydrocarbon Gas Liquids (HGL)—Propane

Product supplied data in thousand barrels per day for propane are from Table 3.5, and are converted to trillion Btu by multiplying by the propane heat content factor in Table A1.

Hydrocarbon Gas Liquids (HGL)—Propylene

Product supplied data in thousand barrels per day for propylene are from Table 3.5, and are converted to trillion Btu by multiplying by the propylene heat content factor in Table A1.

Hydrocarbon Gas Liquids (HGL)—Propane/Propylene Total

Prior to the current two months, total propane/propylene product supplied is the sum of the data in trillion Btu for propane and propylene.

For the current two months, product supplied data in thousand barrels per day for total propane/propylene are from Table 3.5, and are converted to trillion Btu by multiplying by the propane/propylene heat content factor in Table A1.

Hydrocarbon Gas Liquids (HGL)—Total

Prior to the current two months, product supplied data in thousand barrels per day for the component products of HGL (ethane, propane, normal butane, isobutane, natural gasoline (through 2021), and refinery olefins—ethylene, propylene, butylene, and isobutylene) are from the PSA, PSM, and earlier publications (see sources for Table 3.5). These data are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total HGL product supplied is the sum of the data in trillion Btu for the HGL component products.

For the current two months: Note that "liquefied petroleum gases" ("LPG") below include ethane, propane, normal butane, isobutane, and refinery olefins (ethylene, propylene, butylene, and isobutylene). Product supplied data in thousand barrels per day for LPG are from EIA's Short-Term Integrated Forecasting System (STIFS). (The STIFS model results are used in EIA's *Short-Term Energy Outlook*, which is accessible on the Web at <https://www.eia.gov/outlooks/steo/>.) These data are converted to trillion Btu by multiplying by the previous year's quantity-weighted LPG heat content factor (derived using LPG component heat content factors in Table A1). Total HGL product supplied is equal to the data in trillion Btu for LPG.

Jet Fuel

Product supplied data in thousand barrels per day for kerosene-type jet fuel and, through 2004, naphtha-type jet fuel are from the PSA, PSM, and earlier publications (see sources for Table 3.5). These data are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total jet fuel product supplied is the sum of the data in trillion Btu for kerosene-type and naphtha-type jet fuel.

Kerosene

Product supplied data in thousand barrels per day for kerosene are from Table 3.5, and are converted to trillion Btu by multiplying by the kerosene heat content factor in Table A1.

Lubricants

Product supplied data in thousand barrels per day for lubricants are from Table 3.5, and are converted to trillion Btu by multiplying by the lubricants heat content factor in Table A1.

Motor Gasoline

Product supplied data in thousand barrels per day for motor gasoline are from Table 3.5, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

Petroleum Coke

Product supplied data in thousand barrels per day for petroleum coke are from Table 3.5, and are converted to trillion Btu by multiplying by the petroleum coke heat content factors in Table A3.

Residual Fuel Oil

Product supplied data in thousand barrels per day for residual fuel oil are from Table 3.5, and are converted to trillion Btu by multiplying by the residual fuel oil heat content factor in Table A1.

Other Products

Prior to the current two months, product supplied data in thousand barrels per day for "other" products are from the PSA, PSM, and earlier publications (see sources for Table 3.5). "Other" products include petrochemical feedstocks,

special naphthas, still gas (refinery gas), waxes, and miscellaneous products; beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components; beginning in 1983, also includes crude oil burned as fuel; beginning in 2005, also includes naphtha-type jet fuel; and beginning in 2021, also includes biofuels excluding fuel ethanol (biodiesel, renewable diesel fuel, and other biofuels). These data are converted to trillion Btu by multiplying by the appropriate heat content factors in MER Table A1. Total "Other" products supplied is the sum of the data in trillion Btu for the individual products.

For the current two months, total "Other" products supplied is calculated by first estimating total petroleum products supplied (product supplied data in thousand barrels per day for total petroleum from Table 3.5 are converted to trillion Btu by multiplying by the total petroleum consumption heat content factor in Table A3), and then subtracting data in trillion Btu (from Table 3.6) for asphalt and road oil, aviation gasoline, distillate fuel oil, jet fuel, kerosene, total HGL, lubricants, motor gasoline, petroleum coke, and residual fuel oil.

Total Petroleum

Total petroleum products supplied is the sum of the data in trillion Btu for the products (except "Propane") shown in Table 3.6.

Tables 3.7a–3.7c Sources

Petroleum consumption data for 1949–1972 are from the following sources:

1949–1959: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement, Annual*, annual reports, and U.S. Energy Information Administration (EIA) estimates.

1960–1972: EIA, State Energy Data System.

Petroleum consumption data beginning in 1973 are derived from data for "petroleum products supplied" from the following sources:

1973–1975: Bureau of Mines, Mineral Industry Surveys, *Petroleum Statement Annual*, annual reports.

1976–1980: EIA, Energy Data Reports, *Petroleum Statement Annual*, annual reports.

1981–2024: EIA, *Petroleum Supply Annual* (PSA), annual reports, and revisions at <https://www.eia.gov/petroleum/data.php#summary>.

2025 and 2026: EIA, *Petroleum Supply Monthly* (PSM), monthly reports, and revisions at <https://www.eia.gov/petroleum/data.php#summary>.

Beginning in 1973, energy-use allocation procedures by individual product are as follows:

Asphalt and Road Oil

All consumption of asphalt and road oil is assigned to the industrial sector.

Aviation Gasoline

All consumption of aviation gasoline is assigned to the transportation sector.

Biofuels Excluding Fuel Ethanol

Beginning in 2021, biofuels excluding fuel ethanol consumption is assigned to the transportation sector. Biofuels excluding fuel ethanol consumption consists of products supplied of biodiesel, renewable diesel fuel, and other biofuels.

Distillate Fuel Oil

Distillate fuel oil consumption is assigned to the sectors as follows:

Distillate Fuel Oil, Electric Power Sector

See sources for Table 7.4b. For 1973–1979, electric utility consumption of distillate fuel oil is assumed to be the amount of petroleum (minus small amounts of kerosene and kerosene-type jet fuel deliveries) consumed in gas turbine and internal combustion plants. For 1980–2000, electric utility consumption of distillate fuel oil is assumed to be the amount of light oil (fuel oil nos. 1 and 2, plus small amounts of kerosene and jet fuel) consumed.

Distillate Fuel Oil, End-Use Sectors, Annual Data

The aggregate end-use amount is total distillate fuel oil product supplied minus the amount consumed by the electric power sector. Through 2020, the end-use total consumed annually is allocated to the individual end-use sectors (residential, commercial, industrial, and transportation) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales* (Sales), annual reports.

1973–1978: Each year's sales subtotal of the heating plus industrial category is split into residential, commercial, and industrial (including farm) in proportion to the 1979 shares; and this estimated industrial (including farm) portion is added to sales for oil company, off-highway diesel, and all other uses. The transportation sector sales total is the sum of sales for railroad, vessel bunkering, on-highway diesel, and military uses.

1979–2020: The residential sector and commercial sector sales totals are directly from the Sales reports. The industrial sector sales total is the sum of sales for industrial, farm, oil company, off-highway diesel, and all other uses. The transportation sector sales total is the sum of sales for railroad, vessel bunkering, on-highway diesel, and military uses.

2021 forward: The end-use total consumed annually is allocated to the individual end-use sectors (residential, commercial, industrial, and transportation) in proportion to each sector's share of consumption as reported in EIA's State Energy Data System (SEDS). Shares for the current year are based on the previous year's SEDS-based annual consumption data, which are adjusted using the growth rate for forecast distillate fuel oil consumption in EIA's *Short-Term Energy Outlook* (STEO), Table 4a.

Distillate Fuel Oil, End-Use Sectors, Monthly Data

Residential sector and commercial sector monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. (For each month of the current year, the residential and commercial consumption increase from the same month in the previous year is based on the percent increase in that month's No. 2 heating oil sales from the same month in the previous year.) The years' No. 2 heating oil sales totals are from the following sources: for 1973–1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983 forward, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale. (Note that beginning in May 2022, residential sector and commercial sector consumption estimates for each month are based on the previous year's monthly percent increase in No. 2 heating oil sales.)

The transportation highway use portion is allocated into the months in proportion to each month's share of the year's total sales for highway use as reported by the Federal Highway Administration's Table MF-25, "Private and Commercial Highway Use of Special Fuels by Months." Beginning in 1994, the sales-for-highway-use data are no longer available as a monthly series; the 1993 data are used for allocating succeeding year's totals into months.

A distillate fuel oil "balance" is calculated as total distillate fuel oil product supplied minus the amount consumed by the electric power sector, residential sector, commercial sector, and for highway use.

Industrial sector monthly consumption is estimated by multiplying each month's distillate fuel oil "balance" by the annual industrial consumption share of the annual distillate fuel oil "balance."

Total transportation sector monthly consumption is estimated as total distillate fuel oil product supplied minus the amount consumed by the residential, commercial, industrial, and electric power sectors.

Hydrocarbon Gas Liquids (HGL)—Propane

Annual residential sector propane consumption: Through 2002, annual residential sector propane consumption is estimated by applying the average of the state residential shares for 2003–2008 to the combined residential and commercial propane sales. Beginning in 2003, annual residential sector propane consumption is assumed to equal propane retail sales to the residential sector and sales to retailers/cylinder markets.

Monthly residential sector propane consumption: Beginning in 1973, annual residential sector propane consumption is split into the estimated portion for residential space heating and water heating, and the estimated portion for all other residential uses. The annual values in thousand barrels for residential space heating and water heating are allocated to the months in proportion to U.S. heating degree days in Table 1.11. The annual values in thousand barrels for all other residential uses are allocated to the months by dividing the annual values by the number of days in the year and then multiplying by the number of days in the month. Monthly total residential sector propane consumption is the sum of the monthly values for residential space heating and water heating and for all other residential uses.

Annual commercial sector propane consumption: Through 2002, annual commercial sector propane consumption is equal to the combined residential and commercial propane sales minus residential sector propane consumption. Beginning in 2003, annual commercial sector propane consumption is assumed to equal commercial sector propane sales.

Monthly commercial sector propane consumption: Beginning in 1973, annual commercial sector propane consumption is split into the estimated portion for commercial space heating and water heating, and the estimated portion for all other commercial uses. The annual values in thousand barrels for commercial space heating and water heating are allocated to the months in proportion to U.S. heating degree days in Table 1.11. The annual values in thousand barrels for all other commercial uses are allocated to the months by dividing the annual values by the number of days in the year and then multiplying by the number of days in the month. Monthly total commercial sector propane consumption is the sum of the monthly values for commercial space heating and water heating and for all other commercial uses.

Annual transportation sector propane consumption: Through 2009, annual transportation sector propane consumption is assumed to equal the transportation portion of propane sales for internal combustion engines (these sales are allocated between the transportation and industrial sectors using data for special fuels used on highways provided by the U.S. Department of Transportation, Federal Highway Administration). Beginning in 2010, annual transportation sector propane consumption is from EIA, *Annual Energy Outlook*, Table 37, "Transportation Sector Energy Use by Fuel Type within a Mode."

Monthly transportation sector propane consumption: Beginning in 1973, the annual values in thousand barrels for transportation sector propane consumption are allocated to the months by dividing the annual values by the number of days in the year and then multiplying by the number of days in the month.

Annual and monthly industrial sector propane consumption: Industrial sector propane consumption is estimated as the difference between propane total product supplied from Table 3.5 and the sum of the estimated propane consumption by the residential, commercial, and transportation sectors.

Sources of the annual consumption estimates for creating annual sector shares are:

1973–1982: EIA's "Sales of Liquefied Petroleum Gases and Ethane" reports, based primarily on data collected by Form EIA-174, "Sales of Liquefied Petroleum Gases."

1983: End-use consumption estimates for 1983 are based on 1982 end-use consumption because the collection of data under Form EIA-174 was discontinued after data year 1982.

1984–2007: American Petroleum Institute (API), "Sales of Natural Gas Liquids and Liquefied Refinery Gases," table on sales of natural gas liquids and liquefied refinery gases by end use. EIA adjusts the data to remove quantities of natural gasoline and to estimate withheld values.

2008 and 2009: Propane consumption is from API, "Sales of Natural Gas Liquids and Liquefied Refinery Gases," table on sales of propane by end use. EIA adjusts the data to estimate withheld values. Other LPG consumption is from EIA, PSA, annual reports, and is allocated to the industrial sector.

2010–2016: Propane consumption is from API, "Sales of Natural Gas Liquids and Liquefied Refinery Gases," table on sales of odorized propane by end use; and EIA, *Annual Energy Outlook*, Table 37, "Transportation Sector Energy Use by Fuel Type Within a Mode." EIA adjusts the data to estimate withheld values. Other LPG consumption is from EIA, PSA, annual reports, and is allocated to the industrial sector.

2017 forward: Propane consumption is from Propane Education & Research Council, "Retail Propane Sales Report," data on propane sales by sector; and EIA, *Annual Energy Outlook*, Table 37, "Transportation Sector Energy Use by Fuel Type Within a Mode." EIA adjusts the data to estimate withheld values. Other LPG consumption is from EIA, PSA, annual reports, and is allocated to the industrial sector.

Hydrocarbon Gas Liquids (HGL)—Propylene

Industrial sector propylene consumption is equal to propylene product supplied in Table 3.5.

Hydrocarbon Gas Liquids (HGL)—Propane/Propylene Total

Industrial sector total propane/propylene consumption is the sum of the industrial sector consumption values for propane and propylene.

Hydrocarbon Gas Liquids (HGL)—Total

The residential, commercial, and transportation sector total HGL consumption values are equal to the propane consumption values for those sectors. The industrial sector total HGL consumption value is equal to total HGL product supplied in Table 3.5 minus propane consumption in the residential, commercial, and transportation sectors.

Jet Fuel

Through 1982, small amounts of kerosene-type jet fuel were consumed by the electric power sector. Kerosene-type jet fuel deliveries to the electric power sector as reported on Form FERC-423 (formerly Form FPC-423) were used as estimates of this consumption. Through 2004, all remaining jet fuel (kerosene-type and naphtha-type) is assigned to the transportation sector. Beginning in 2005, kerosene-type jet fuel is assigned to the transportation sector, while naphtha-type jet fuel is classified under "Other Petroleum Products," which is assigned to the industrial sector. (Note: Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. Other measurements of consumption by fuel type or sector may differ. For example, jet fuel product supplied may not equal jet fuel consumed by U.S.-flagged aircraft.)

Kerosene

Through 2020, kerosene product supplied is allocated to the individual end-use sectors (residential, commercial, and industrial) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales* (Sales), annual reports.

1973–1978: Each year's sales category called "heating" is allocated to the residential, commercial, and industrial (including farm) sectors in proportion to the 1979 shares; and this estimated industrial (including farm) portion is added to sales for all other uses.

1979–2020: The residential sector and commercial sector sales totals are directly from the Sales reports. The industrial sector sales total is the sum of sales for industrial, farm, and all other uses.

2021 forward: Kerosene product supplied is allocated to the individual end-use sectors (residential, commercial, and industrial) in proportion to each sector's share of consumption as reported in EIA's State Energy Data System (SEDS). Shares for the current year are based on the most recent data year in SEDS.

Lubricants

1973–2009: The consumption of lubricants is allocated to the industrial and transportation sectors for all months according to proportions developed from annual sales of lubricants to the two sectors from U.S. Department of

Commerce, U.S. Census Bureau, *Current Industrial Reports*, "Sales of Lubricating and Industrial Oils and Greases." The 1973 shares are applied to 1973 and 1974; the 1975 shares are applied to 1975 and 1976; and the 1977 shares are applied to 1977 through 2009.

2010 forward: The consumption of lubricants in the industrial sector is estimated by EIA based on Kline & Company data on finished lubricant demand for industrial (less marine and railroad) use. The consumption of lubricants in the transportation sector is estimated by EIA based on Kline & Company data on finished lubricant demand for consumer total, commercial total, marine, and railroad use. Estimates for lubricant consumption from 2010 forward are not compatible with data before 2010.

Motor Gasoline

The total monthly consumption of motor gasoline is allocated to the sectors in proportion to aggregations of annual sales categories created on the basis of the U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics*, Tables MF-21, MF-24, and MF-25, as follows:

Through 2014, commercial sales are the sum of sales for public non-highway use and miscellaneous use. Beginning in 2015, commercial sales are the sum of sales for public non-highway use, lawn and garden use, and miscellaneous use.

For all years, industrial sales are the sum of sales for agriculture, construction, and "industrial and commercial" use (as classified in the *Highway Statistics*).

Through 2014, transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for marine use. Beginning in 2015, transportation sales are the sum of sales for highway use (minus the sales of special fuels, which are primarily diesel fuel and are accounted for in the transportation sector of distillate fuel) and sales for boating use and recreational vehicle use.

Petroleum Coke

Portions of petroleum coke are consumed by the electric power sector (see sources for Table 7.4b) and the commercial sector (see sources for Table 7.4c). The remaining petroleum coke is assigned to the industrial sector.

Residual Fuel Oil

Residual fuel oil consumption is assigned to the sectors as follows:

Residual Fuel Oil, Electric Power Sector

See sources for Table 7.4b. For 1973–1979, electric utility consumption of residual fuel oil is assumed to be the amount of petroleum consumed in steam-electric power plants. For 1980–2000, electric utility consumption of residual fuel oil is assumed to be the amount of heavy oil (fuel oil nos. 4, 5, and 6) consumed.

Residual Fuel Oil, End-Use Sectors, Annual Data

The aggregate end-use amount is total residual fuel oil product supplied minus the amount consumed by the electric power sector. Through 2020, the end-use total consumed annually is allocated to the individual end-use sectors (commercial, industrial, and transportation) in proportion to each sector's share of sales as reported in EIA's *Fuel Oil and Kerosene Sales* (Sales), annual reports.

1973–1978: Each year's sales subtotal of the heating plus industrial category is allocated to the commercial and industrial sectors in proportion to the 1979 shares; and this estimated industrial portion is added to sales for oil company and all other uses. Transportation sector sales are the sum of sales for railroad, vessel bunkering, and military uses.

1979–2020: Commercial sector sales are directly from the Sales reports. Industrial sector sales are the sum of sales for industrial, oil company, and all other uses. Transportation sector sales are the sum of sales for railroad, vessel bunkering, and military uses.

2021 forward: The end-use total consumed annually is allocated to the individual end-use sectors (commercial, industrial, and transportation) in proportion to each sector's share of consumption as reported in EIA's State Energy

Data System (SEDS). Shares for the current year are based on the previous year's SEDS-based annual consumption data, which are adjusted using the growth rate for forecast residual fuel oil consumption in EIA's *Short-Term Energy Outlook* (STEO), Table 4a.

Residual Fuel Oil, End-Use Sectors, Monthly Data

Commercial sector monthly consumption is estimated by allocating the annual estimates, which are described above, into the months in proportion to each month's share of the year's sales of No. 2 heating oil. (For each month of the current year, the consumption increase from the same month in the previous year is based on the percent increase in that month's No. 2 heating oil sales from the same month in the previous year.) The years' No. 2 heating oil sales totals are from the following sources: for 1973–1980, the Ethyl Corporation, *Monthly Report of Heating Oil Sales*; for 1981 and 1982, the American Petroleum Institute, *Monthly Report of Heating Oil Sales*; and for 1983 forward, EIA, Form EIA-782A, "Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report," No. 2 Fuel Oil Sales to End Users and for Resale. (Note that beginning in May 2022, commercial sector consumption estimates for each month are based on the previous year's monthly percent increase in No. 2 heating oil sales.)

A residual fuel oil "balance" is calculated as total residual fuel oil product supplied minus the amount consumed by the electric power sector, commercial sector, and by industrial combined-heat-and-power plants (see sources for Table 7.4c).

Transportation sector monthly consumption is estimated by multiplying each month's residual fuel oil "balance" by the annual transportation consumption share of the annual residual fuel oil "balance."

Total industrial sector monthly consumption is estimated as total residual fuel oil product supplied minus the amount consumed by the commercial, transportation, and electric power sectors.

Other Products

Consumption of biofuels excluding fuel ethanol is assigned to the transportation sector. Consumption of all remaining products, which include petrochemical feedstocks, special naphthas, still gas (refinery gas), waxes, and miscellaneous products, is assigned to the industrial sector. Beginning in 1981, also includes negative barrels per day of distillate and residual fuel oil reclassified as unfinished oils, and other products (from both primary and secondary supply) reclassified as gasoline blending components. Beginning in 1983, also includes crude oil burned as fuel. Beginning in 2005, also includes naphtha-type jet fuel.

Table 3.8a Sources

Distillate Fuel Oil

Residential and commercial sector consumption data in thousand barrels per day for distillate fuel oil are from Table 3.7a, and are converted to trillion Btu by multiplying by the distillate fuel oil heat content factors in Table A3.

Hydrocarbon Gas Liquids (HGL)—Propane

Residential and commercial sector consumption data in thousand barrels per day for propane are from Table 3.7a, and are converted to trillion Btu by multiplying by the propane heat content factor in Table A1. The residential and commercial sector total HGL consumption values are equal to the propane consumption values for those sectors.

Kerosene

Residential and commercial sector consumption data in thousand barrels per day for kerosene are from Table 3.7a, and are converted to trillion Btu by multiplying by the kerosene heat content factor in Table A1.

Motor Gasoline

Commercial sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7a, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

Petroleum Coke

1949–2003: Commercial sector consumption data in thousand barrels per day for petroleum coke are from Table 3.7a, and are converted to trillion Btu by multiplying by the total petroleum coke heat content factor in Table A1.

2004 forward: Commercial sector consumption data in thousand barrels per day for petroleum coke are from Table 3.7a, and are converted to trillion Btu by multiplying by the marketable petroleum coke heat content factor in Table A1.

Residual Fuel Oil

Commercial sector consumption data in thousand barrels per day for residual fuel oil are from Table 3.7a, and are converted to trillion Btu by multiplying by the residual fuel oil heat content factor in Table A1.

Total Petroleum

Residential sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Residential Sector" in Table 3.8a. Commercial sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Commercial Sector" in Table 3.8a.

Table 3.8b Sources

Asphalt and Road Oil

Industrial sector consumption data in thousand barrels per day for asphalt and road oil are from Table 3.7b, and are converted to trillion Btu by multiplying by the asphalt and road oil heat content factor in Table A1.

Distillate Fuel Oil

Industrial sector consumption data in thousand barrels per day for distillate fuel oil are from Table 3.7b, and are converted to trillion Btu by multiplying by the distillate fuel oil heat content factors in Table A3.

Hydrocarbon Gas Liquids (HGL)—Propane

Industrial sector propane consumption data are calculated by subtracting propane consumption data in trillion Btu for the residential (Table 3.8a), commercial (Table 3.8a), and transportation (Table 3.8c) sectors from total propane consumption (see sources for Table 3.6).

Hydrocarbon Gas Liquids (HGL)—Propylene

Product supplied data in thousand barrels per day for propylene are from Table 3.5, and are converted to trillion Btu by multiplying by the propylene heat content factor in Table A1.

Hydrocarbon Gas Liquids (HGL)—Propane/Propylene Total

Total industrial sector propane/propylene consumption is the sum of the data in trillion Btu for propane and propylene.

Hydrocarbon Gas Liquids (HGL)—Total

Industrial sector consumption data for HGL are calculated by subtracting HGL consumption data in trillion Btu for the residential (Table 3.8a), commercial (Table 3.8a), and transportation (Table 3.8c) sectors from total HGL consumption (Table 3.6).

Kerosene

Industrial sector consumption data in thousand barrels per day for kerosene are from Table 3.7b, and are converted to trillion Btu by multiplying by the kerosene heat content factor in Table A1.

Lubricants

Industrial sector consumption data in thousand barrels per day for lubricants are from Table 3.7b, and are converted to trillion Btu by multiplying by the lubricants heat content factor in Table A1.

Motor Gasoline

Industrial sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7b, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

Petroleum Coke

1949–2003: Industrial sector consumption data in thousand barrels per day for petroleum coke are from Table 3.7b, and are converted to trillion Btu by multiplying by the total petroleum coke heat content factor in Table A1.

2004 forward: Industrial sector consumption data for petroleum coke are calculated by subtracting petroleum coke consumption data in trillion Btu for the commercial (Table 3.8a) and electric power (Table 3.8c) sectors from total petroleum coke consumption (Table 3.6).

Residual Fuel Oil

Industrial sector consumption data in thousand barrels per day for residual fuel oil are from Table 3.7b, and are converted to trillion Btu by multiplying by the residual fuel oil heat content factor in Table A1.

Other Products

Industrial sector "Other" data are equal to the "Other" data in Table 3.6 minus transportation sector "Other" (biofuels excluding fuel ethanol) data (see sources for Table 3.8c).

Total Petroleum

Industrial sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown in Table 3.8b.

Table 3.8c Sources

Aviation Gasoline

Transportation sector consumption data in thousand barrels per day for aviation gasoline are from Table 3.7c, and are converted to trillion Btu by multiplying by the aviation gasoline (finished) heat content factor in Table A1.

Distillate Fuel Oil, Electric Power Sector

Electric power sector consumption data in thousand barrels per day for distillate fuel oil are from Table 3.7c, and are converted to trillion Btu by multiplying by the distillate fuel oil heat content factors in Table A3.

Distillate Fuel Oil, Transportation Sector

1949–2008: Transportation sector consumption data in thousand barrels per day for distillate fuel oil are from Table 3.7c, and are converted to trillion Btu by multiplying by the distillate fuel oil heat content factors in Table A3.

2009–2011: Consumption data for biodiesel are calculated using biodiesel data from U.S. Energy Information Administration (EIA), EIA-22M, "Monthly Biodiesel Production Survey"; and "biomass-based diesel fuel" data from EIA-810, "Monthly Refinery Report," EIA-812, "Monthly Product Pipeline Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the biodiesel heat content factor in Table A1). Refinery and blender net inputs data for renewable diesel fuel are set equal to "other renewable diesel fuel" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1). Transportation sector distillate fuel oil consumption data from Table 3.7c, minus consumption data for biodiesel and refinery and blender net inputs data for renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total transportation sector distillate fuel oil consumption is the sum of the values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

2012–2020: Consumption data for biodiesel are from Table 10.4a. Refinery and blender net inputs data for renewable diesel fuel are set equal to "other renewable diesel fuel" data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the renewable diesel fuel heat content factor in Table A1). Transportation sector distillate fuel oil consumption data from Table 3.7c, minus consumption data for biodiesel and refinery and blender net inputs data for renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total transportation sector distillate fuel oil consumption is the sum of the values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

2021 forward: Refinery and blender net inputs data for biodiesel and renewable diesel fuel are set equal to refinery and blender net inputs data from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report" (the data are converted to Btu by multiplying by the biodiesel and renewable diesel fuel heat content factors in Table A1). Transportation sector distillate fuel oil consumption data from Table 3.7c, minus refinery and blender net

inputs data for biodiesel and renewable diesel fuel, are converted to Btu by multiplying by the distillate fuel oil heat content factors in Table A3. Total transportation sector distillate fuel oil consumption is the sum of the values for distillate fuel oil (excluding biodiesel and renewable diesel fuel), biodiesel, and renewable diesel fuel.

Hydrocarbon Gas Liquids (HGL)—Propane

Transportation sector consumption data in thousand barrels per day for propane are from Table 3.7c, and are converted to trillion Btu by multiplying by the propane heat content factor in Table A1. The transportation sector total HGL consumption values are equal to the transportation sector propane consumption values.

Jet Fuel

Transportation sector consumption data in thousand barrels per day for kerosene-type jet fuel and, through 2004, naphtha-type jet fuel (see sources for Table 3.7c) are converted to trillion Btu by multiplying by the appropriate heat content factors in Table A1. Total transportation sector jet fuel consumption is the sum of the data in trillion Btu for kerosene-type and naphtha-type jet fuel. (Note: Petroleum products supplied is an approximation of petroleum consumption and is synonymous with the term "petroleum consumption" in Tables 3.7a–3.8c. Other measurements of consumption by fuel type or sector may differ. For example, jet fuel product supplied may not equal jet fuel consumed by U.S.-flagged aircraft.)

Lubricants

Transportation sector consumption data in thousand barrels per day for lubricants are from Table 3.7c, and are converted to trillion Btu by multiplying by the lubricants heat content factor in Table A1.

Motor Gasoline

Transportation sector consumption data in thousand barrels per day for motor gasoline are from Table 3.7c, and are converted to trillion Btu by multiplying by the motor gasoline heat content factors in Table A3.

Petroleum Coke

1949–2003: Electric power sector consumption data in thousand barrels per day for petroleum coke are from Table 3.7c, and are converted to trillion Btu by multiplying by the total petroleum coke heat content factor in Table A1.

2004 forward: Electric power sector consumption data in thousand barrels per day for petroleum coke are from Table 3.7c, and are converted to trillion Btu by multiplying by the marketable petroleum coke heat content factor in Table A1.

Residual Fuel Oil

Transportation and electric power consumption data in thousand barrels per day for residual fuel oil are from Table 3.7c, and are converted to trillion Btu by multiplying by the residual fuel oil heat content factor in Table A1.

Other Products

Beginning in 2021, transportation sector consumption data in thousand barrels per day for biofuels excluding fuel ethanol are from Table 3.7c, and are converted to trillion Btu by multiplying the fuel types (biodiesel, renewable diesel fuel, and other biofuels) by the appropriate heat content factors in Table A1.

Total Petroleum

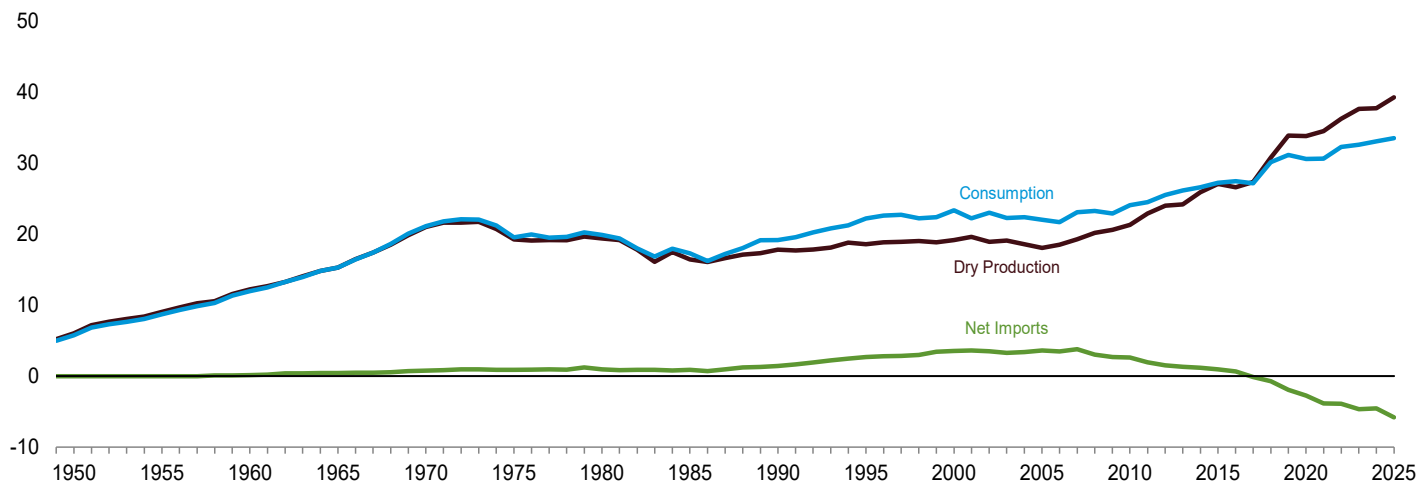
Transportation sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Transportation Sector" in Table 3.8c. Electric power sector total petroleum consumption is the sum of the data in trillion Btu for the petroleum products shown under "Electric Power Sector" in Table 3.8c.

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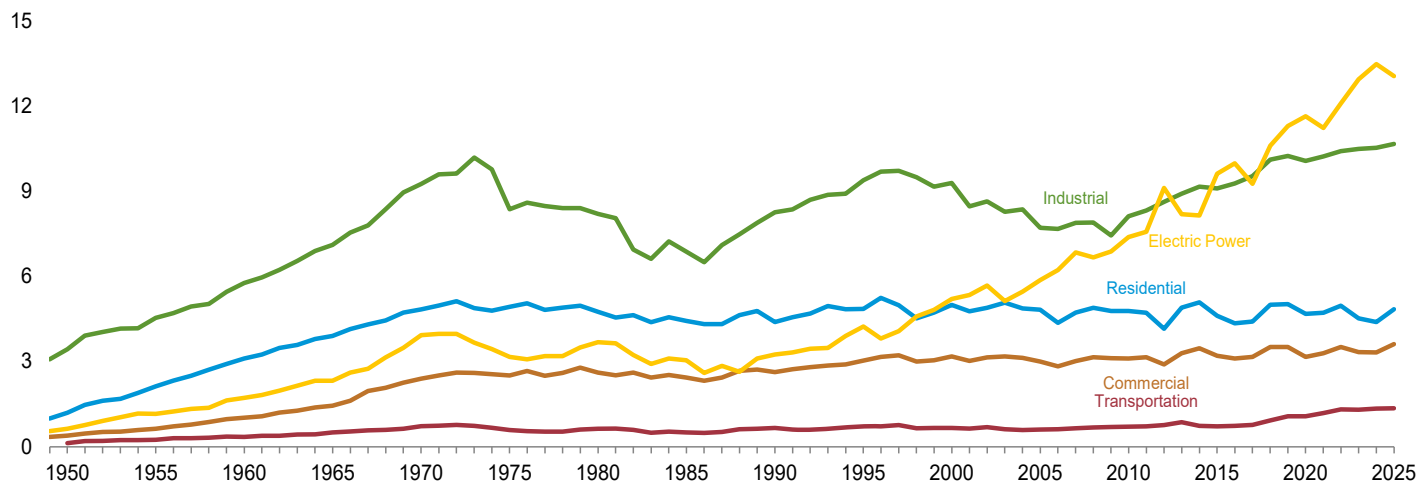
4. Natural Gas

Figure 4.1 Natural Gas
(Trillion Cubic Feet)

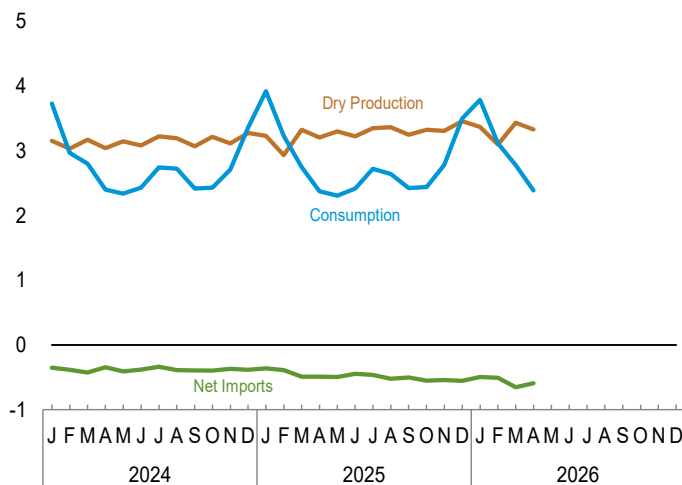
Overview, 1949–2025



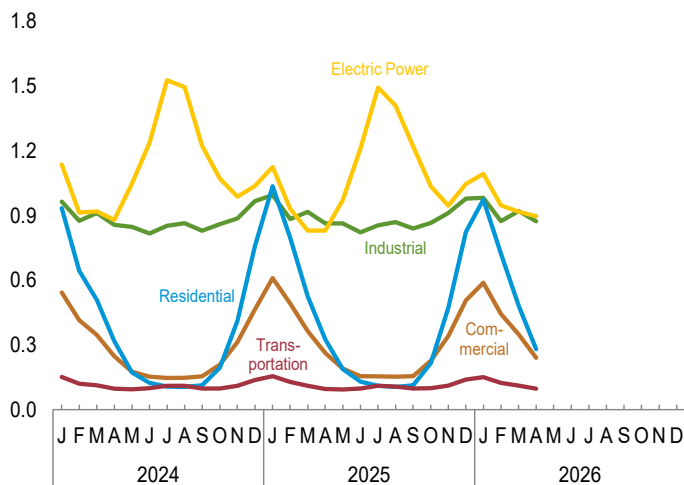
Consumption by Sector, 1949–2025



Overview, Monthly



Consumption by Sector, Monthly



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#naturalgas>.

Sources: Tables 4.1 and 4.3.

Table 4.1 Natural Gas Overview
(Billion Cubic Feet)

	Gross Withdrawals ^a	Marketed Production (Wet) ^b	NGPL Production ^c	Dry Gas Production ^d	Supple- mental Gaseous Fuels ^e	Trade			Net Storage With- drawals ^f	Balancing Item ^g	Consump- tion ^h
						Imports	Exports	Net Imports			
1950 Total	8,480	16,282	260	16,022	NA	0	26	-26	-54	-175	5,767
1955 Total	11,720	19,405	377	19,029	NA	11	31	-20	-68	-247	8,694
1960 Total	15,088	12,771	543	12,228	NA	156	11	144	-132	-274	11,967
1965 Total	17,963	16,040	753	15,286	NA	456	26	430	-118	-319	15,280
1970 Total	23,786	21,921	906	21,014	NA	821	70	751	-398	-228	21,139
1975 Total	21,104	20,109	872	19,236	NA	953	73	880	-344	-235	19,538
1980 Total	21,870	20,180	777	19,403	155	985	49	936	23	-640	19,877
1985 Total	19,607	17,270	816	16,454	126	950	55	894	235	-428	17,281
1990 Total	21,523	18,594	784	17,810	123	1,532	86	1,447	-513	307	19,174
1995 Total	23,744	19,506	908	18,599	110	2,841	154	2,687	415	396	22,207
2000 Total	24,174	20,198	1,016	19,182	90	3,782	244	3,538	829	-306	23,333
2005 Total	23,457	18,927	876	18,051	64	4,341	729	3,612	52	236	22,014
2010 Total	26,816	22,382	1,066	21,316	65	3,741	1,137	2,604	-13	115	24,087
2011 Total	28,479	24,036	1,134	22,902	60	3,469	1,506	1,963	-354	-94	24,477
2012 Total	29,542	25,283	1,250	24,033	61	3,138	1,619	1,519	-9	-66	25,538
2013 Total	29,523	25,562	1,357	24,206	55	2,883	1,572	1,311	546	38	26,155
2014 Total	31,405	27,498	1,608	25,890	60	2,695	1,514	1,181	-254	-283	26,593
2015 Total	32,915	28,772	1,707	27,065	59	2,718	1,784	935	-547	-268	27,244
2016 Total	32,592	28,400	1,808	26,592	57	3,006	2,335	671	340	-216	27,444
2017 Total	33,292	29,238	1,897	27,341	66	3,033	3,154	-121	254	-400	27,140
2018 Total	37,326	33,009	2,235	30,774	69	2,889	3,608	-719	314	-290	30,149
2019 Total	40,780	36,447	2,548	33,899	61	2,742	4,658	-1,916	-503	-397	31,143
2020 Total	40,730	36,521	2,710	33,811	63	2,551	5,285	-2,734	-180	-358	30,603
2021 Total	41,677	37,338	2,809	34,529	66	2,808	6,653	-3,845	83	-188	30,646
2022 Total	43,701	39,329	3,075	36,255	73	3,024	6,906	-3,882	280	-434	32,292
2023 Total	45,400	41,038	3,385	37,652	86	2,928	7,610	-4,682	-555	90	32,592
2024 January	3,874	3,461	306	3,155	8	323	674	-351	861	57	3,730
February	3,701	3,327	294	3,032	8	258	644	-385	271	41	2,967
March	3,870	3,479	308	3,172	8	243	668	-425	52	-6	2,801
April	3,713	3,336	295	3,041	8	222	567	-345	-263	-41	2,400
May	3,829	3,452	305	3,147	8	238	646	-408	-370	-38	2,339
June	3,732	3,381	299	3,082	8	247	627	-380	-260	-19	2,431
July	3,895	3,538	313	3,225	8	271	608	-337	-124	-26	2,746
August	3,857	3,505	310	3,195	8	261	650	-389	-84	-6	2,724
September	3,706	3,368	298	3,070	8	247	638	-392	-257	-13	2,416
October	3,899	3,529	312	3,217	8	254	649	-395	-334	-64	2,431
November	3,797	3,416	302	3,114	8	270	639	-369	27	-71	2,710
December	3,995	3,594	318	3,276	8	309	695	-386	487	-24	3,362
Total	45,868	41,384	3,659	37,725	96	3,145	7,707	-4,562	6	-209	33,056
2025 January	E 3,933	E 3,532	299	E 3,233	11	336	694	-359	1,010	26	3,921
February	E 3,579	E 3,216	280	E 2,936	9	296	683	-388	636	39	3,232
March	E 4,058	E 3,655	328	E 3,327	8	263	753	-490	-48	-46	2,751
April	E 3,906	E 3,526	319	E 3,207	8	236	725	-489	-304	-44	2,377
May	E 4,024	E 3,638	335	E 3,303	7	241	736	-495	-497	-9	2,308
June	E 3,905	E 3,547	321	E 3,226	6	246	692	-445	-355	-15	2,416
July	E 4,023	E 3,690	341	E 3,350	8	258	R 721	R -463	-151	R -20	2,723
August	E 4,066	E 3,713	344	E 3,368	7	238	762	-524	-186	-23	2,643
September	E 3,941	E 3,588	340	E 3,248	7	226	729	-503	-309	-17	2,427
October	E 4,054	E 3,675	348	E 3,327	7	233	R 783	-551	-308	-32	2,443
November	E 4,030	E 3,648	340	E 3,308	8	264	807	-542	31	-22	2,783
December	E 4,216	E 3,801	340	E 3,460	10	328	881	-553	594	-13	3,498
Total	E 47,734	E 43,229	3,935	E 39,294	95	3,164	8,965	R -5,802	112	R -177	33,523
2026 January	E 4,100	E 3,693	322	E 3,372	10	340	833	-494	906	R -4	R 3,789
February	RE 3,771	RE 3,407	308	RE 3,099	9	276	784	-507	R 501	R 12	R 3,113
March	RE 4,197	RE 3,785	351	RE 3,434	8	239	891	-652	-6	R -6	2,779
April	E 4,059	E 3,670	342	E 3,328	8	217	808	-591	-307	-48	2,389
4-Month Total	E 16,126	E 14,555	1,323	E 13,232	35	1,072	3,315	-2,244	1,094	-47	12,071
2025 4-Month Total	E 15,475	E 13,930	1,227	E 12,703	36	1,131	2,856	-1,725	1,294	-25	12,282
2024 4-Month Total	15,157	13,602	1,203	12,399	32	1,047	2,553	-1,506	920	52	11,897

^a Gases withdrawn from natural gas, crude oil, coalbed, and shale gas wells. Includes natural gas, natural gas plant liquids, and nonhydrocarbon gases; but excludes lease condensate.

^b Gross withdrawals minus repressuring, nonhydrocarbon gases removed, and vented and flared. See Note 1, "Natural Gas Production," at end of section.

^c Natural gas plant liquids (NGPL) production, gaseous equivalent. This data series was previously called "Extraction Loss." See Note 2, "Natural Gas Plant Liquids Production," at end of section.

^d Marketed production (wet) minus NGPL production.

^e See Note 3, "Supplemental Gaseous Fuels," at end of section.

^f Net withdrawals from underground storage. For 1987–2024, also includes net withdrawals of liquefied natural gas in above-ground tanks. See Note 4, "Natural Gas Storage," at end of section.

^g See Note 5, "Natural Gas Balancing Item," at end of section. Beginning in 1980, excludes transit shipments that cross the U.S.-Canada border (i.e., natural gas delivered to its destination via the other country).

^h See Note 6, "Natural Gas Consumption," at end of section.

ⁱ Through 1979, may include unknown quantities of nonhydrocarbon gases.

^j For 1989–1992, a small amount of consumption at independent power producers may be counted in both "Other Industrial" and "Electric Power Sector" on

Table 4.3. See Note 7, "Natural Gas Consumption, 1989–1992," at end of section.

R=Revised. E=Estimate. (s)=Less than 0.5 billion cubic feet and greater than 0.5 billion cubic feet. NA=Not available.

Notes: • See Note 8, "Natural Gas Data Adjustments, 1993–2000, 2017, and 2020," at end of section. • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia (except Alaska, for which underground storage is excluded from "Net Storage Withdrawals" through 2012).

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Imports and Exports:** Tables 4.2a and 4.2b. • **Consumption:** Table 4.3. • **Balancing Item:** Calculated as consumption minus dry gas production, supplemental gaseous fuels, net imports, and net storage withdrawals.

• **All Other Data:** 1949–2024—U.S. Energy Information Administration (EIA), *Natural Gas Annual*, annual reports. 2025 forward—EIA, *Natural Gas Monthly*, April 2026, Table 1.

Table 4.2a Natural Gas Imports by Country
(Billion Cubic Feet)

	Algeria ^a	Australia ^a	Canada ^b	Egypt ^a	Mexico ^b	Nigeria ^a	Norway ^a	Oman ^a	Qatar ^a	Trinidad and Tobago ^a	United Arab Emirates ^a	Yemen ^a	Other ^a	Total
1950 Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955 Total	0	0	11	0	(s)	0	0	0	0	0	0	0	(s)	11
1960 Total	0	0	109	0	47	0	0	0	0	0	0	0	0	156
1965 Total	0	0	405	0	52	0	0	0	0	0	0	0	0	456
1970 Total	1	0	779	0	(s)	0	0	0	0	0	0	0	(s)	821
1975 Total	5	0	948	0	0	0	0	0	0	0	0	0	0	953
1980 Total	86	0	797	0	102	0	0	0	0	0	0	0	0	985
1985 Total	24	0	926	0	0	0	0	0	0	0	0	0	0	950
1990 Total	84	0	1,448	0	0	0	0	0	0	0	0	0	0	1,532
1995 Total	18	0	2,816	0	7	0	0	0	0	0	0	0	0	2,841
2000 Total	47	6	3,544	0	12	13	0	10	46	99	3	0	21	3,782
2005 Total	97	0	3,700	73	9	8	0	2	3	439	0	0	11	4,341
2010 Total	0	0	3,280	73	30	42	26	0	46	190	0	39	81	3,741
2011 Total	0	0	3,117	35	3	2	15	0	91	129	0	60	92	3,469
2012 Total	0	0	2,963	3	(s)	0	6	0	34	112	0	20	(s)	3,138
2013 Total	0	0	2,786	0	1	3	6	0	7	70	0	11	0	2,883
2014 Total	0	0	2,635	0	1	0	6	0	0	43	0	8	3	2,695
2015 Total	0	0	2,626	0	1	0	12	0	0	71	0	7	0	2,718
2016 Total	0	0	2,918	0	1	0	3	0	0	84	0	0	0	3,006
2017 Total	0	0	2,955	0	1	6	0	0	0	70	0	0	0	3,033
2018 Total	0	0	2,811	0	3	3	0	0	0	66	0	0	6	2,889
2019 Total	0	0	2,687	0	2	3	0	0	0	47	0	0	3	2,742
2020 Total	0	0	2,500	0	2	7	3	0	0	39	0	0	0	2,551
2021 Total	0	0	2,785	0	2	0	0	0	0	21	0	0	0	2,808
2022 Total	0	0	3,000	0	1	0	0	0	0	24	0	0	0	3,024
2023 Total	0	0	2,914	0	1	0	0	0	0	12	0	0	1	2,928
2024 January	0	0	319	0	(s)	0	3	0	0	1	0	0	(s)	323
February	0	0	256	0	(s)	0	0	0	0	3	0	0	(s)	258
March	0	0	239	0	(s)	0	0	0	0	5	0	0	0	243
April	0	0	222	0	(s)	0	0	0	0	0	0	0	(s)	222
May	0	0	238	0	(s)	0	0	0	0	0	0	0	(s)	238
June	0	0	247	0	(s)	0	0	0	0	0	0	0	0	247
July	0	0	271	0	(s)	0	0	0	0	0	0	0	(s)	271
August	0	0	261	0	(s)	0	0	0	0	0	0	0	(s)	261
September	0	0	244	0	(s)	0	2	0	0	0	0	0	(s)	247
October	0	0	254	0	(s)	0	0	0	0	0	0	0	(s)	254
November	0	0	270	0	(s)	0	0	0	0	0	0	0	0	270
December	0	0	307	0	(s)	0	0	0	0	2	0	0	(s)	309
Total	0	0	3,129	0	(s)	0	5	0	0	10	0	0	(s)	3,145
2025 January	0	0	334	0	(s)	0	0	0	0	1	0	0	(s)	336
February	0	0	296	0	(s)	0	0	0	0	0	0	0	(s)	296
March	0	0	263	0	(s)	0	0	0	0	0	0	0	(s)	263
April	0	0	236	0	(s)	0	0	0	0	0	0	0	0	236
May	0	0	240	0	(s)	0	0	0	0	0	0	0	0	241
June	0	0	246	0	(s)	0	0	0	0	0	0	0	0	246
July	0	0	258	0	(s)	0	0	0	0	0	0	0	(s)	258
August	0	0	238	0	(s)	0	0	0	0	0	0	0	0	238
September	0	0	223	0	(s)	0	0	0	0	3	0	0	0	226
October	0	0	233	0	(s)	0	0	0	0	0	0	0	0	233
November	0	0	264	0	(s)	0	0	0	0	0	0	0	0	264
December	0	0	321	0	(s)	0	0	0	4	3	0	0	0	328
Total	0	0	3,153	0	(s)	0	0	0	4	7	0	0	(s)	3,164
2026 January	0	0	329	0	(s)	0	0	0	0	10	0	0	0	340
February	0	0	274	0	(s)	0	0	0	0	2	0	0	0	276
March	0	0	239	0	(s)	0	0	0	0	0	0	0	(s)	239
April	0	0	217	0	(s)	0	0	0	0	0	0	0	(s)	217
4-Month Total	0	0	1,059	0	(s)	0	0	0	0	13	0	0	(s)	1,072
2025 4-Month Total	0	0	1,129	0	(s)	0	0	0	0	1	0	0	(s)	1,131
2024 4-Month Total	0	0	1,035	0	(s)	0	3	0	0	9	0	0	(s)	1,047

^a As liquefied natural gas.

^b By pipeline, except for small amounts of: liquefied natural gas (LNG) imported from Canada in 1973, 1977, 1981, and 2013 forward; and compressed natural gas (CNG) imported from Canada in 2014 forward; See Note 9, "Natural Gas Imports and Exports," at end of section.

R=Revised. (s)=Less than 500 million cubic feet.

Notes: • See Note 9, "Natural Gas Imports and Exports," at end of section.
• Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is the 50 states and the District

of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **1949–1954:** U.S. Energy Information Administration (EIA) estimates based on Bureau of Mines, Minerals Yearbook, "Natural Gas" chapter. • **1955–1971:** Federal Power Commission data. • **1972–1987:** EIA, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." • **1988–2024:** EIA, *Natural Gas Annual*, annual reports. • **2025 forward:** EIA, *Natural Gas Monthly*, April 2026, Table 4; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

Table 4.2b Natural Gas Exports by Country
(Billion Cubic Feet)

	Brazil ^a	Canada ^b	Chile ^a	China ^a	France ^a	India ^a	Japan ^a	Mexico ^b	South Korea ^a	Spain ^a	Turkey ^a	United Kingdom ^a	Other ^a	Total
1950 Total	0	3	0	0	0	0	0	23	0	0	0	0	0	26
1955 Total	0	11	0	0	0	0	0	20	0	0	0	0	0	31
1960 Total	0	6	0	0	0	0	0	6	0	0	0	0	0	11
1965 Total	0	18	0	0	0	0	0	8	0	0	0	0	0	26
1970 Total	0	11	0	0	0	0	44	15	0	0	0	0	0	70
1975 Total	0	10	0	0	0	0	53	9	0	0	0	0	0	73
1980 Total	0	(s)	0	0	0	0	45	4	0	0	0	0	0	49
1985 Total	0	(s)	0	0	0	0	53	2	0	0	0	0	0	55
1990 Total	0	17	0	0	0	0	53	16	0	0	0	0	0	86
1995 Total	0	28	0	0	0	0	65	61	0	0	0	0	0	154
2000 Total	0	73	0	0	0	0	66	106	0	0	0	0	0	244
2005 Total	0	358	0	0	0	0	65	305	0	0	0	0	0	729
2010 Total	3	739	0	0	0	3	33	333	12	4	0	10	32	1,137
2011 Total	11	937	3	7	0	13	18	499	9	6	0	3	52	1,506
2012 Total	8	971	0	0	0	3	14	620	0	0	0	0	14	1,619
2013 Total	0	911	0	0	0	0	0	661	0	0	0	0	0	1,572
2014 Total	3	770	0	0	0	0	13	729	0	0	0	0	0	1,514
2015 Total	6	701	0	0	0	0	8	1,054	0	0	3	0	11	1,784
2016 Total	11	771	29	17	0	17	11	1,405	10	3	9	0	51	2,335
2017 Total	18	917	26	103	0	21	53	1,671	130	29	25	3	157	3,154
2018 Total	36	836	0	90	18	58	126	1,871	252	10	23	51	194	3,608
2019 Total	54	973	90	7	118	91	201	2,010	270	167	31	119	527	4,658
2020 Total	112	904	81	214	90	124	288	2,026	317	200	124	160	644	5,285
2021 Total	308	937	122	453	171	196	355	2,171	453	215	189	195	887	6,653
2022 Total	72	962	30	97	571	123	209	2,084	293	427	192	464	1,382	6,906
2023 Total	39	1,026	31	173	493	164	310	2,256	276	270	156	450	1,966	7,610
2024 January	7	92	4	8	28	11	19	188	21	39	43	43	172	674
February	6	114	4	16	49	14	23	170	16	14	20	35	163	644
March	0	116	6	17	61	14	29	182	21	22	9	14	177	668
April	1	73	5	10	38	21	22	191	17	10	3	7	169	567
May	6	67	7	26	20	45	41	215	28	8	0	7	175	646
June	14	67	7	17	7	29	28	204	45	17	0	6	187	627
July	4	66	11	30	14	25	30	218	24	15	0	4	168	608
August	17	66	4	28	8	25	30	221	43	21	0	14	173	650
September	22	70	0	32	24	32	32	206	26	14	0	4	178	638
October	13	72	0	11	40	27	30	204	21	7	24	14	185	649
November	10	85	2	10	24	7	28	178	16	11	47	45	176	639
December	6	110	6	7	43	7	23	177	11	33	69	57	148	695
Total	106	997	56	213	355	256	336	2,354	289	211	215	249	2,070	7,707
2025 January	0	86	3	0	50	11	4	194	11	30	71	63	173	694
February	9	101	0	0	64	7	6	173	10	18	73	69	152	683
March	5	109	3	0	70	14	20	186	17	52	11	38	227	753
April	3	77	3	0	53	11	21	204	40	56	3	10	244	725
May	3	75	4	0	52	15	25	225	21	16	4	7	288	736
June	5	67	10	0	27	14	17	219	22	5	3	7	295	692
July	12	71	7	0	11	15	17	215	19	39	4	4	R 308	R 721
August	14	81	0	0	30	14	14	232	30	35	3	0	307	762
September	10	71	3	1	47	19	22	206	14	28	0	14	294	729
October	7	78	0	0	52	11	34	202	27	40	25	32	276	R 783
November	13	94	3	0	38	14	28	190	18	22	70	60	256	807
December	6	124	3	0	38	11	14	187	22	32	96	67	280	881
Total	88	1,034	41	1	533	154	223	2,434	250	373	363	372	3,099	8,965
2026 January	3	109	0	0	45	7	3	189	7	50	81	92	247	833
February	3	113	3	1	33	14	7	177	7	30	34	60	301	784
March	8	120	0	0	62	18	25	200	38	51	13	22	334	891
April	1	75	6	0	47	40	25	194	24	22	7	6	358	808
4-Month Total	16	417	10	1	186	79	61	761	77	152	135	181	1,240	3,315
2025 4-Month Total	18	372	10	0	237	42	51	757	78	156	159	180	796	2,856
2024 4-Month Total	15	394	19	52	176	59	93	732	75	84	75	98	680	2,553

^a As liquefied natural gas.
^b By pipeline, except for small amounts of: liquefied natural gas (LNG) exported to Canada in 2007 and 2012 forward; compressed natural gas (CNG) exported to Canada in 2013 forward; and LNG exported to Mexico beginning in 1998. See Note 9, "Natural Gas Imports and Exports," at end of section.
R=Revised. (s)=Less than 500 million cubic feet.
Notes: • Exports include re-exports. • See Note 9, "Natural Gas Imports and Exports," at end of section. • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • U.S. geographic coverage is

the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: • **1949–1954:** U.S. Energy Information Administration (EIA) estimates based on Bureau of Mines, Minerals Yearbook, "Natural Gas" chapter. • **1955–1971:** Federal Power Commission data. • **1972–1987:** EIA, Form FPC-14, "Annual Report for Importers and Exporters of Natural Gas." • **1988–2024:** EIA, *Natural Gas Annual*, annual reports. • **2025 forward:** EIA, *Natural Gas Monthly*, April 2026, Table 5; and U.S. Department of Energy, Office of Fossil Energy, "Natural Gas Imports and Exports."

Table 4.4 Natural Gas in Underground Storage
(Volumes in Billion Cubic Feet)

	Natural Gas in Underground Storage, End of Period			Change in Working Gas From Same Period Previous Year		Storage Activity		
	Base Gas	Working Gas	Total ^a	Volume	Percent	Withdrawals	Injections	Net ^{b,c}
1950 Total	NA	NA	NA	NA	NA	175	230	-54
1955 Total	863	505	1,368	40	8.7	437	505	-68
1960 Total	NA	NA	2,184	NA	NA	713	844	-132
1965 Total	1,848	1,242	3,090	83	7.2	960	1,078	-118
1970 Total	2,326	1,678	4,004	257	18.1	1,459	1,857	-398
1975 Total	3,162	2,212	5,374	162	7.9	1,760	2,104	-344
1980 Total	3,642	2,655	6,297	-99	-3.6	1,910	1,896	14
1985 Total	3,842	2,607	6,448	-270	-9.4	2,359	2,128	231
1990 Total	3,868	3,068	6,936	555	22.1	1,934	2,433	-499
1995 Total	4,349	2,153	6,503	-453	-17.4	2,974	2,566	408
2000 Total	4,352	1,719	6,071	-806	-31.9	3,498	2,684	814
2005 Total	4,200	2,635	6,835	-61	-2.3	3,057	3,002	55
2010 Total	4,301	3,111	7,412	-19	-6	3,274	3,291	-17
2011 Total	4,302	3,462	7,764	351	11.3	3,074	3,422	-348
2012 Total	4,372	3,413	7,785	-49	-1.4	2,818	2,825	-7
2013 Total	4,365	2,890	7,255	-523	-15.3	3,702	3,156	546
2014 Total	4,365	3,141	7,506	251	8.7	3,586	3,839	-253
2015 Total	4,372	3,667	8,038	525	16.7	3,100	3,638	-539
2016 Total	4,380	3,297	7,677	-370	-10.1	3,325	2,977	348
2017 Total	4,360	3,033	7,392	-264	-8.0	3,590	3,337	254
2018 Total	4,361	2,708	7,069	-324	-10.7	3,999	3,676	324
2019 Total	4,380	3,188	7,568	480	17.7	3,653	4,153	-500
2020 Total	4,394	3,341	7,735	153	4.8	3,412	3,590	-178
2021 Total	4,438	3,210	7,648	-131	-3.9	3,761	3,678	83
2022 Total	4,451	2,925	7,376	-285	-8.9	4,175	3,898	277
2023 Total	4,468	3,456	7,923	530	18.1	3,295	3,841	-546
2024 January	4,467	2,611	7,078	141	5.7	951	106	844
February	4,467	2,350	6,817	277	13.4	458	195	263
March	4,466	2,306	6,772	456	24.7	320	274	46
April	4,466	2,562	7,029	446	21.1	155	411	-256
May	4,469	2,923	7,392	367	14.3	112	475	-363
June	4,471	3,175	7,645	273	9.4	128	382	-254
July	4,472	3,294	7,765	258	8.5	177	296	-120
August	4,477	3,370	7,847	201	6.4	244	322	-79
September	4,482	3,615	8,097	125	3.6	151	401	-250
October	4,483	3,938	8,421	131	3.4	94	422	-327
November	4,485	3,915	8,400	174	4.7	247	224	23
December	4,485	3,438	7,922	-18	-5	633	157	476
Total	4,485	3,438	7,922	-18	-5	3,668	3,664	5
2025 January	4,490	2,422	6,912	-189	-7.2	1,106	96	1,010
February	4,488	1,787	6,276	-562	-23.9	772	136	636
March	4,491	1,834	6,324	-472	-20.5	287	336	-48
April	4,489	2,139	6,628	-424	-16.5	144	448	-304
May	4,489	2,634	7,124	-289	-9.9	82	579	-497
June	4,491	2,988	7,479	-187	-5.9	106	461	-355
July	4,490	3,142	7,631	-152	-4.6	191	342	-151
August	4,501	3,316	7,817	-54	-1.6	180	366	-186
September	4,501	3,624	8,125	9	.2	108	417	-309
October	4,502	3,929	8,430	-10	-2	117	425	-308
November	4,500	3,899	8,399	-16	-4	276	245	31
December	4,499	3,303	7,803	-134	-3.9	760	166	594
Total	4,499	3,303	7,803	-134	-3.9	4,129	4,017	112
2026 January	4,498	2,402	6,900	-20	-.8	1,014	108	906
February	4,496	R 1,903	R 6,399	R 116	R 6.5	R 651	150	R 501
March	4,497	R 1,906	R 6,403	R 73	R 4.0	R 301	R 306	-6
April	4,501	2,210	6,711	71	3.3	147	454	-307
4-Month Total	--	--	--	--	--	2,112	1,018	1,094
2025 4-Month Total	--	--	--	--	--	2,309	1,016	1,294
2024 4-Month Total	--	--	--	--	--	1,883	986	897

^a For total underground storage capacity at the end of each calendar year, see Note 4, "Natural Gas Storage," at end of section.

^b For 1980–2024, data differ from those shown on Table 4.1, which includes liquefied natural gas storage for that period.

^c Positive numbers indicate that withdrawals are greater than injections. Negative numbers indicate that injections are greater than withdrawals. Net withdrawals or injections may not equal the difference between applicable ending stocks. See Note 4, "Natural Gas Storage," at end of section.

R=Revised. --=Not applicable. NA=Not available.

Notes: • Through 1964, all volumes are shown on a pressure base of 14.65 psia (pounds per square inch absolute) at 60° Fahrenheit; beginning in 1965, the pressure base is 14.73 psia at 60° Fahrenheit. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia (except Alaska, which is excluded through 2012).

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#naturalgas> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data

beginning in 1973.

Sources: • **Storage Activity: 1949–1975**—U.S. Energy Information Administration (EIA), *Natural Gas Annual 1994, Volume 2*, Table 9. **1976–1979**—EIA, *Natural Gas Production and Consumption 1979*, Table 1. **1980–1995**—EIA, *Historical Natural Gas Annual 1930 Through 2000*, Table 11. **1996–2014**—EIA, *Natural Gas Monthly (NGM)*, monthly issues. **2015–2024**—EIA, NGA, annual reports. **2025 forward**—EIA, NGM, April 2026, Table 8. • **All Other Data:1954–1974**—American Gas Association, *Gas Facts*, annual issues. **1975 and 1976**—Federal Energy Administration (FEA), Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Power Commission (FPC), Form FPC-8, "Underground Gas Storage Report." **1977 and 1978**—EIA, Form FEA-G318-M-0, "Underground Gas Storage Report," and Federal Energy Regulatory Commission (FERC), Form FERC-8, "Underground Gas Storage Report." **1979–1995**—EIA, Form EIA-191, "Underground Gas Storage Report," and FERC, Form FERC-8, "Underground Gas Storage Report." **1996–2024**—EIA, NGA, annual reports. **2025 forward**—EIA, NGM, April 2026, Table 8.

Note 1. Natural Gas Production. Final annual data are from the U.S. Energy Information Administration's (EIA) *Natural Gas Annual (NGA)*.

Data for the two most recent months presented are estimated. Some of the data for earlier months are also estimated or computed. For a discussion of computation and estimation procedures, see EIA's *Natural Gas Monthly (NGM)*.

Monthly data are considered preliminary until after publication of the NGA. Preliminary monthly data are gathered from reports to the Interstate Oil Compact Commission and the U.S. Minerals Management Service. Volumetric data are converted, as necessary, to a standard pressure base of 14.73 psia (pounds per square inch absolute) at 60° Fahrenheit. Unless there are major changes, data are not revised until after publication of the NGA.

Differences between annual data in the NGA and the sum of preliminary monthly data (January–December) are allocated proportionally to the months to create final monthly data.

Note 2. Natural Gas Plant Liquids Production. Natural gas plant liquids (NGPL) production is the reduction in volume of natural gas resulting from the removal of natural gas liquid constituents at natural gas processing plants—these natural gas plant liquids are transferred to petroleum supply.

Annual data are from EIA's *Natural Gas Annual (NGA)*, where they are estimated on the basis of the type and quantity of liquid products extracted from the gas stream and the calculated volume of such products at standard conditions. For a detailed explanation of the calculations used to derive estimated NGPL production, see the NGA.

Through 2006, preliminary monthly data are estimated on the basis of NGPL production as an annual percentage of marketed production. Beginning in 2007, preliminary monthly data are estimated on the basis of NGPL production reported on Form EIA-816, "Monthly Natural Gas Liquids Report."

Monthly data are revised and considered final after publication of the NGA. Final monthly data are estimated by allocating annual NGPL production data to the months on the basis of total natural gas marketed production data from the NGA.

Note 3. Supplemental Gaseous Fuels. Supplemental gaseous fuels are any substances that, introduced into or commingled with natural gas, increase the volume available for disposition. Such substances include, but are not limited to, propane-air, refinery gas, coke oven gas, still gas, manufactured gas, biomass gas, and air or inert gases added for Btu stabilization.

Annual data beginning with 1980 are from EIA's *Natural Gas Annual (NGA)*. Unknown quantities of supplemental gaseous fuels are included in consumption data for 1979 and earlier years. Monthly data are considered preliminary until after publication of the NGA. Monthly estimates are based on the annual ratio of supplemental gaseous fuels to the sum of dry gas production, net imports, and net withdrawals from storage. The ratio is applied to the monthly sum of the three elements to compute a monthly supplemental gaseous fuels figure.

Although the total amount of supplemental gaseous fuels consumed is known for 1980 forward, the amount consumed by each energy-use sector is estimated by EIA. These estimates are used to create natural gas (without supplemental gaseous fuels) data for Tables 1.3, 2.2, 2.3, 2.4, and 2.6 (note: to avoid double-counting in these tables, supplemental gaseous fuels are accounted for in their primary energy category: "Coal," "Petroleum," or "Biomass"). It is assumed that supplemental gaseous fuels are commingled with natural gas consumed by the residential, commercial, other industrial, and electric power sectors, but are not commingled with natural gas used for lease and plant fuel, pipelines and distribution, or vehicle fuel. The estimated consumption of supplemental gaseous fuels by each sector (residential, commercial, other industrial, and electric power) is calculated as that sector's natural gas consumption (see Table 4.3) divided by the sum of natural gas consumption by the residential, commercial, other industrial, and electric power sectors (see Table 4.3), and then multiplied by total supplemental gaseous fuels consumption (see Table 4.1). For estimated sectoral consumption of supplemental gaseous fuels in Btu, the residential, commercial, and other industrial values in cubic feet are multiplied by the "End-Use Sectors" conversion factors (see Table A4), and the electric power

values in cubic feet are multiplied by the "Electric Power Sector" conversion factors (see Table A4). Total supplemental gaseous fuels consumption in Btu is calculated as the sum of the Btu values for the sectors.

Note 4. Natural Gas Storage. Natural gas in storage at the end of a reporting period may not equal the quantity derived by adding or subtracting net injections or withdrawals from the quantity in storage at the end of the previous period. Injection and withdrawal data from the FERC-8/EIA-191 survey may be adjusted to correspond to data from Form EIA-176 for publication of EIA's *Natural Gas Annual* (NGA).

Total underground storage capacity, which includes both active and inactive fields, at the end of each calendar year since 1975 (first year data were available), in billion cubic feet, was:

Total underground storage capacity, including active and inactive fields (billion cubic feet)

Decade	Year-0	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9
1970s						6,280	6,544	6,678	6,890	6,929
1980s	7,434	7,805	7,915	7,985	8,043	8,087	8,145	8,124	8,124	8,120
1990s	7,794	7,993	7,932	7,989	8,043	7,953	7,980	8,332	8,179	8,229
2000s	8,241	8,182	8,207	8,206	8,255	8,268	8,330	8,402	8,499	8,656
2010s	8,764	8,849	8,991	9,173	9,233	9,231	9,239	9,261	9,241	9,231
2020s	9,259	9,265	9,269	9,278	9,319	^P 9,371				

Through 1990, monthly underground storage data are collected from the Federal Energy Regulatory Commission Form FERC-8 (interstate data) and EIA Form EIA-191 (intrastate data). Beginning in 1991, all data are collected on the revised Form EIA-191. Injection and withdrawal data from the EIA-191 survey may be adjusted to correspond to data from Form EIA-176 following publication of EIA's NGA.

The final monthly and annual storage and withdrawal data for 1980–2024 include both underground and liquefied natural gas (LNG) storage. Annual data on LNG additions and withdrawals are from Form EIA-176. Monthly data are estimated by computing the ratio of each month's underground storage additions and withdrawals to annual underground storage additions and withdrawals and applying the ratio to the annual LNG data.

Note 5. Natural Gas Balancing Item. The balancing item for natural gas represents the difference between the sum of the components of natural gas supply and the sum of components of natural gas disposition. The differences may be due to quantities lost or to the effects of data reporting problems. Reporting problems include differences due to the net result of conversions of flow data metered at varying temperature and pressure bases and converted to a standard temperature and pressure base; the effect of variations in company accounting and billing practices; differences between billing cycle and calendar period time frames; and imbalances resulting from the merger of data reporting systems that vary in scope, format, definitions, and type of respondents.

Note 6. Natural Gas Consumption. Natural gas consumption statistics include data for the following: "Residential Sector": residential deliveries; "Commercial Sector": commercial deliveries, including to commercial combined-heat-and-power (CHP) and commercial electricity-only plants; "Industrial Sector": lease and plant fuel use, and other industrial deliveries, including to industrial CHP and industrial electricity-only plants also includes the relatively small amount of natural gas consumption for non-combustion use (see Tables 1.13a and 1.13b); "Transportation Sector": pipelines and distribution use, and vehicle fuel use; and "Electric Power Sector": electric utility and independent power producer use.

Final data for series other than "Other Industrial CHP" and "Electric Power Sector" are from EIA's *Natural Gas Annual* (NGA). Monthly data are considered preliminary until after publication of the NGA. For more detailed information on the methods of estimating preliminary and final monthly data, see EIA's *Natural Gas Monthly*.

Note 7. Natural Gas Consumption, 1989–1992. Prior to 1993, deliveries to nonutility generators were not separately collected from natural gas companies on Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." As a result, for 1989–1992, those volumes are probably included in both the industrial and electric power

sectors and double-counted in total consumption. In 1993, 0.28 trillion cubic feet was reported as delivered to nonutility generators.

Note 8. Natural Gas Data Adjustments, 1993–2000, 2017, and 2020. For 1993–2000, the original data for natural gas delivered to industrial consumers (now "Other Industrial" in Table 4.3) included deliveries to both industrial users and independent power producers (IPPs). These data were adjusted to remove the estimated consumption at IPPs from "Other Industrial" and include it with electric utilities under "Electric Power Sector." (To estimate the monthly IPP consumption, the monthly pattern for Other Industrial CHP in Table 4.3 was used.)

For 1996–2000, 2017, and 2020, monthly data for several natural gas series shown in EIA's Natural Gas Navigator (see http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_m.htm) were not reconciled and updated to be consistent with the final annual data in EIA's *Natural Gas Annual*. In the *Monthly Energy Review*, monthly data for these series were adjusted so that the monthly data sum to the final annual values. The Table 4.1 data series (and years) that were adjusted are: Gross Withdrawals (1996 and 1997), Marketed Production (1997), NGPL Production (1997, 1998, and 2000), Dry Gas Production (1996 and 1997), Supplemental Gaseous Fuels (1997–2000), Balancing Item (1997–2000), and Total Consumption (1997–2000, 2017, and 2020). The Table 4.3 data series (and years) that were adjusted are: Lease and Plant Fuel (1997–2000), Total Industrial (1997–2000), Pipelines and Distribution (2000), and Total Consumption (1997–2000, 2017, and 2020).

Note 9. Natural Gas Imports and Exports. The United States imports natural gas via pipeline from Canada and Mexico; and imports liquefied natural gas (LNG) via vessel from other countries. In addition, small amounts of LNG arrived from Canada via truck in 1973, 1977, 1981, and 2013 forward. Also, small amounts of compressed natural gas (CNG) were imported from Canada in 2014 forward. The United States exports natural gas via pipeline to Canada and Mexico, and exports LNG via vessel to other countries. Also, small amounts of LNG have gone to Mexico via truck since 1998 and via vessel since 2016, and to Canada via truck in 2007 and 2012 forward. Small amounts of CNG have been exported to Canada since 2013. Natural gas exports include re-exports.

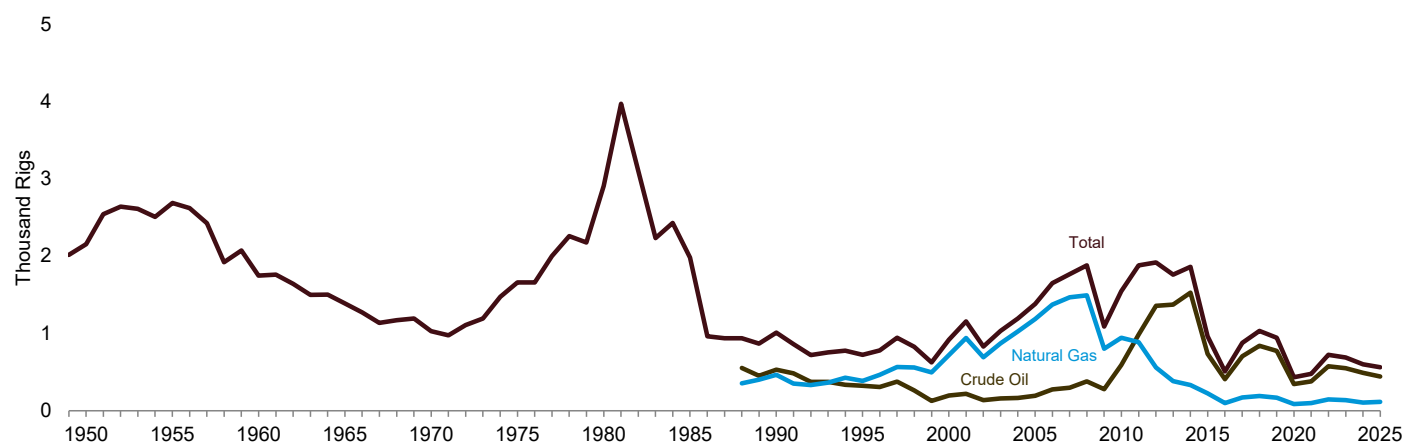
Annual and final monthly data are from the annual EIA Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition," and FE-746R, "Import and Export of Natural Gas."

Preliminary monthly data are EIA estimates. For a discussion of estimation procedures, see EIA's *Natural Gas Monthly*. Preliminary data are revised after publication of EIA's *Natural Gas Annual*.

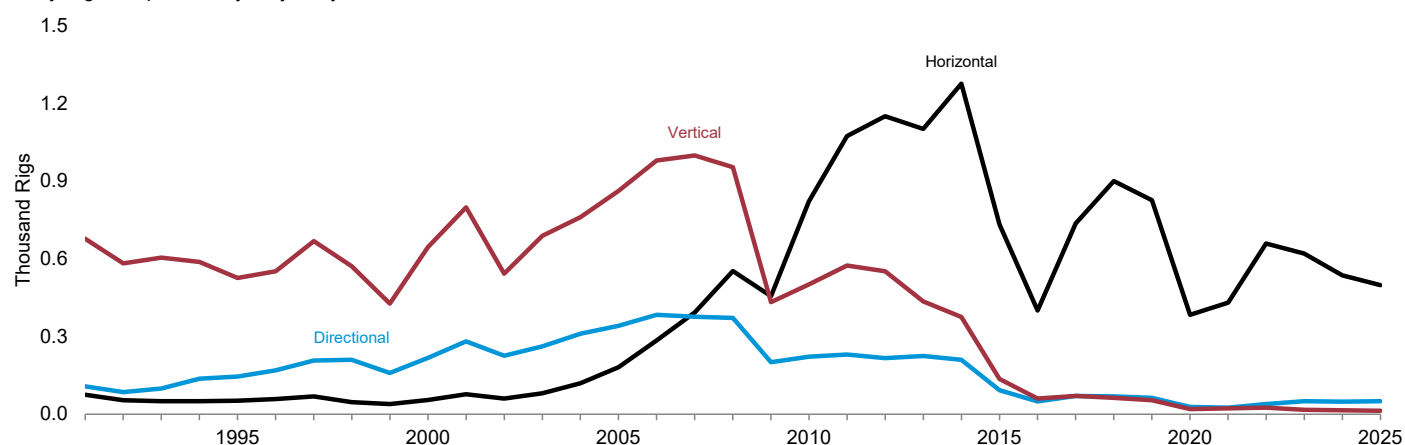
5. Crude Oil and Natural Gas Resource Development

Figure 5.1 Crude Oil and Natural Gas Drilling Activity Measurements

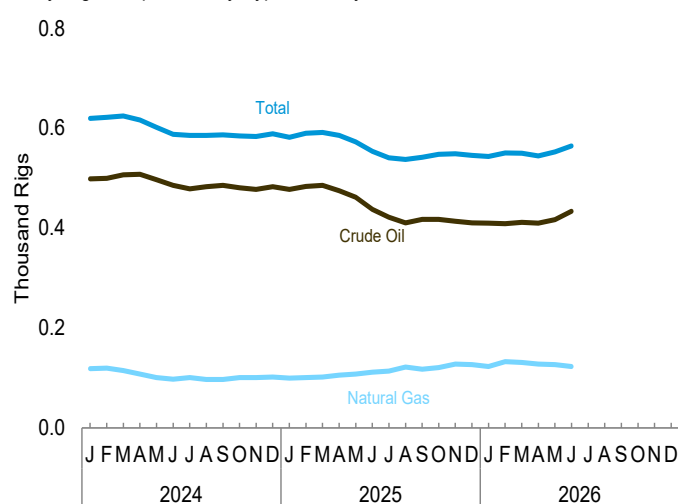
Rotary Rigs in Operation by Type, 1949–2025



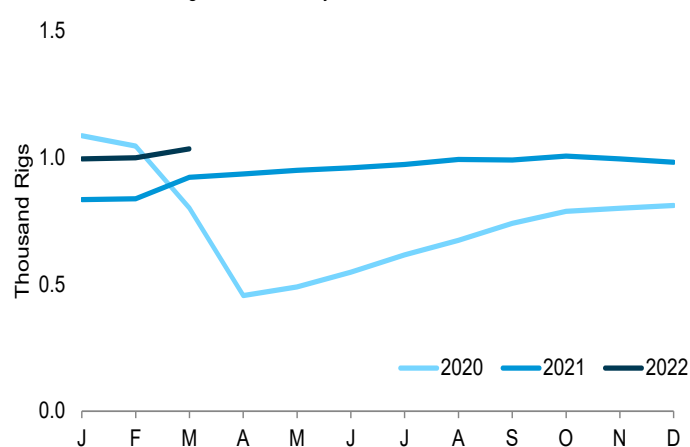
Rotary Rigs in Operation by Trajectory, 1991–2025



Rotary Rigs in Operation by Type, Monthly



Active Well Service Rig Count, Monthly



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#crude>.

Sources: Table 5.1.

Table 5.1 Crude Oil and Natural Gas Drilling Activity Measurements
(Number of Rigs)

	Rotary Rigs in Operation ^{a,b}								Active Well Service Rig Count ^d	
	By Location ^c		By Type ^c		By Trajectory ^c			Total ^c		
	Onshore	Offshore	Crude Oil	Natural Gas	Horizontal	Directional	Vertical			
1950 Average	NA	NA	NA	NA	NA	NA	NA	2,154	NA	
1955 Average	NA	NA	NA	NA	NA	NA	NA	2,686	NA	
1960 Average	NA	NA	NA	NA	NA	NA	NA	1,748	NA	
1965 Average	NA	NA	NA	NA	NA	NA	NA	1,388	NA	
1970 Average	NA	NA	NA	NA	NA	NA	NA	1,028	NA	
1975 Average	1,554	106	NA	NA	NA	NA	NA	1,660	2,486	
1980 Average	2,678	231	NA	NA	NA	NA	NA	2,909	4,089	
1985 Average	1,774	206	NA	NA	NA	NA	NA	1,980	4,716	
1990 Average	902	108	532	464	NA	NA	NA	1,010	3,658	
1995 Average	622	101	323	385	52	145	526	723	3,041	
2000 Average	778	140	197	720	55	217	645	918	2,692	
2005 Average	1,290	93	194	1,186	181	341	862	1,383	2,222	
2010 Average	1,514	31	591	943	822	222	501	1,546	1,854	
2011 Average	1,846	32	984	887	1,074	230	574	1,879	2,075	
2012 Average	1,871	48	1,357	558	1,151	216	552	1,919	2,113	
2013 Average	1,705	56	1,373	383	1,102	225	435	1,761	2,064	
2014 Average	1,804	57	1,526	333	1,276	210	375	1,861	2,024	
2015 Average	927	35	736	224	733	93	136	962	1,481	
2016 Average	486	23	408	100	400	49	60	509	1,061	
2017 Average	856	20	703	172	737	70	70	876	1,187	
2018 Average	1,013	19	841	190	900	69	63	1,032	1,292	
2019 Average	920	23	774	169	826	63	54	943	1,253	
2020 Average	417	15	345	85	384	28	20	433	738	
2021 Average	464	14	380	98	431	25	22	478	949	
2022 Average	708	15	574	147	659	39	25	723	NA	
2023 Average	669	19	549	135	620	50	17	687	NA	
2024	January	601	20	499	119	561	48	12	620	NA
	February	603	20	500	120	560	50	13	622	NA
	March	603	22	507	115	559	53	13	625	NA
	April	598	19	508	108	555	50	13	617	NA
	May	582	20	497	101	544	42	17	602	NA
	June	567	21	486	98	525	44	19	588	NA
	July	564	22	479	101	519	49	18	586	NA
	August	566	19	483	97	521	48	16	586	NA
	September	567	20	486	97	522	50	15	587	NA
	October	568	18	481	101	517	53	15	585	NA
	November	570	14	478	101	520	48	16	584	NA
	December	575	14	483	102	526	49	14	589	NA
	Average	580	19	491	105	536	48	15	599	NA
2025	January	568	14	478	100	519	50	13	582	NA
	February	576	14	484	101	528	50	13	590	NA
	March	578	14	486	102	531	50	12	592	NA
	April	573	13	475	106	527	46	14	586	NA
	May	561	12	462	108	517	42	14	573	NA
	June	542	12	438	112	501	40	13	554	NA
	July	528	13	422	114	482	45	15	541	NA
	August	525	13	411	122	470	54	14	538	NA
	September	529	13	418	118	473	56	13	542	NA
	October	531	17	418	121	482	55	12	548	NA
	November	530	19	414	128	478	60	11	549	NA
	December	529	17	411	127	475	56	15	546	NA
	Average	547	14	442	113	498	50	13	561	NA
2026	January	529	15	410	123	476	55	13	544	NA
	February	534	17	409	133	483	56	13	551	NA
	March	537	13	412	131	485	53	12	550	NA
	April	533	12	410	128	484	49	13	545	NA
	May	535	18	417	127	482	59	12	553	NA
	June	556	9	434	123	481	73	12	565	NA
	6-Month Average	537	14	415	127	482	57	12	551	NA
2025 6-Month Average	566	13	470	104	520	46	13	579	NA	
2024 6-Month Average	592	20	500	110	551	48	15	613	NA	

^a Data are for rigs drilling for crude oil, rigs drilling for natural gas, and other rigs (not shown separately) drilling for miscellaneous purposes, such as service wells, injection wells, and stratigraphic tests.

^b Rotary rigs in operation are reported weekly on Fridays. Monthly data are averages of 4- or 5-week reporting periods. Multi-month data are averages of the reported weekly data over the covered months. Annual data are averages of 52- or 53-week reporting periods. Published data are rounded to the nearest whole number.

^c Not shown under "By Type" are other rigs drilling for miscellaneous purposes, such as service wells, injection wells, and stratigraphic tests. Therefore, the sum of "Crude Oil" and "Natural Gas" may not equal "Total" values. In addition, for "By Location," "By Type," and "By Trajectory," the sum of the components in each category may not equal "Total" values due to independent rounding.

^d The number of rigs doing true workovers (where tubing is pulled from the well), or doing rod string and pump repair operations, and that are, on average, crewed and working every day of the month.

NA=Not available.

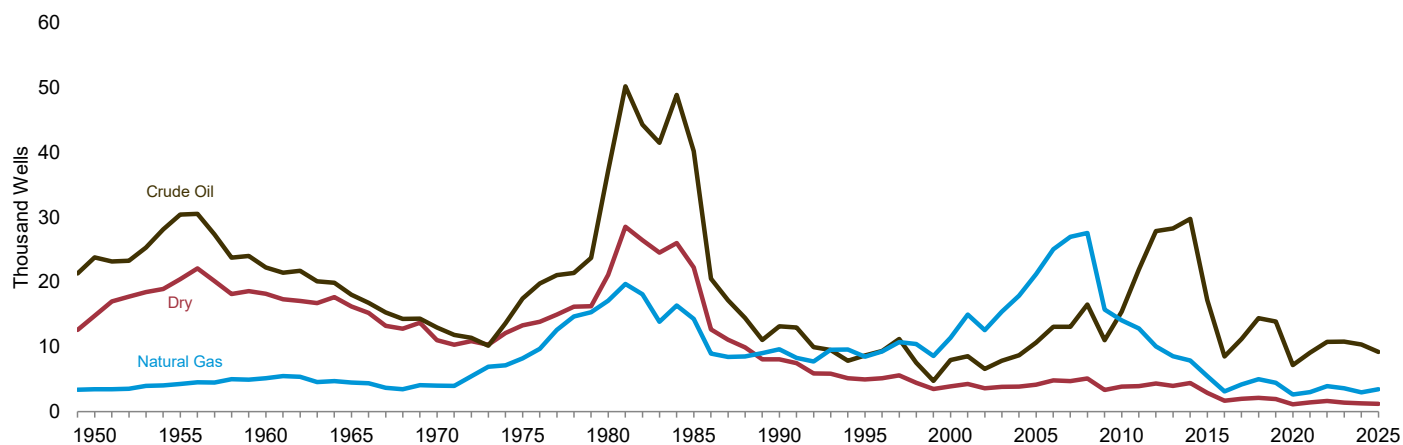
Note: Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#crude> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

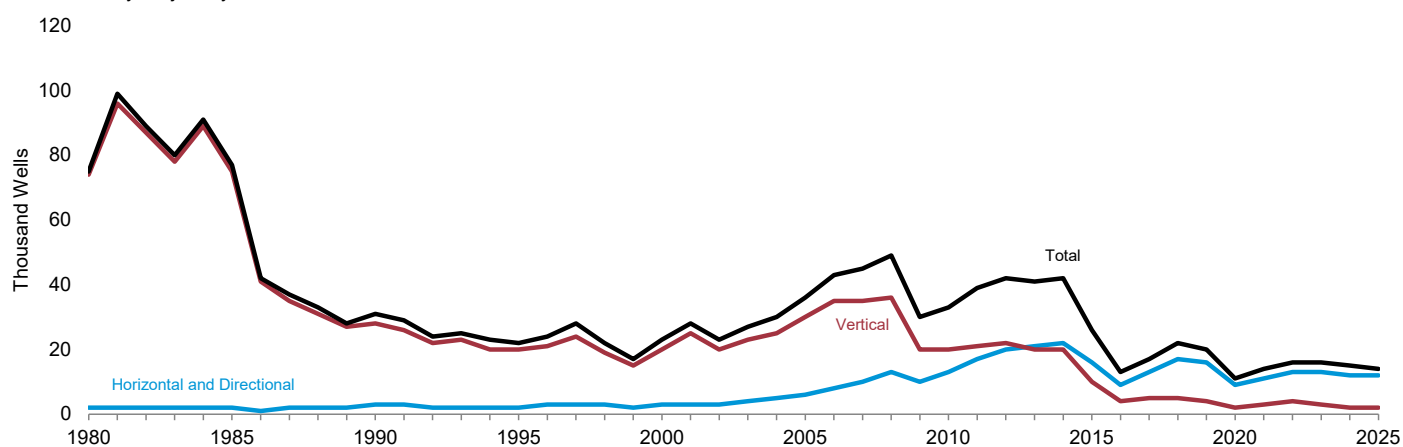
Sources: • **Rotary Rigs in Operation:** Baker Hughes, Inc., Houston, TX, "North America Rig Count," used with permission. See <http://phx.corporate-ir.net/phoenix.zhtml?c=79687&p=irol-reports> other. • **Active Well Service Rig Count:** Energy Workforce & Technology Council, Houston, TX.

Figure 5.2 Crude Oil and Natural Gas Wells and Footage Drilled

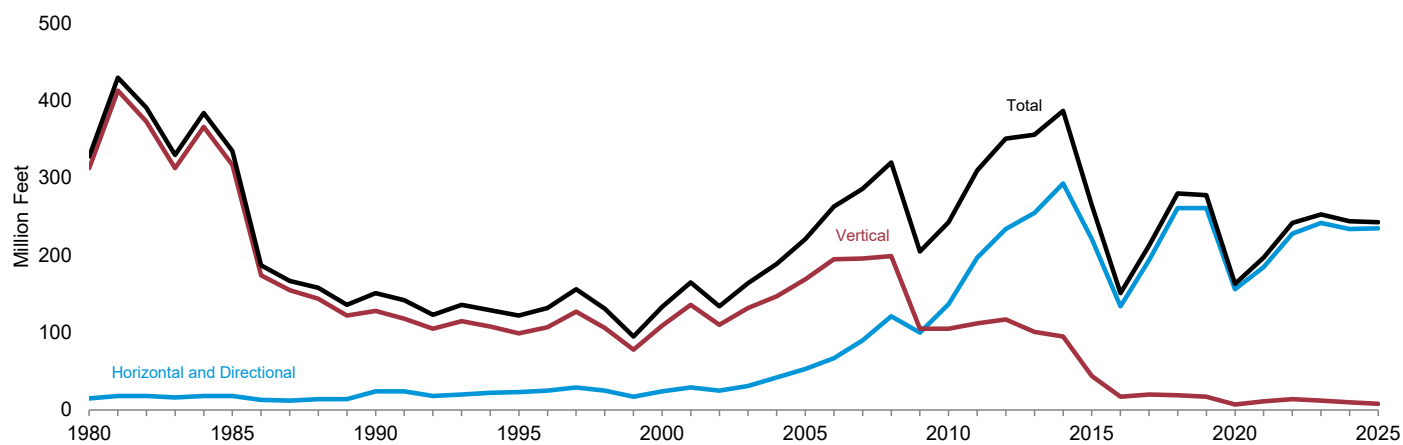
Wells Drilled by Type, 1949–2025



Wells Drilled by Trajectory, 1980–2025



Footage Drilled by Trajectory, 1980–2025



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#crude>.

Sources: Table 5.2.

Crude Oil and Natural Gas Resource Development

Note. Crude Oil and Natural Gas Wells. The U.S. Energy Information Administration (EIA) considers six well types in the *Monthly Energy Review* (MER): “completed for crude oil,” “completed for natural gas,” “dry hole,” “vertical,” “horizontal and directional,” and “total.” Wells that produce both crude oil and natural gas are categorized by the state. EIA includes both developmental wells and exploratory wells in the six well types, but excludes all other classes of wells drilled in connection with the search for producible hydrocarbons. If a lateral well (such as a service well, stratigraphic test well, observation well, etc.) is drilled at the same time as the original hole, EIA does not separately count the lateral well. However, EIA includes all of the well footage. EIA counts only horizontal wells after the first lateral is drilled and does not count pilot holes.

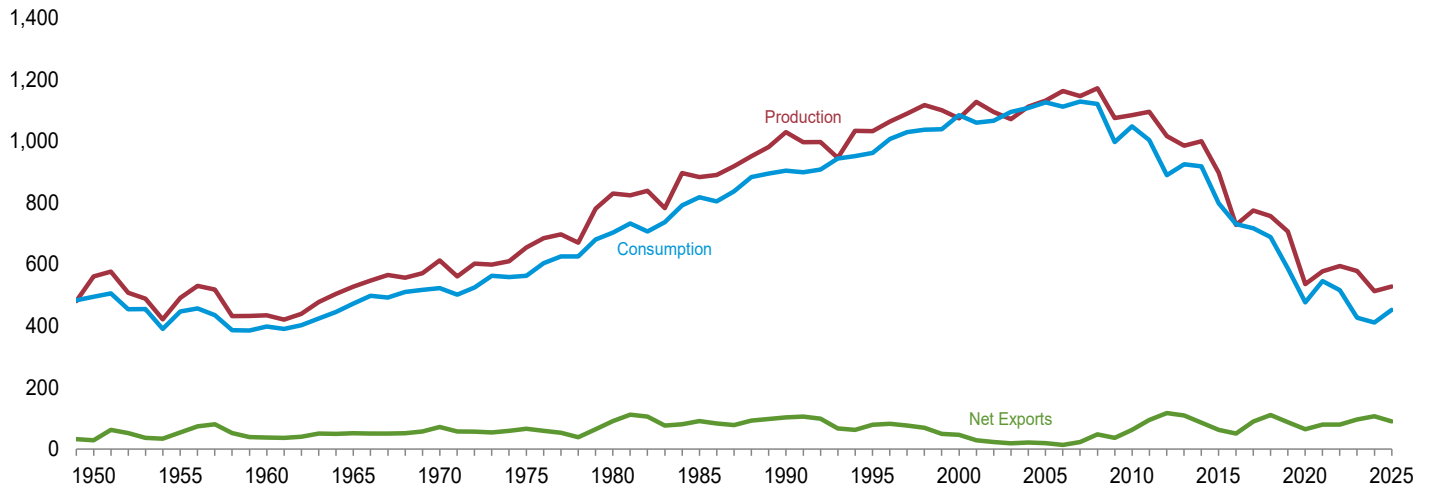
Prior to the March 1985 MER, drilling statistics consisted of completion data for crude oil, natural gas, and dry wells as reported to the American Petroleum Institute (API) during a given month. Due to time lags between the date of well completion and the date of completion reporting to the API, as-reported well completions were an inaccurate indicator of drilling activity. For example, in 1982, as-reported well completions increased, while the number of actual completions decreased. As a result, for 1973 forward, the data shown in this section are revised estimates based on the partial data available from S&P Global. EIA continuously revises these estimates as new data become available. Each month, EIA estimates the latest 36 months of wells using the rig count and a 3-month average wells per rig ratio. EIA applies three conditions to the result: 1) if the model result is less than the actual reported value, then EIA uses the reported value, and 2) the published total well count is the maximum of the modeled total, or the sum of modeled oil, gas, and dry, or the sum of modeled horizontal and vertical well counts, and 3) the modeled component well counts are prorated so that they add exactly to the total published well count. EIA uses a similar process to estimate drilled footage using a 6-month average footage-per-well ratio. Because there is no reported dry rig count data, EIA estimates the number of dry wells using a 6-month average dry-wells-to-total-wells ratio, which EIA then applies to the modeled total wells. In general, the most recent 12 months of estimated well counts will have the highest errors because they are the farthest from the average well-per-rig ratio used in the model (at least 25 months).

6. Coal

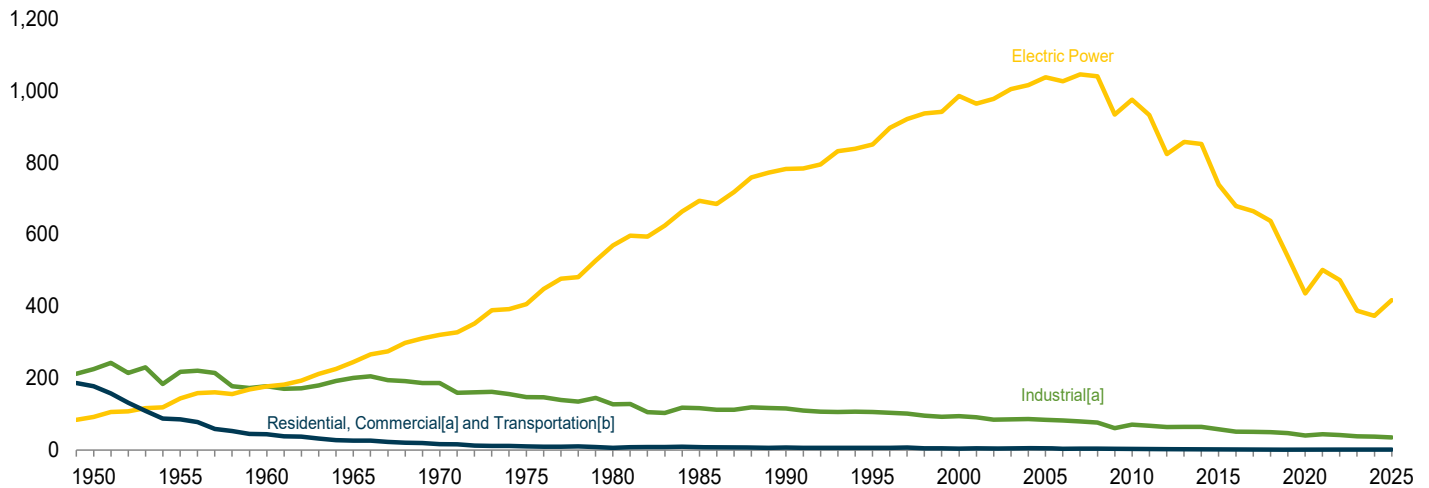
Figure 6.1 Coal

(Million Short Tons)

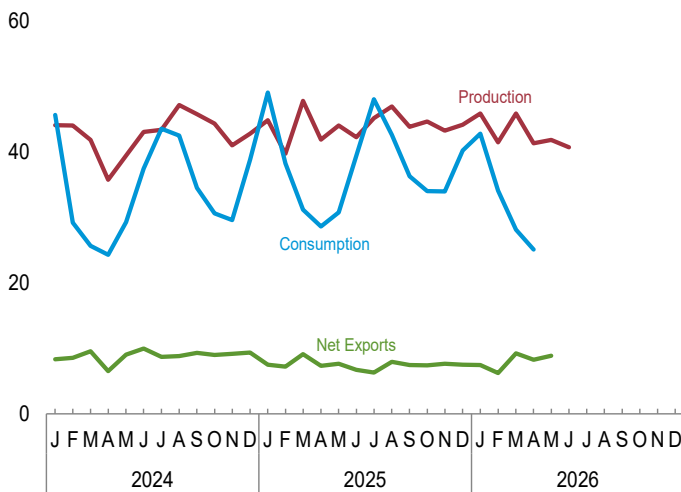
Overview, 1949–2025



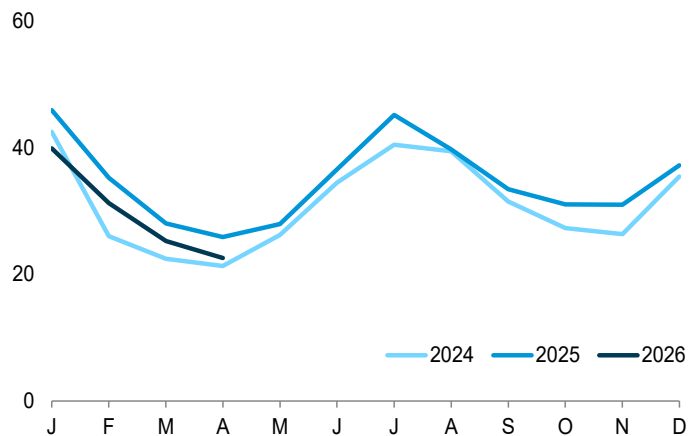
Consumption by Sector, 1949–2025



Overview, Monthly



Electric Power Sector Consumption, Monthly



[a] Includes combined-heat-power (CHP) plants and a small number of electricity-only plants.

[b] For 1978 forward, small amounts of transportation sector use are included in "Industrial."

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#coal>.
Sources: Tables 6.1 and 6.2.

Table 6.1 Coal Overview
(Thousand Short Tons)

	Production ^a	Waste Coal Supplied ^b	Trade			Stock Change ^{d,e}	Losses and Unaccounted for ^{e,f}	Consumption
			Imports	Exports	Net Imports ^c			
1950 Total	560,388	NA	365	29,360	-28,995	27,829	9,462	494,102
1955 Total	490,838	NA	337	54,429	-54,092	-3,974	-6,292	447,012
1960 Total	434,329	NA	262	37,981	-37,719	-3,194	1,722	398,081
1965 Total	526,954	NA	184	51,032	-50,848	1,897	2,244	471,965
1970 Total	612,661	NA	36	71,733	-71,697	11,100	6,633	523,231
1975 Total	654,641	NA	940	66,309	-65,369	32,154	-5,522	562,640
1980 Total	829,700	NA	1,194	91,742	-90,548	25,595	10,827	702,730
1985 Total	883,638	NA	1,952	92,680	-90,727	-27,934	2,796	818,049
1990 Total	1,029,076	3,339	2,699	105,804	-103,104	26,542	-1,730	904,498
1995 Total	1,032,974	8,561	9,473	88,547	-79,074	-275	632	962,104
2000 Total	1,073,612	9,089	12,513	58,489	-45,976	-48,309	938	1,084,095
2005 Total	1,131,498	13,352	30,460	49,942	-19,482	-9,702	9,092	1,125,978
2010 Total	1,084,368	13,651	19,353	81,716	-62,363	-13,039	182	1,048,514
2011 Total	1,095,628	13,209	13,088	107,259	-94,171	211	11,506	1,002,948
2012 Total	1,016,458	11,196	9,159	125,746	-116,586	6,902	14,980	889,185
2013 Total	984,842	11,279	8,906	117,659	-108,753	-38,525	1,451	924,442
2014 Total	1,000,049	12,090	11,350	97,257	-85,907	-2,601	11,101	917,731
2015 Total	896,941	9,969	11,318	73,958	-62,640	40,704	5,452	798,115
2016 Total	728,364	10,138	9,846	60,271	-50,425	-45,441	2,449	731,071
2017 Total	774,609	9,951	7,803	96,945	-89,142	-26,033	4,596	716,856
2018 Total	756,167	10,431	5,954	116,244	-110,290	-37,160	5,363	688,105
2019 Total	706,309	8,003	6,697	93,765	-87,068	35,463	5,238	586,543
2020 Total	535,434	6,880	5,137	69,067	-63,929	-5,438	7,129	476,693
2021 Total	577,431	7,663	5,388	85,115	-79,727	-44,466	4,154	545,679
2022 Total	594,155	8,934	6,313	85,956	-79,642	-1,383	9,296	515,534
2023 Total	577,954	8,165	4,010	100,208	-96,198	48,493	15,533	425,895
2024 January	44,060	780	94	8,429	-8,335	-9,374	229	45,650
February	44,019	783	151	8,680	-8,529	5,115	1,960	29,199
March	41,816	854	85	9,662	-9,578	6,167	1,279	25,646
April	35,764	754	254	6,765	-6,511	3,256	2,474	24,277
May	39,430	579	80	9,123	-9,043	1,006	709	29,251
June	43,069	715	203	10,165	-9,962	-4,709	1,064	37,468
July	43,389	826	185	8,905	-8,720	-7,924	-100	43,519
August	47,160	561	288	9,119	-8,831	-5,695	2,110	42,475
September	45,772	439	248	9,566	-9,319	727	1,679	34,486
October	44,317	436	118	9,118	-8,999	5,022	146	30,587
November	40,984	423	167	9,305	-9,138	3,173	-503	29,599
December	42,759	621	127	9,490	-9,363	-3,435	-1,330	38,782
Total	512,540	7,771	1,998	108,326	-106,329	-6,672	9,716	410,939
2025 January	44,845	704	245	7,726	-7,481	-14,940	3,948	49,060
February	39,707	830	197	7,387	-7,190	-5,905	1,016	38,236
March	47,782	812	190	9,299	-9,108	4,795	3,535	31,155
April	41,876	812	264	7,584	-7,320	4,368	2,369	28,631
May	44,020	839	196	7,844	-7,648	3,673	2,776	30,761
June	42,240	852	232	6,950	-6,717	-2,962	-76	39,412
July	45,161	860	221	6,518	-6,297	-8,156	-159	48,039
August	46,958	870	241	8,170	-7,929	-4,835	2,121	42,613
September	43,803	657	196	7,657	-7,461	273	459	36,267
October	44,639	534	358	7,766	-7,408	3,706	42	34,016
November	43,250	739	334	7,974	-7,641	2,788	-402	33,963
December	44,143	824	226	7,725	-7,500	-2,400	-353	40,221
Total	528,423	9,333	2,899	92,599	-89,700	-19,595	15,276	452,375
2026 January	R 45,069	R 845	391	7,855	-7,463	R -5,838	R 1,501	R 42,787
February	R 41,191	R 804	254	6,493	-6,239	R 1,267	R 409	R 34,080
March	R 45,609	R 761	91	9,340	-9,249	R 6,119	R 2,860	R 28,141
April	41,300	RF 533	290	8,554	-8,265	R 5,097	R 3,389	R 25,083
May	41,834	NA	R 253	R 9,133	R -8,880	NA	NA	NA
June	40,716	NA	NA	NA	NA	NA	NA	NA
6-Month Total	255,720	NA	NA	NA	NA	NA	NA	NA
2025 6-Month Total	260,470	4,849	1,324	46,790	-45,465	-10,970	13,568	217,256
2024 6-Month Total	248,158	4,465	865	52,823	-51,959	1,460	7,714	191,491

^a Beginning in 2001, includes a small amount of refuse recovery (coal recaptured from a refuse mine and cleaned to reduce the concentration of noncombustible materials).

^b Waste coal (including fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste) consumed by the electric power and industrial sectors. Beginning in 1989, waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in "Consumption."

^c Net imports equal imports minus exports. A minus sign indicates exports are greater than imports.

^d A negative value indicates a decrease in stocks and a positive value indicates an increase. See Table 6.3 for stocks data coverage.

^e In 1949, stock change is included in "Losses and Unaccounted for."

^f The difference between calculated coal supply and disposition, due to coal

quantities lost or to data reporting problems.

R=Revised; NA=Not available; F=Forecast.

Notes: • For methodology used to calculate production, consumption, and stocks, see Note 1, "Coal Production," Note 2, "Coal Consumption," and Note 3, "Coal Stocks," at end of section. • Data values preceded by "F" are derived from the U.S. Energy Information Administration's Short-Term Integrated Forecasting System. See Note 4, "Coal Forecast Values," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#coal> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 6.2 Coal Consumption by Sector
(Thousand Short Tons)

	End-Use Sectors									Electric Power Sector ^{e,f}	Total	
	Resi- dential	Commercial			Coke Plants	Industrial			Trans- portation			
		CHP ^a	Other ^b	Total		Other Industrial		Total				
						CHP ^c	Non-CHP ^d					
1950 Total	51,562	(g)	63,021	63,021	104,014	(h)	120,623	120,623	224,637	63,011	91,871	494,102
1955 Total	35,590	(g)	32,852	32,852	107,743	(h)	110,096	110,096	217,839	16,972	143,759	447,012
1960 Total	24,159	(g)	16,789	16,789	81,385	(h)	96,017	96,017	177,402	3,046	176,685	398,081
1965 Total	14,635	(g)	11,041	11,041	95,286	(h)	105,560	105,560	200,846	655	244,788	471,965
1970 Total	9,024	(g)	7,090	7,090	96,481	(h)	90,156	90,156	186,637	298	320,182	523,231
1975 Total	2,823	(g)	6,587	6,587	83,598	(h)	63,646	63,646	147,244	24	405,962	562,640
1980 Total	1,355	(g)	5,097	5,097	66,657	(h)	60,347	60,347	127,004	(h)	569,274	702,730
1985 Total	1,711	(g)	6,068	6,068	41,056	(h)	75,372	75,372	116,429	(h)	693,841	818,049
1990 Total	1,345	1,191	4,189	5,379	38,877	27,781	48,549	76,330	115,207	(h)	782,567	904,498
1995 Total	755	1,419	3,633	5,052	33,011	29,363	43,693	73,055	106,067	(h)	850,230	962,104
2000 Total	454	1,547	2,126	3,673	28,939	28,031	37,177	65,208	94,147	(h)	985,821	1,084,095
2005 Total	378	1,922	2,420	4,342	23,434	25,875	34,465	60,340	83,774	(h)	1,037,485	1,125,978
2010 Total	(i)	1,720	1,361	3,081	21,092	24,638	24,650	49,289	70,381	(h)	975,052	1,048,514
2011 Total	(i)	1,668	1,125	2,793	21,434	22,319	23,919	46,238	67,671	(h)	932,484	1,002,948
2012 Total	(i)	1,450	595	2,045	20,751	20,065	22,773	42,838	63,589	(h)	823,551	889,185
2013 Total	(i)	1,356	595	1,951	21,474	19,761	23,294	43,055	64,529	(h)	857,962	924,442
2014 Total	(i)	1,063	824	1,887	21,297	19,076	23,870	42,946	64,243	(h)	851,602	917,731
2015 Total	(i)	798	706	1,503	19,708	16,984	21,475	38,459	58,167	(h)	738,444	798,115
2016 Total	(i)	683	500	1,183	16,485	14,720	20,129	34,849	51,333	(h)	678,554	731,071
2017 Total	(i)	610	451	1,061	17,538	12,975	20,289	33,264	50,801	(h)	664,993	716,856
2018 Total	(i)	577	395	972	18,337	12,233	19,347	31,580	49,917	(h)	637,217	688,105
2019 Total	(i)	519	357	876	17,967	10,892	18,203	29,095	47,062	(h)	538,606	586,543
2020 Total	(i)	473	320	793	14,414	9,453	16,207	25,660	40,073	(h)	435,827	476,693
2021 Total	(i)	534	277	811	17,589	9,700	16,145	25,845	43,434	(h)	501,435	545,679
2022 Total	(i)	535	265	800	16,009	9,563	16,328	25,891	41,900	(h)	472,834	515,534
2023 Total	(i)	400	268	668	15,849	8,384	13,789	22,173	38,022	(h)	387,205	425,895
2024 January	(i)	63	35	98	1,276	794	1,020	1,814	3,089	(h)	42,463	45,650
February	(i)	47	26	73	1,264	671	1,174	1,845	3,109	(h)	26,017	29,199
March	(i)	37	20	57	1,328	733	1,105	1,839	3,167	(h)	22,422	25,646
April	(i)	31	19	49	1,227	595	1,125	1,719	2,946	(h)	21,281	24,277
May	(i)	19	11	30	1,278	632	1,112	1,744	3,023	(h)	26,198	29,251
June	(i)	26	16	42	1,233	622	1,123	1,745	2,978	(h)	34,447	37,468
July	(i)	28	1	29	1,326	684	1,009	1,693	3,019	(h)	40,471	43,519
August	(i)	31	1	31	1,349	664	1,033	1,697	3,046	(h)	39,397	42,475
September	(i)	31	1	31	1,253	652	1,048	1,700	2,953	(h)	31,502	34,486
October	(i)	31	24	55	1,309	663	1,251	1,914	3,224	(h)	27,308	30,587
November	(i)	37	28	66	1,285	692	1,220	1,912	3,197	(h)	26,336	29,599
December	(i)	41	31	71	1,372	731	1,192	1,923	3,295	(h)	35,416	38,782
Total	(i)	422	212	633	15,500	8,134	13,413	21,547	37,047	(h)	373,258	410,939
2025 January	(i)	49	38	87	1,245	765	1,034	1,799	3,045	(h)	45,929	49,060
February	(i)	42	32	74	1,128	671	1,139	1,810	2,938	(h)	35,224	38,236
March	(i)	38	27	66	1,248	743	1,076	1,819	3,067	(h)	28,022	31,155
April	(i)	32	14	46	1,191	685	848	1,532	2,724	(h)	25,861	28,631
May	(i)	30	13	43	1,257	581	950	1,530	2,787	(h)	27,931	30,761
June	(i)	26	11	37	1,268	624	920	1,544	2,812	(h)	36,563	39,412
July	(i)	34	9	43	1,239	673	944	1,617	2,856	(h)	45,140	48,039
August	(i)	32	9	41	1,234	646	970	1,616	2,850	(h)	39,722	42,613
September	(i)	32	9	40	1,202	620	996	1,616	2,818	(h)	33,409	36,267
October	(i)	32	27	59	1,205	621	1,123	1,744	2,950	(h)	31,008	34,016
November	(i)	33	29	62	1,171	629	1,124	1,752	2,923	(h)	30,977	33,963
December	(i)	33	29	62	1,205	668	1,077	1,745	2,950	(h)	37,209	40,221
Total	(i)	413	248	660	14,593	7,926	12,202	20,128	34,720	(h)	416,995	452,375
2026 January	(i)	43	R 48	R 91	R 1,155	695	R 980	R 1,675	R 2,830	(h)	39,867	R 42,787
February	(i)	37	R 41	R 78	R 1,085	633	R 1,061	R 1,693	R 2,778	(h)	31,224	R 34,080
March	(i)	23	R 26	R 49	R 1,167	625	R 1,071	R 1,697	R 2,864	(h)	25,228	R 28,141
April	(i)	27	F(s)	F 28	F 1,121	549	F 816	F 1,365	F 2,486	(h)	22,570	25,083
4-Month Total	(i)	131	E 115	E 246	E 4,528	2,502	E 3,928	E 6,430	E 10,958	(h)	118,889	130,092
2025 4-Month Total	(i)	161	111	273	4,812	2,864	4,098	6,961	11,774	(h)	135,036	147,083
2024 4-Month Total	(i)	178	99	278	5,094	2,793	4,424	7,217	12,312	(h)	112,183	124,772

^a Commercial combined-heat-and-power (CHP) and a small number of commercial electricity-only plants, such as those at hospitals and universities. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^b All commercial sector fuel use other than that in "Commercial CHP."

^c Industrial combined-heat-and-power (CHP) and a small number of industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^d All industrial sector fuel use other than that in "Coke Plants" and "Industrial CHP."

^e The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

^f Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

^g Included in "Commercial Other."

^h Included in "Industrial Non-CHP."

ⁱ Beginning in 2008, residential coal consumption data are no longer collected by the U.S. Energy Information Administration (EIA).

R=Revised. E=Estimate. F=Forecast. (s)=Greater than -0.5 or less than 0.5 thousand short tons.

Notes: • CHP monthly values are from Table 7.4c; electric power sector monthly values are from Table 7.4b; all other monthly values are estimates derived from collected quarterly and annual data. See Note 2, "Coal Consumption," at end of section. • Data values preceded by "F" are derived from EIA's Short-Term Integrated Forecasting System. See Note 4, "Coal Forecast Values," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#coal> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 6.3 Coal Stocks by Sector
(Thousand Short Tons)

	Producers ^a and Distributors	End-Use Sectors					Electric Power Sector ^{d,e}	Total
		Residential ^b and Commercial	Industrial			Total		
			Coke Plants	Other ^c	Total			
1950 Year	NA	2,462	16,809	26,182	42,991	45,453	31,842	77,295
1955 Year	NA	998	13,422	15,880	29,302	30,300	41,391	71,691
1960 Year	NA	666	11,122	11,637	22,759	23,425	51,735	75,160
1965 Year	NA	353	10,640	13,122	23,762	24,115	54,525	78,640
1970 Year	NA	300	9,045	11,781	20,826	21,126	71,908	93,034
1975 Year	12,108	233	8,797	8,529	17,326	17,559	110,724	140,391
1980 Year	24,379	NA	9,067	11,951	21,018	21,018	183,010	228,407
1985 Year	33,133	NA	3,420	10,438	13,857	13,857	156,376	203,367
1990 Year	33,418	NA	3,329	8,716	12,044	12,044	156,166	201,629
1995 Year	34,444	NA	2,632	5,702	8,334	8,334	126,304	169,083
2000 Year	31,905	NA	1,494	4,587	6,081	6,081	102,296	140,282
2005 Year	34,971	NA	2,615	5,582	8,196	8,196	101,137	144,304
2010 Year	49,820	552	1,925	4,525	6,451	7,003	174,917	231,740
2011 Year	51,897	603	2,610	4,455	7,065	7,668	172,387	231,951
2012 Year	46,157	583	2,522	4,475	6,997	7,581	185,116	238,853
2013 Year	45,652	495	2,200	4,097	6,297	6,792	147,884	200,328
2014 Year	38,894	449	2,640	4,196	6,836	7,285	151,548	197,727
2015 Year	35,871	394	2,236	4,382	6,618	7,012	195,548	238,431
2016 Year	25,309	360	1,675	3,637	5,312	5,672	162,009	192,990
2017 Year	23,999	310	1,718	3,242	4,960	5,270	137,687	166,956
2018 Year	21,692	247	1,807	3,258	5,065	5,312	102,793	129,796
2019 Year	31,320	246	2,333	3,258	5,591	5,838	128,102	165,260
2020 Year	23,640	250	1,654	2,848	4,501	4,751	131,431	159,822
2021 Year	19,013	176	1,658	2,624	4,283	4,459	91,884	115,356
2022 Year	20,820	167	1,627	2,499	4,126	4,293	88,861	113,973
2023 Year	24,874	149	1,551	2,863	4,415	4,564	133,028	162,466
2024 January	24,720	143	1,517	2,857	4,374	4,517	123,854	153,092
February	24,565	137	1,482	2,852	4,334	4,471	129,170	158,206
March	24,411	132	1,447	2,846	4,293	4,425	135,537	164,373
April	24,257	131	1,486	2,916	4,401	4,533	138,839	167,629
May	24,102	131	1,524	2,986	4,510	4,640	139,893	168,635
June	23,948	130	1,562	3,056	4,618	4,748	135,229	163,926
July	23,794	128	1,608	3,094	4,703	4,830	127,378	156,002
August	23,639	126	1,654	3,133	4,787	4,912	121,756	150,307
September	23,485	123	1,700	3,171	4,871	4,994	122,555	151,034
October	23,331	128	1,687	3,163	4,850	4,978	127,747	156,056
November	23,176	133	1,674	3,155	4,829	4,962	131,091	159,229
December	23,022	138	1,661	3,147	4,808	4,947	127,826	155,794
2025 January	F 22,709	128	1,660	3,066	4,727	4,855	113,290	140,854
February	F 23,375	118	1,655	2,999	4,653	4,772	106,803	134,949
March	F 23,399	108	1,649	2,931	4,580	4,688	111,657	139,745
April	F 23,423	108	1,704	2,958	4,662	4,770	115,919	144,113
May	F 23,446	109	1,759	2,984	4,744	4,852	119,487	147,786
June	F 23,469	109	1,815	3,011	4,825	4,934	116,421	144,824
July	F 23,050	119	1,796	2,971	4,767	4,887	108,731	136,668
August	F 22,389	130	1,778	2,931	4,710	4,839	104,604	131,832
September	F 21,916	140	1,760	2,892	4,652	4,792	105,398	132,106
October	F 21,972	136	1,771	2,867	4,638	4,774	109,066	135,812
November	F 21,997	131	1,782	2,843	4,624	4,756	111,847	138,600
December	F 22,010	127	1,792	2,818	4,610	4,738	109,452	136,199
2026 January	F 21,743	R 120	R 1,660	R 2,820	R 4,480	R 4,600	104,018	R 130,362
February	F 22,445	R 113	R 1,527	R 2,823	R 4,350	R 4,463	104,721	R 131,629
March	F 22,494	R 106	R 1,394	R 2,825	R 4,219	R 4,325	110,929	R 137,748
April	F 22,536	F 126	F 1,149	F 2,540	F 3,689	F 3,815	116,494	142,845

^a Excludes stocks in transit or held outside of the United States.
^b Through 1979, data are for the residential and commercial sectors. Beginning in 2008, data are for the commercial sector only.
^c Through 1979, data are for manufacturing plants and the transportation sector. For 1980–2007, data are for manufacturing plants only. Beginning in 2008, data are for manufacturing plants and coal transformation/processing plants.
^d The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.
^e Excludes waste coal. Through 1998, data are for electric utilities only. Beginning in 1999, data are for electric utilities and independent power producers.
R=Revised. NA=Not available. F=Forecast.

Notes: • Stocks are at end of period. • Electric power sector monthly values are from Table 7.5; producers and distributors monthly values are estimates derived from collected annual data; all other monthly values are estimates derived from collected quarterly values. • Data values preceded by "F" are derived from the U.S. Energy Information Administration's Short-Term Integrated Forecasting System. See Note 4, "Coal Forecast Values," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#coal> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: See end of section.

Note 1. Coal Production. Preliminary monthly estimates of national coal production are the sum of weekly estimates developed by the U.S. Energy Information Administration (EIA) and published in the *Weekly Coal Production* report. When a week extends into a new month, production is allocated on a daily basis and added to the appropriate month. Weekly estimates are based on Association of American Railroads (AAR) data showing the number of railcars loaded with coal during the week by Class I and certain other railroads.

Through 2001, the weekly coal production model converted AAR data into short tons of coal by using the average number of short tons of coal per railcar loaded reported in the “Quarterly Freight Commodity Statistics” from the Surface Transportation Board. If an average coal tonnage per railcar loaded was not available for a specific railroad, the national average was used. To derive the estimate of total weekly production, the total rail tonnage for the week was divided by the ratio of quarterly production shipped by rail and total quarterly production. Data for the corresponding quarter of previous years were used to derive this ratio. This method ensured that the seasonal variations were preserved in the production estimates.

From 2002 through 2014, the weekly coal production model used statistical auto regressive methods to estimate national coal production as a function of railcar loadings of coal, heating degree-days, and cooling degree-days. On Thursday of each week, EIA received from the AAR data for the previous week. The latest weekly national data for heating degree-days and cooling degree-days were obtained from the National Oceanic and Atmospheric Administration’s Climate Prediction Center.

Beginning in 2015, the revised weekly coal production model uses statistical auto regressive methods to estimate national coal production as a function of railcar loadings of coal. EIA receives AAR data on Thursday of each week for prior week car loadings. The weekly coal model is run and a national level coal production estimate is obtained. From there, state-level estimates are calculated using historical state production share. The state estimates are then aggregated to various regional-level estimates. The weekly coal model is refit every quarter after preliminary coal data are available.

When preliminary quarterly data become available, the monthly and weekly estimates are adjusted to conform to the quarterly figures. The adjustment procedure uses historical state-level production data, the methodology for which can be seen in the documentation located at <http://www.eia.gov/coal/production/weekly/>. Initial estimates of annual production published in January of the following year are based on preliminary production data covering the first nine months (three quarters) and weekly/monthly estimates for the fourth quarter. All quarterly, monthly, and weekly production figures are adjusted to conform to the final annual production data published in the *Monthly Energy Review* in the fall of the following year.

Note 2. Coal Consumption. Forecast data (designated by an “F”) are derived from forecasted values shown in EIA’s *Short-Term Energy Outlook* (DOE/EIA-0202) table titled “U.S. Coal Supply, Consumption, and Inventories.” The monthly estimates are based on the quarterly values, which are released in March, June, September, and December. The estimates are revised quarterly as collected data become available from the data sources. Sector-specific information follows.

Residential and Commercial—Through 2007, coal consumption by the residential and commercial sectors is reported to EIA for the two sectors combined; EIA estimates the amount consumed by the sectors individually. To create the estimates, it is first assumed that an occupied coal-heated housing unit consumes fuel at the same Btu rate as an oil-heated housing unit. Then, for the years in which data are available on the number of occupied housing units by heating source (1973–1981 and subsequent odd-numbered years), residential consumption of coal is estimated using the following steps: a ratio is created of the number of occupied housing units heated by coal to the number of occupied housing units heated by oil; that ratio is then multiplied by the Btu quantity of oil consumed by the residential sector to derive an estimate of the Btu quantity of coal consumed by the residential sector; and, finally, the amount estimated as the residential sector consumption is subtracted from the residential and commercial sectors’ combined consumption to derive the commercial sector’s estimated consumption. Beginning in 2008, residential coal consumption data are not collected by EIA, and commercial coal consumption data are taken directly from reported data.

Industrial Coke Plants—Through 1979, monthly coke plant consumption data were taken directly from reported data. For 1980–1987, coke plant consumption estimates were derived by proportioning reported quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported. Beginning in 1988, monthly coke plant consumption estimates are derived from the reported quarterly data by using monthly ratios of raw steel production data from the American Iron and Steel Institute. The ratios are the monthly raw steel production from open hearth and basic oxygen process furnaces as a proportion of the quarterly production from those kinds of furnaces. Coal coke consumption values also include the relatively small amount consumed for non-combustion use (See Tables 1.13a and 1.13b).

Industrial Other—Through 1977, monthly consumption data for the other industrial sector (all industrial users minus coke plants) were derived by using reported data to modify baseline consumption figures from the most recent U.S. Census Bureau Annual Survey of Manufactures or Census of Manufactures. For 1978 and 1979, monthly estimates were derived from data reported on Forms EIA-3 and EIA-6. For 1980–1987, monthly figures were estimated by proportioning quarterly data by using the ratios of monthly-to-quarterly consumption data in 1979, the last year in which monthly data were reported on Form EIA-3. Beginning in 1988, monthly consumption for the other industrial sector is estimated from reported quarterly data by using ratios derived from industrial production indices published by the Board of Governors of the Federal Reserve System. Indices for six major industry groups are used as the basis for calculating the ratios: food manufacturing, which is North American Industry Classification System (NAICS) code 311; paper manufacturing, NAICS 322; chemical manufacturing, NAICS 325; petroleum and coal products, NAICS 324; non-metallic mineral products manufacturing, NAICS 327; and primary metal manufacturing, NAICS 331. The monthly ratios are computed as the monthly sum of the weighted indices as a proportion of the quarterly sum of the weighted indices by using the 1977 proportion as the weights. Through 2007, quarterly consumption data for the other industrial sector were derived by adding beginning stocks at manufacturing plants to current receipts and subtracting ending stocks at manufacturing plants. In this calculation, current receipts are the greater of either reported receipts from manufacturing plants (Form EIA-3) or reported shipments to the other industrial sector (Form EIA-6), thereby ensuring that agriculture, forestry, fishing, and construction consumption data were included where appropriate. Beginning in 2008, quarterly consumption totals for other industrial coal include data for manufacturing and mining only. Over time, surveyed coal consumption data for agriculture, forestry, fishing, and construction dwindled to about 20–30 thousand short tons annually. Therefore, in 2008, EIA consolidated its programs by eliminating agriculture, forestry, fishing, and construction as surveyed sectors.

Electric Power Sector—Monthly consumption data for electric power plants are taken directly from reported data.

Note 3. Coal Stocks. Coal stocks data are reported by major end-use sector. Forecast data (designated by an “F”) are derived from forecasted values shown in EIA’s *Short-Term Energy Outlook* (DOE/EIA-0202) table titled “U.S. Coal Supply, Consumption, and Inventories.” The monthly estimates are based on the quarterly values (released in March, June, September, and December) or annual values. The estimates are revised as collected data become available from the data sources. Sector-specific information follows.

Producers and Distributors—Through 1997, quarterly stocks at producers and distributors were taken directly from reported data. Monthly data were estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Beginning in 1998, end-of-year stocks are taken from reported data. Monthly stocks are estimated by a model.

Residential and Commercial—Through 1979, stock estimates for the residential and commercial sector were taken directly from reported data. For 1980–2007, stock estimates were not collected. Beginning in 2008, quarterly commercial (excluding residential) stocks data are collected on Form EIA-3 (data for “Commercial and Institutional Coal Users”).

Industrial Coke Plants—Through 1979, monthly stocks at coke plants were taken directly from reported data. Beginning in 1980, coke plant stocks are estimated by using one-third of the current quarterly change to indicate the monthly change in stocks. Quarterly stocks are taken directly from data reported on Form EIA-5.

Industrial Other—Through 1977, stocks for the other industrial sector were derived by using reported data to modify baseline figures from a one-time Bureau of Mines survey of consumers. For 1978–1982, monthly estimates were derived by judgmentally proportioning reported quarterly data based on representative seasonal patterns of supply and demand. Beginning in 1983, other industrial coal stocks are estimated as indicated above for coke plants. Quarterly stocks are taken directly from data reported on Form EIA-3 and therefore include only manufacturing industries; data for agriculture, forestry, fishing, mining, and construction stocks are not available.

Electric Power Sector—Monthly stocks data at electric power plants are taken directly from reported data.

Note 4. Coal Forecast Values. Data values preceded by “F” in this section are forecast values. They are derived from EIA’s Short-Term Integrated Forecasting System (STIFS). The model is driven primarily by data and assumptions about key macroeconomic variables, the world oil price, and weather. The coal forecast relies on other variables as well, such as alternative fuel prices (natural gas and oil) and power generation by sources other than fossil fuels, including nuclear and hydroelectric power. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the coal industry.

The STIFS model results are published monthly in EIA’s *Short-Term Energy Outlook*, which is accessible on the Web at <http://www.eia.gov/forecasts/steo/>.

Table 6.1 Sources

Production

1949–September 1977: U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook and Minerals Industry Surveys*.

October 1977 forward: U.S. Energy Information Administration (EIA), *Weekly Coal Production*.

Waste Coal Supplied

1989–1997: EIA, Form EIA-867, “Annual Nonutility Power Producer Report.”

1998–2000: EIA, Form EIA-860B, “Annual Electric Generator Report—Nonutility.”

2001–2003: EIA, Form EIA-906, “Power Plant Report,” and Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms.

2004–2007: EIA, Form EIA-906, “Power Plant Report,” Form EIA-920, “Combined Heat and Power Plant Report,” and Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms.

2008 forward: EIA, Form EIA-923, “Power Plant Operations Report,” and Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called, “Quarterly Survey of Non-Electric Sector Coal Data”); and, for forecast values, EIA, Short-Term Integrated Forecasting System.

Imports and Exports

1949 forward: U.S. Department of Commerce, U.S. Census Bureau, Monthly Reports IM 145 (Imports) and EM 545 (Exports).

Stock Change

1950 forward: Calculated from data in Table 6.3.

Losses and Unaccounted for

1949 forward: Calculated as the sum of production, imports, and waste coal supplied, minus exports, stock change, and consumption.

Consumption

1949 forward: Table 6.2.

Table 6.2 Sources

Residential and Commercial Total

Through 2007, coal consumption by the residential and commercial sectors combined is reported to the U.S. Energy Information Administration (EIA). EIA estimates the sectors individually using the method described in Note 2, “Consumption,” at the end of Section 6. Data for the residential and commercial sectors combined are from:

1949–1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.” October 1977–1979: EIA, Form EIA-2, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

1980–1997: EIA, Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: DOI, Mine Safety and Health Administration, Form 7000-2, “Quarterly Coal Consumption and Quality Report—Coke Plants.”

Commercial Total

Beginning in 2008, coal consumption by the commercial (excluding residential) sector is reported to EIA. Data for total commercial consumption are from: 2008 forward: EIA, Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called, “Quarterly Survey of Non-Electric Sector Coal Data”); and, for forecast values, EIA, Short-Term Integrated Forecasting System (STIFS).

Commercial CHP

1989 forward: Table 7.4c.

Commercial Other

1949 forward: Calculated as “Commercial Total” minus “Commercial CHP.”

Industrial Coke Plants

1949–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1980: EIA, Form EIA-5/5A, “Coke and Coal Chemicals—Monthly/Annual Supplement.”

1981–1984: EIA, Form EIA-5/5A, “Coke Plant Report—Quarterly/Annual Supplement.”

1985 forward: EIA, Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants”; and, for forecast values, EIA, STIFS.

Other Industrial Total

1949–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1979: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms.

1980–1997: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms and Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms, Form EIA-6A, “Coal Distribution Report,” annual, and Form EIA-7A, “Coal Production Report,” annual.

2008 forward: EIA, Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called, “Quarterly Survey of Non-Electric Sector Coal Data”) and Form EIA-7A, “Coal Production Report,” annual; and, for forecast values, EIA, STIFS.

Other Industrial CHP

1989 forward: Table 7.4c.

Other Industrial Non-CHP

1949 forward: Calculated as “Other Industrial Total” minus “Other Industrial CHP.”

Transportation

1949–1976: DOI, BOM, *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

October–December 1977: EIA, Form EIA-6, “Coal Distribution Report,” quarterly.

Electric Power

1949 forward: Table 7.4b.

Table 6.3 Sources

Producers and Distributors

1973–1979: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), Form 6-1419Q, “Distribution of Bituminous Coal and Lignite Shipments.”

1980–1997: U.S. Energy Information Administration (EIA), Form EIA-6, “Coal Distribution Report,” quarterly.

1998–2007: EIA, Form EIA-6A, “Coal Distribution Report,” annual.

2008 forward: EIA, Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called, “Quarterly Survey of Non-Electric Sector Coal Data”); (data for “Commercial and Institutional Coal Users”); and, for forecast values, EIA, STIFS.

Residential and Commercial

1949–1976: DOI, BOM, *Minerals Yearbook*.

January–September 1977: DOI, BOM, Form 6-1400, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

October 1977–1979: EIA, Form EIA-2, “Monthly Coal Report, Retail Dealers—Upper Lake Docks.”

2008 forward: EIA, Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Coal Data”); and, for forecast values, EIA, STIFS.

Industrial Coke Plants

1949–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–1980: EIA, Form EIA-5/5A, “Coke and Coal Chemicals—Monthly/Annual.”

1981–1984: EIA, Form EIA-5/5A, “Coke Plant Report—Quarterly/Annual Supplement.”

1985 forward: EIA, Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants” and, for forecast values, EIA, STIFS.

Industrial Other

1949–September 1977: DOI, BOM, *Minerals Yearbook* and *Minerals Industry Surveys*.

October 1977–2007: EIA, Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms.

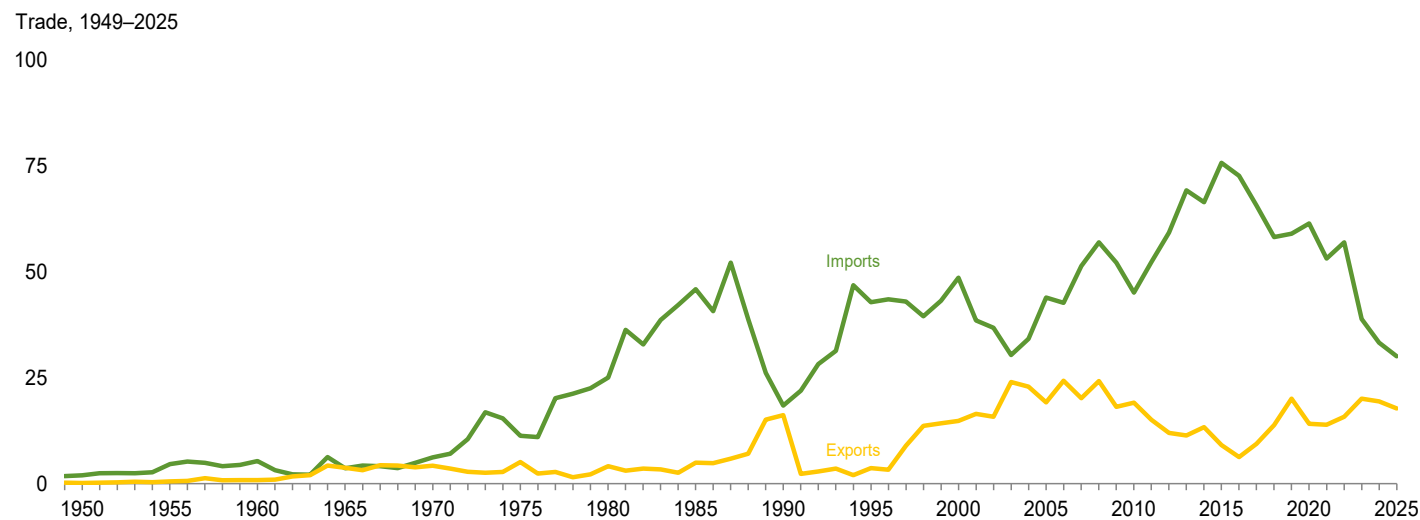
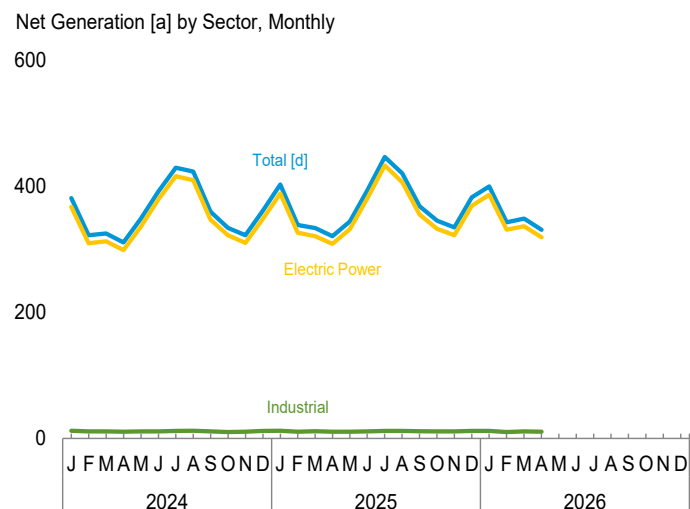
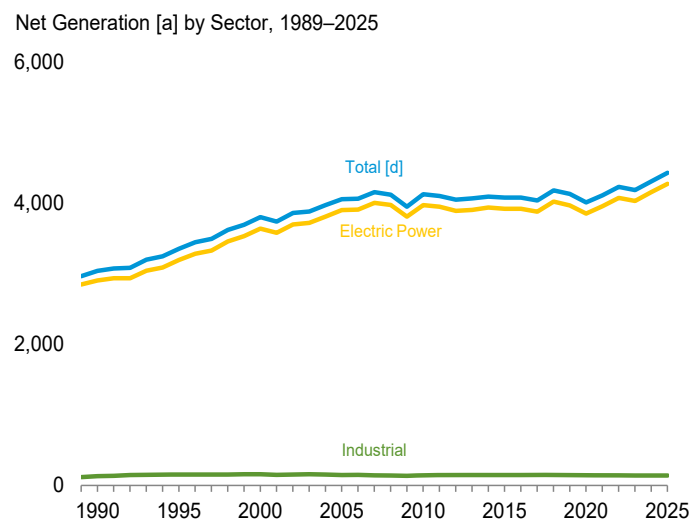
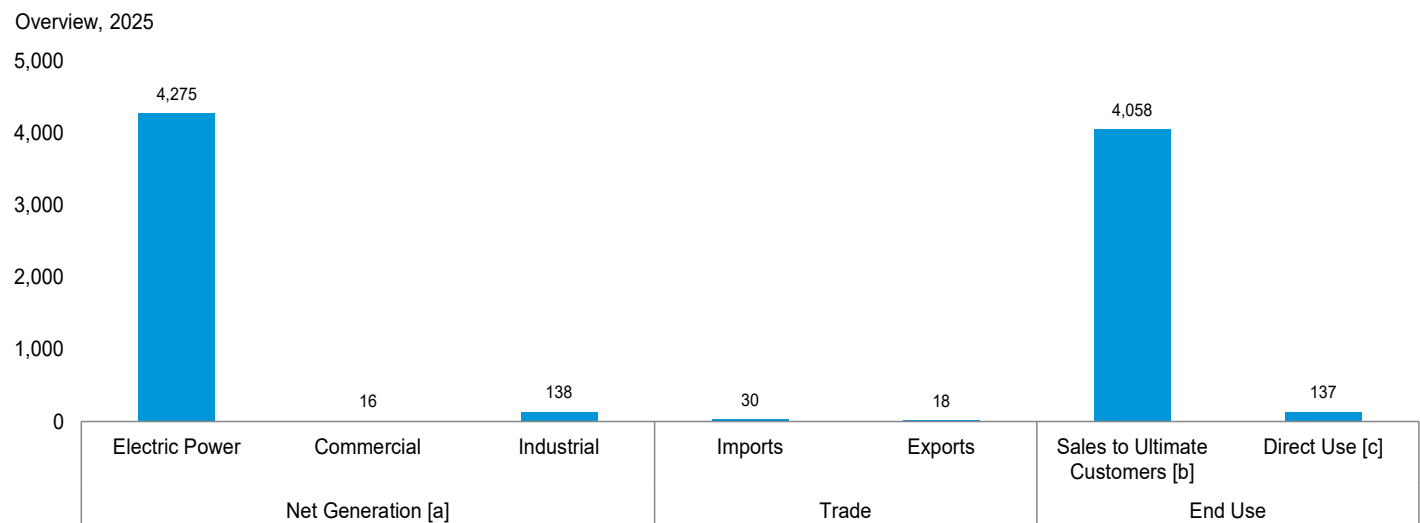
2008 forward: EIA, Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called, “Quarterly Survey of Non-Electric Sector Coal Data”); and, for forecast values, EIA, STIFS.

Electric Power

1949 forward: Table 7.5.

7. Electricity

Figure 7.1 Electricity Overview
(Billion Kilowatthours)



[a] Data are for utility-scale facilities.
[b] Electricity sales to ultimate customers reported by electric utilities and other energy service providers.
[c] See “Direct Use” in Glossary.
[d] Includes commercial sector.
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.
Source: Table 7.1.

Table 7.1 Electricity Overview
(Billion Kilowatthours)

	Net Generation ^a				Trade			T&D Losses ^f and Unaccounted for ^g	End Use		
	Electric Power Sector ^b	Com- mercial Sector ^c	Indus- trial Sector ^d	Total	Imports ^e	Exports ^e	Net Imports ^e		Sales to Ultimate Customers ^h	Direct Use ⁱ	Total
1950 Total	329	NA	5	334	2	(s)	2	44	291	NA	291
1955 Total	547	NA	3	550	5	(s)	4	58	497	NA	497
1960 Total	756	NA	4	759	5	1	5	76	688	NA	688
1965 Total	1,055	NA	3	1,058	4	4	(s)	104	954	NA	954
1970 Total	1,532	NA	3	1,535	6	4	2	145	1,392	NA	1,392
1975 Total	1,918	NA	3	1,921	11	5	6	180	1,747	NA	1,747
1980 Total	2,286	NA	3	2,290	25	4	21	216	2,094	NA	2,094
1985 Total	2,470	NA	3	2,473	46	5	41	190	2,324	NA	2,324
1990 Total	2,901	6	^d 131	3,038	18	16	2	203	2,713	125	2,837
1995 Total	3,194	8	151	3,353	43	4	39	229	3,013	151	3,164
2000 Total	3,638	8	157	3,802	49	15	34	244	3,421	171	3,592
2005 Total	3,902	8	145	4,055	44	19	25	269	3,661	150	3,811
2010 Total	3,972	9	144	4,125	45	19	26	264	3,755	132	3,887
2011 Total	3,948	10	142	4,100	52	15	37	255	3,750	133	3,883
2012 Total	3,890	11	146	4,048	59	12	47	263	3,695	138	3,832
2013 Total	3,904	12	150	4,066	69	11	58	256	3,725	143	3,868
2014 Total	3,937	13	144	4,094	67	13	53	244	3,765	139	3,903
2015 Total	3,920	13	146	4,079	76	9	67	245	3,759	141	3,900
2016 Total	3,919	13	146	4,078	73	6	67	242	3,762	140	3,902
2017 Total	3,879	13	144	4,035	66	9	56	227	3,723	141	3,864
2018 Total	4,021	13	147	4,181	58	14	44	222	3,859	144	4,003
2019 Total	3,968	14	149	4,131	59	20	39	215	3,811	143	3,954
2020 Total	3,854	13	143	4,010	61	14	47	201	3,718	139	3,856
2021 Total	3,957	13	140	4,110	53	14	39	204	3,806	139	3,945
2022 Total	4,074	17	140	4,231	57	16	41	205	3,927	140	4,067
2023 Total	4,029	16	139	4,183	39	20	19	191	3,874	137	4,011
2024 January	367	1	12	381	4	2	2	27	344	^E 12	356
February	310	1	11	322	3	2	(s)	8	303	^E 11	314
March	312	1	11	325	2	3	(s)	16	297	^E 11	308
April	299	1	11	311	2	2	(s)	13	286	^E 11	297
May	336	1	11	348	2	2	(s)	23	314	^E 11	325
June	379	1	11	392	3	1	1	26	356	^E 11	367
July	416	1	12	429	4	2	2	22	398	^E 12	410
August	409	1	12	423	3	1	2	19	394	^E 12	406
September	347	1	11	359	3	1	2	7	343	^E 11	354
October	322	1	10	334	3	1	2	10	316	^E 10	326
November	310	1	11	322	2	1	1	16	296	^E 11	307
December	348	1	12	361	3	1	2	24	328	^E 12	340
Total	4,157	15	137	4,309	33	19	14	212	3,975	135	4,110
2025 January	389	1	12	402	4	1	3	31	362	^E 12	374
February	326	1	11	339	3	1	2	9	321	^E 11	331
March	321	1	12	334	2	2	1	16	307	^E 11	319
April	309	1	11	320	3	1	2	17	295	^E 11	305
May	332	1	11	344	3	1	2	23	312	^E 11	323
June	381	1	11	393	3	1	2	27	357	^E 11	368
July	433	1	12	446	2	1	1	28	408	^E 12	420
August	407	1	12	420	2	1	1	17	393	^E 12	405
September	355	1	12	368	2	1	1	12	346	^E 11	358
October	332	1	11	345	2	2	-1	13	321	^E 11	332
November	322	1	11	335	1	2	-1	24	299	^E 11	310
December	369	1	12	382	2	3	-1	32	338	^E 12	350
Total	4,275	16	138	4,430	30	18	12	247	4,058	^E 137	4,195
2026 January	386	1	12	400	2	3	(s)	31	356	^E 12	368
February	331	1	11	343	2	2	(s)	10	323	^E 10	333
March	336	1	11	349	2	2	(s)	23	314	^E 11	325
April	319	1	11	331	^F 2	^F 2	^F (s)	18	302	^E 11	313
4-Month Total	1,372	5	44	1,422	^E 9	^E 9	^E (s)	82	1,295	^E 44	1,339
2025 4-Month Total	1,344	5	46	1,395	12	5	7	73	1,285	^E 45	1,330
2024 4-Month Total	1,288	5	46	1,339	10	9	1	65	1,231	^E 45	1,276

^a Electricity net generation at utility-scale facilities. Does not include small-scale solar photovoltaic (PV) generation shown on Table 10.6. See Note 1, "Coverage of Electricity Statistics," at end of section.

^b Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

^c Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^d Industrial combined-heat-and-power (CHP) and industrial electricity-only plants. Through 1988, data are for industrial hydroelectric power only.

^e Electricity transmitted across U.S. borders. Net imports equal imports minus exports.

^f Transmission and distribution losses (electricity losses that occur between the point of generation and delivery to the customer). See Note 1, "Electrical System Energy Losses," at end of Section 2.

^g Data collection frame differences and nonsampling error.

^h Electricity sales to ultimate customers by electric utilities and, beginning in

1996, other energy service providers.

ⁱ Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

^E=Estimate. ^{NA}=Not available. ^F=Forecast. (s)=Less than 0.5 billion kilowatthours and greater than -0.5 billion kilowatthours.

Notes: • See Note 1, "Coverage of Electricity Statistics," and Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section.

• Data values preceded by "F" are derived from the U.S. Energy Information Administration's Short-Term Integrated Forecasting System. See Note 3, "Electricity Forecast Values," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

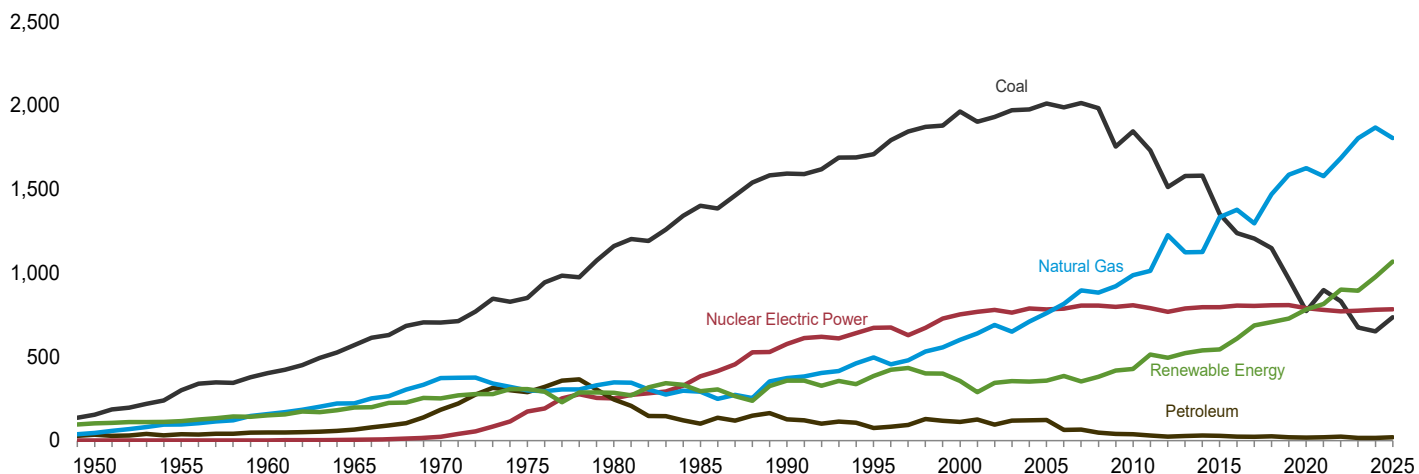
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

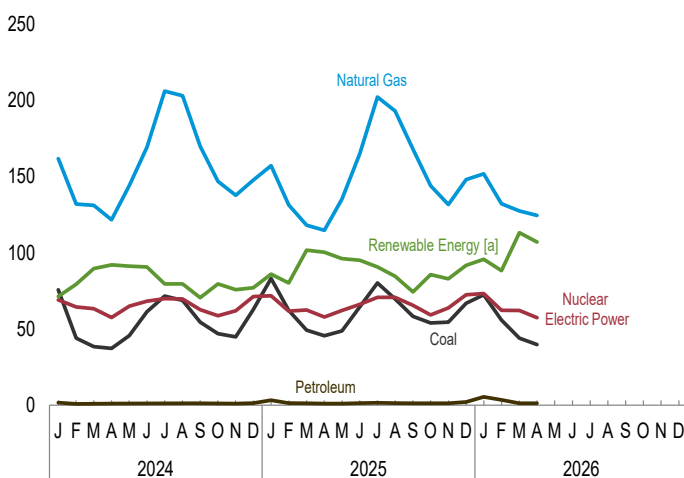
Figure 7.2 Electricity Net Generation

(Billion Kilowatthours)

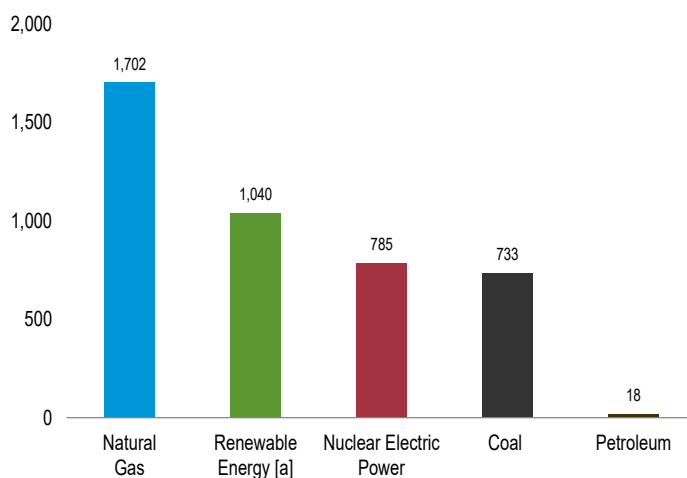
Total (All Sectors), Major Sources, 1949–2025



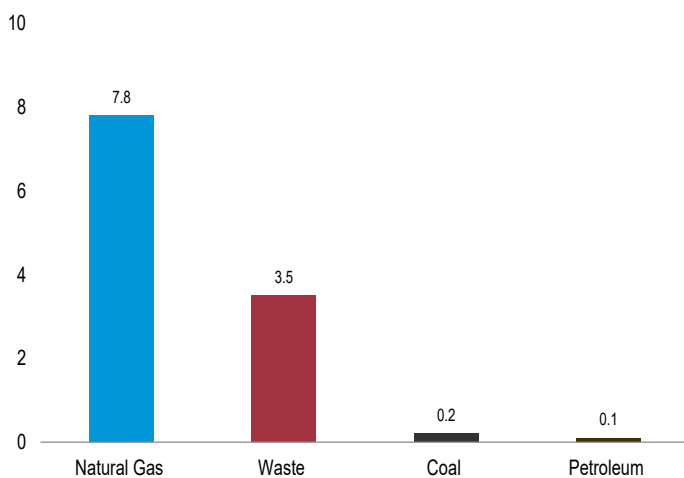
Total (All Sectors), Major Sources, Monthly



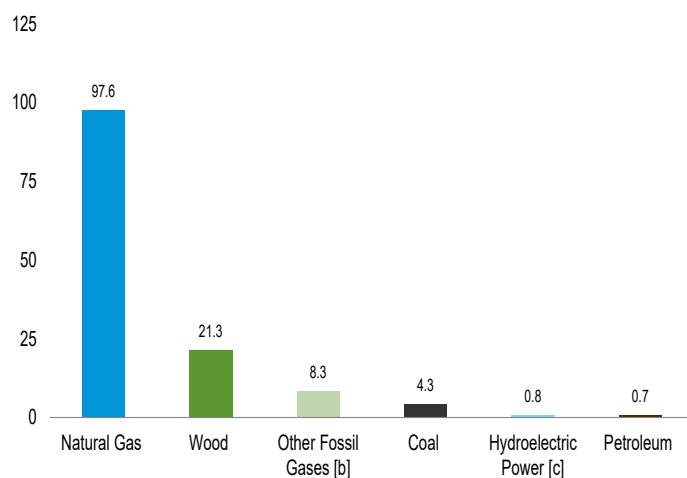
Electric Power Sector, Major Sources, 2025



Commercial Sector, Major Sources, 2025



Industrial Sector, Major Sources, 2025



[a] Conventional hydroelectric power, wood, waste, geothermal, solar, and wind.

[b] Blast furnace gas, and other manufactured and waste gases derived from fossil fuels.

[c] Conventional hydroelectric power.

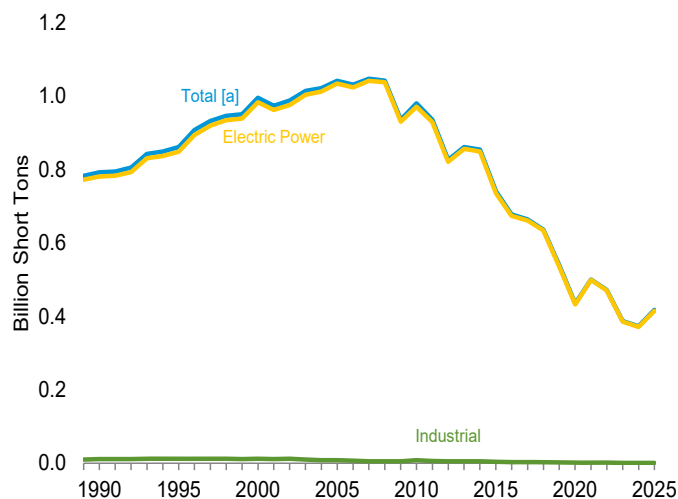
Note: Data are for utility-scale facilities.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.

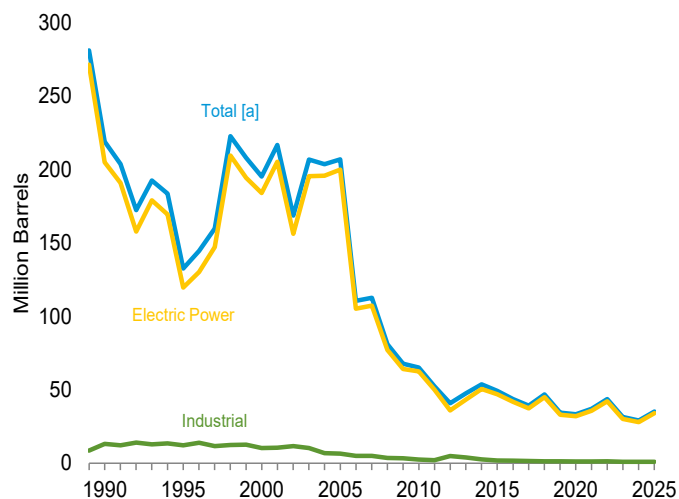
Sources: Tables 7.2a-7.2c.

Figure 7.3 Consumption of Selected Combustible Fuels for Electricity Generation

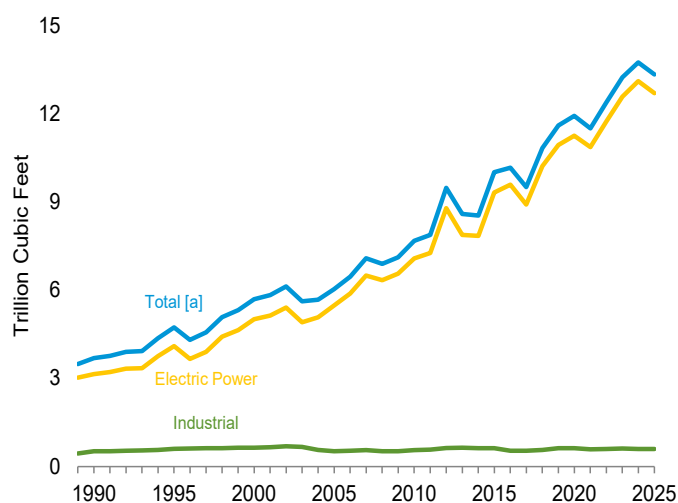
Coal by Sector, 1989–2025



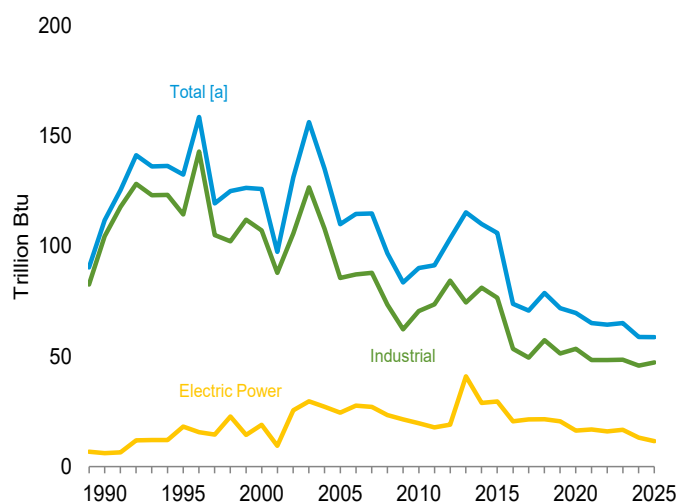
Petroleum by Sector, 1989–2025



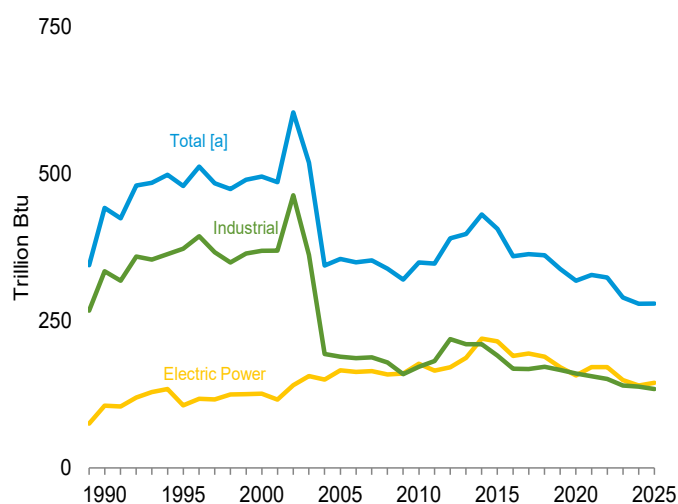
Natural Gas by Sector, 1989–2025



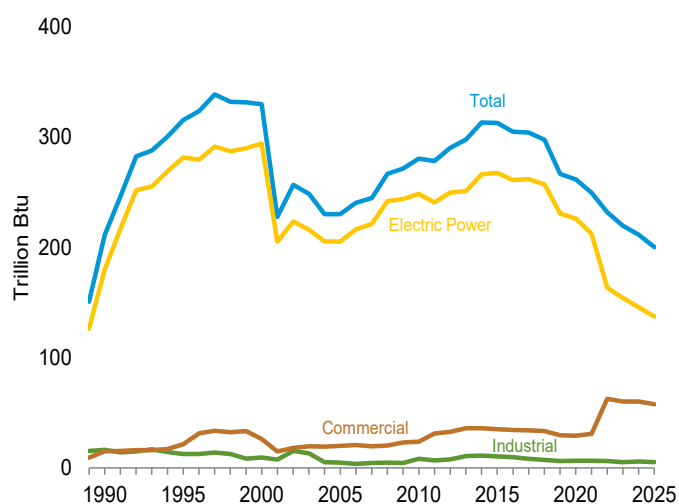
Other Fossil Gases [b] by Sector, 1989–2025



Wood by Sector, 1989–2025



Waste by Sector, 1989–2025



[a] Includes commercial sector.

[b] Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

Note: Data are for utility-scale facilities.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.

Sources: Tables 7.3a-7.3c.

Table 7.3c Consumption of Selected Combustible Fuels for Electricity Generation: Commercial and Industrial Sectors (Subset of Table 7.3a)

	Commercial Sector ^a				Industrial Sector ^b						
	Coal ^c	Petroleum ^d	Natural Gas ^e	Biomass	Coal ^c	Petroleum ^d	Natural Gas ^e	Other Fossil Gases ^g	Biomass		Other ⁱ
				Waste ^f					Wood ^h	Waste ^f	
	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu			
1990 Total	417	953	28	15	10,740	13,103	517	104	335	16	36
1995 Total	569	649	43	21	12,171	12,265	601	114	373	13	40
2000 Total	514	823	37	26	11,706	10,459	640	107	369	10	45
2005 Total	377	585	34	20	7,504	6,440	518	85	189	5	46
2010 Total	314	172	39	24	8,125	2,422	555	70	172	8	55
2011 Total	347	137	47	31	5,735	2,145	572	74	182	7	57
2012 Total	307	279	63	33	4,665	4,761	633	84	219	8	54
2013 Total	513	335	67	36	4,670	3,892	642	74	210	11	50
2014 Total	202	462	72	36	4,629	2,594	623	81	210	11	54
2015 Total	163	260	70	35	3,999	1,907	625	77	191	10	58
2016 Total	111	116	46	34	3,021	1,701	534	53	169	10	53
2017 Total	95	204	50	34	2,783	1,545	541	49	169	8	49
2018 Total	87	279	53	33	2,534	1,418	565	57	172	7	46
2019 Total	76	257	56	30	2,161	1,329	618	51	167	6	45
2020 Total	72	242	52	29	1,802	1,202	619	53	160	6	40
2021 Total	87	256	46	31	1,666	1,066	585	48	156	6	39
2022 Total	87	269	49	63	1,655	1,319	595	48	151	6	18
2023 Total	69	203	49	60	1,460	1,042	608	48	140	5	12
2024 January	10	31	4	5	128	92	54	5	12	1	1
February	7	15	4	5	120	88	48	4	11	1	1
March	6	18	4	5	127	81	49	4	12	1	1
April	5	17	4	5	97	77	47	4	11	(s)	1
May	2	19	4	5	115	70	48	4	12	1	1
June	3	24	4	5	115	76	48	4	12	(s)	1
July	5	8	5	5	126	83	53	4	12	(s)	1
August	5	9	5	5	124	72	55	4	12	(s)	1
September	5	7	4	5	118	64	49	3	11	(s)	1
October	5	7	4	5	119	74	45	3	11	(s)	1
November	5	10	4	5	115	74	46	3	12	1	1
December	6	19	4	5	128	85	51	4	12	(s)	1
Total	65	184	48	60	1,431	936	592	46	138	6	15
2025 January	9	NM	4	5	139	101	54	4	11	(s)	1
February	7	NM	4	4	113	62	46	4	10	(s)	1
March	5	9	4	5	131	76	50	4	11	(s)	1
April	5	7	3	5	113	65	47	3	10	(s)	1
May	6	34	3	5	106	80	48	3	11	(s)	1
June	4	9	4	5	121	104	49	4	11	(s)	1
July	6	10	5	5	125	63	52	4	12	(s)	1
August	5	33	4	5	119	96	52	4	12	(s)	1
September	6	9	4	5	114	76	49	4	11	(s)	1
October	6	7	4	5	115	88	48	5	11	1	1
November	6	8	4	5	105	72	50	4	11	(s)	1
December	5	NM	4	5	102	66	53	4	11	(s)	1
Total	69	178	47	58	1,403	950	598	47	134	5	11
2026 January	7	NM	4	5	122	93	52	4	11	(s)	1
February	6	NM	4	4	113	91	45	4	10	(s)	1
March	3	15	4	5	108	79	48	4	11	(s)	1
April	4	11	3	4	99	90	46	4	10	(s)	1
4-Month Total	19	112	16	18	442	352	191	16	42	2	4
2025 4-Month Total	26	55	15	19	496	305	197	15	44	2	3
2024 4-Month Total	28	80	15	20	472	337	198	16	46	2	5

^a Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^b Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

^c Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal syngas.

^d Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^e Natural gas, plus a small amount of supplemental gaseous fuels.

^f Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^g Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

^h Wood and wood-derived fuels.

ⁱ Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous

technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

NM=Not meaningful. (s)=Less than 0.5 trillion Btu.

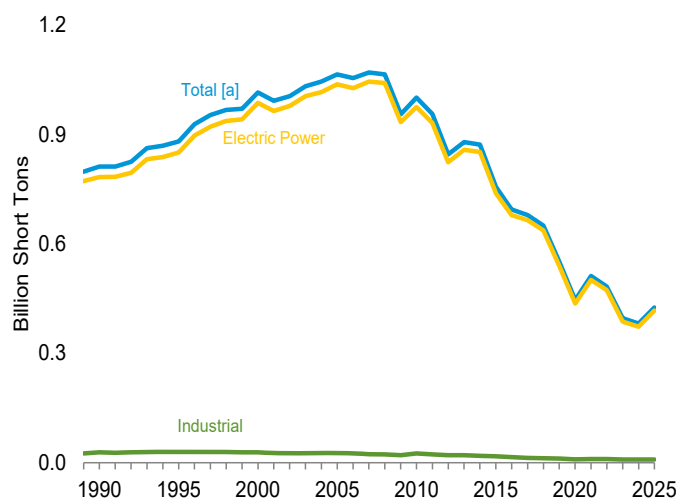
Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Data are for fuels consumed to produce electricity. Through 1988, data are not available. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 1989.

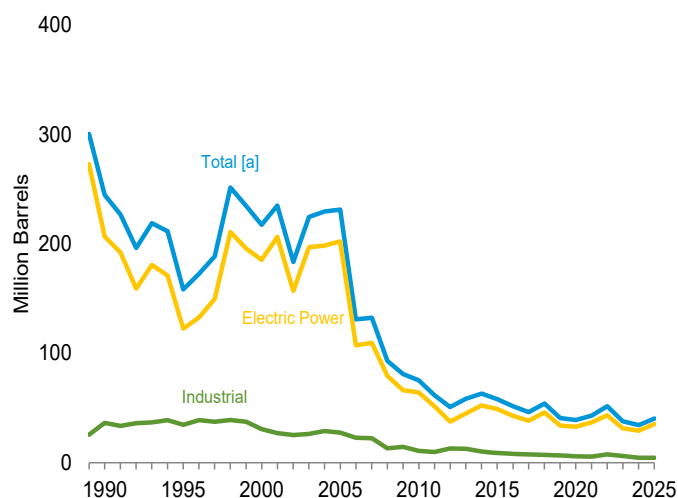
Sources: • **1989–1997:** U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1998–2000:** EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001–2003:** EIA, Form EIA-906, "Power Plant Report." • **2004–2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

Figure 7.4 Consumption of Selected Combustible Fuels for Electricity Generation and Useful Thermal Output

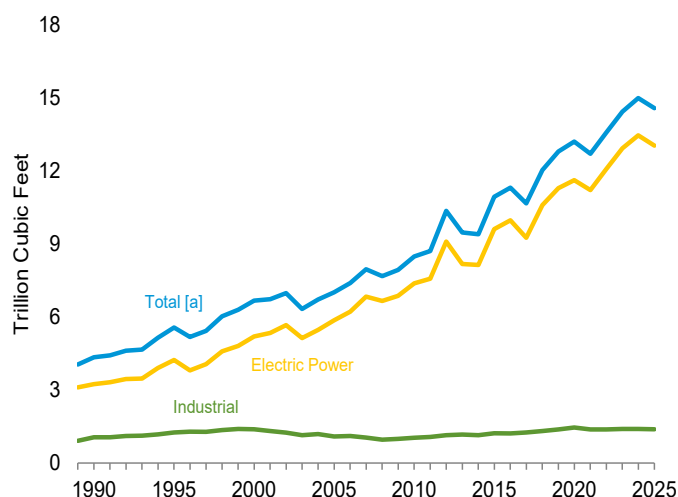
Coal by Sector, 1989–2025



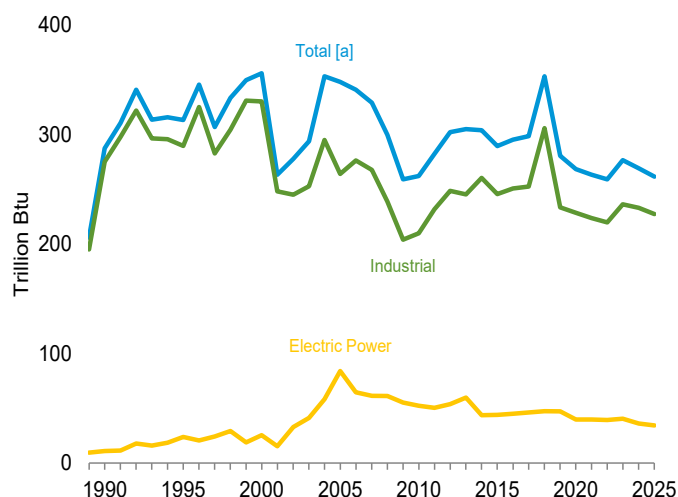
Petroleum by Sector, 1989–2025



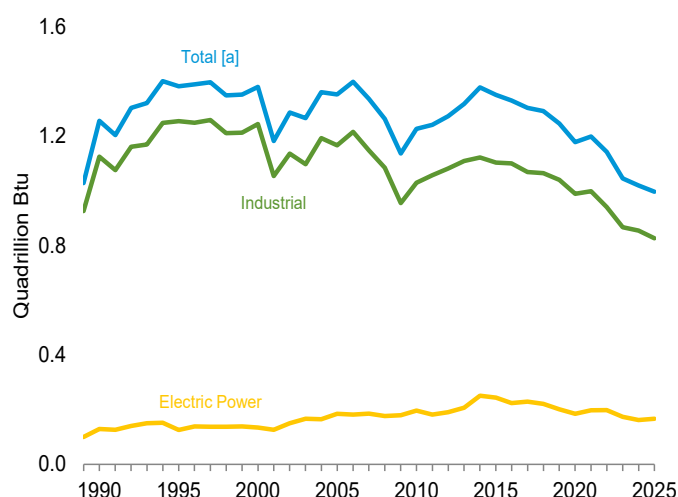
Natural Gas by Sector, 1989–2025



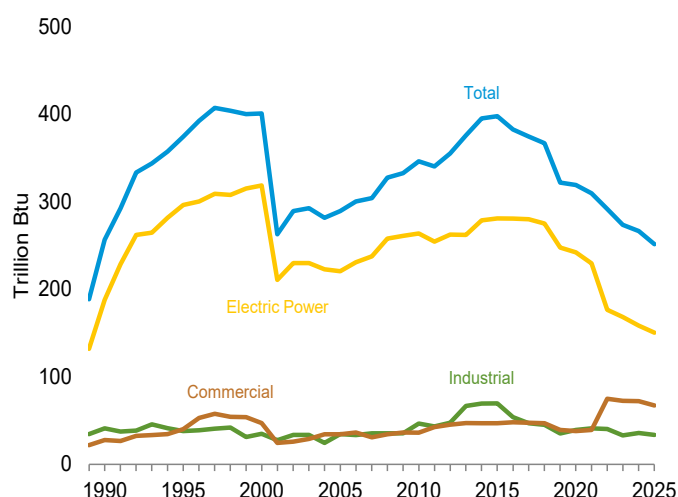
Other Fossil Gases [b] by Sector, 1989–2025



Wood by Sector, 1989–2025



Waste by Sector, 1989–2025



[a] Includes commercial sector.

[b] Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

Note: Data are for utility-scale facilities.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.

Sources: Tables 7.4a–7.4c.

Table 7.4a Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output: Total (All Sectors) (Sum of Tables 7.4b and 7.4c)

	Coal ^a	Petroleum					Natural Gas ⁱ	Other Fossil Gases ^g	Biomass		Other ^j
		Distillate Fuel Oil ^b	Residual Fuel Oil ^c	Other Liquids ^d	Petroleum Coke ^e	Total ^e			Wood ^h	Waste ⁱ	
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu			
1950 Total	91,871	5,423	69,998	NA	NA	75,421	629	NA	5	NA	NA
1955 Total	143,759	5,412	69,862	NA	NA	75,274	1,153	NA	3	NA	NA
1960 Total	176,685	3,824	84,371	NA	NA	88,195	1,725	NA	2	NA	NA
1965 Total	244,788	4,928	110,274	NA	NA	115,203	2,321	NA	3	NA	NA
1970 Total	320,182	24,123	311,381	NA	636	338,686	3,932	NA	1	2	NA
1975 Total	405,962	38,907	467,221	NA	70	506,479	3,158	NA	(s)	2	NA
1980 Total	569,274	29,051	391,163	NA	179	421,110	3,682	NA	3	2	NA
1985 Total	693,841	14,635	158,779	NA	231	174,571	3,044	NA	8	7	NA
1990 Total ^k	811,538	20,194	209,081	1,332	2,832	244,765	4,346	288	1,256	257	86
1995 Total	881,012	21,697	112,168	1,322	4,590	158,140	5,572	313	1,382	374	97
2000 Total	1,015,398	34,572	156,673	2,904	4,669	217,494	6,677	356	1,380	401	109
2005 Total	1,065,281	24,446	156,915	4,270	9,113	231,193	7,021	348	1,353	289	237
2010 Total	1,001,411	15,247	26,944	2,777	6,053	75,231	8,502	262	1,226	346	237
2011 Total	956,470	11,735	16,877	2,540	6,092	61,610	8,724	282	1,241	340	261
2012 Total	845,066	9,945	13,571	2,185	5,021	50,805	10,371	302	1,273	355	252
2013 Total	879,078	10,277	14,199	2,212	6,338	58,378	9,479	305	1,318	376	236
2014 Total	871,741	15,107	16,615	2,908	5,695	63,106	9,410	304	1,378	395	236
2015 Total	756,226	12,924	16,136	3,008	5,188	58,009	10,952	290	1,351	398	237
2016 Total	693,958	10,278	12,231	2,173	5,352	51,441	11,322	296	1,330	383	238
2017 Total	678,578	10,168	11,508	2,033	4,467	46,043	10,677	299	1,303	375	226
2018 Total	650,027	15,066	13,584	2,578	4,552	53,988	12,048	353	1,291	367	226
2019 Total	550,017	10,369	10,049	2,580	3,563	40,811	12,809	281	1,246	322	234
2020 Total	445,753	8,604	8,974	2,160	3,856	39,020	13,221	269	1,178	319	226
2021 Total	511,669	11,340	9,895	2,470	3,830	42,855	12,724	264	1,199	310	218
2022 Total	482,931	15,599	14,715	2,626	3,702	51,452	13,590	259	1,143	292	187
2023 Total	395,989	10,161	12,089	2,218	2,649	37,714	14,456	277	1,045	274	178
2024 January	43,320	1,731	1,129	220	220	4,181	1,278	24	90	24	15
February	26,736	626	744	185	163	2,370	1,037	22	84	22	14
March	23,193	694	755	160	134	2,279	1,045	23	86	23	14
April	21,907	919	746	141	174	2,678	999	22	82	22	14
May	26,850	829	822	116	187	2,701	1,169	23	83	23	15
June	35,096	834	837	142	223	2,927	1,361	23	84	21	14
July	41,183	933	913	168	256	3,294	1,661	23	86	22	16
August	40,091	930	870	141	248	3,181	1,632	23	88	22	15
September	32,184	640	839	109	156	2,371	1,347	21	84	21	14
October	28,002	745	924	126	156	2,576	1,190	21	77	22	14
November	27,066	703	842	131	153	2,441	1,112	20	84	23	14
December	36,188	1,106	1,111	163	199	3,374	1,173	22	91	23	15
Total	381,814	10,691	10,532	1,802	2,270	34,373	15,001	269	1,019	266	173
2025 January	46,743	3,236	1,577	294	253	6,372	1,266	24	87	23	14
February	35,937	1,160	942	164	177	3,152	1,054	22	78	21	12
March	28,803	718	821	145	211	2,739	959	22	86	22	13
April	26,578	727	773	126	177	2,513	949	20	75	21	13
May	28,541	642	763	103	196	2,488	1,092	20	81	20	13
June	37,213	1,018	940	193	265	3,475	1,332	22	83	20	13
July	45,847	940	1,035	149	251	3,380	1,622	23	88	20	14
August	40,400	920	907	166	255	3,268	1,538	21	87	20	14
September	34,061	714	849	134	223	2,810	1,344	21	85	19	13
October	31,660	715	891	155	227	2,894	1,158	23	81	21	13
November	31,639	946	785	160	196	2,869	1,083	23	81	21	13
December	37,910	1,512	1,769	204	176	4,365	1,194	22	85	22	14
Total	425,333	13,247	12,051	1,993	2,607	40,325	14,592	262	997	251	160
2026 January	40,605	5,714	2,593	657	222	10,076	1,251	23	84	21	13
February	31,894	3,377	1,555	294	219	6,321	1,074	20	77	20	12
March	25,877	1,012	821	258	169	2,937	1,042	21	80	22	13
April	23,146	842	760	158	192	2,720	1,016	21	67	20	12
4-Month Total	121,521	10,944	5,729	1,368	803	22,056	4,383	85	307	83	51
2025 4-Month Total	138,061	5,841	4,113	729	819	14,776	4,228	88	326	87	52
2024 4-Month Total	115,155	3,970	3,374	706	692	11,508	4,359	91	342	91	57

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^b Fuel oil nos. 1, 2, and 4. For 1949–1979, data are for gas turbine and internal combustion plant use of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.

^c Fuel oil nos. 5 and 6. For 1949–1979, data are for steam plant use of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.

^d Jet fuel, kerosene, other petroleum liquids, waste oil, and, beginning in 2011, propane.

^e Petroleum coke is converted from short tons to barrels by multiplying by 5.

^f Natural gas, plus a small amount of supplemental gaseous fuels.

^g Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

^h Wood and wood-derived fuels.

ⁱ Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes

non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^j Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^k Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.

NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: Tables 7.4b and 7.4c.

Table 7.4b Consumption of Combustible Fuels for Electricity Generation and Useful Thermal Output: Electric Power Sector (Subset of Table 7.4a)

	Coal ^a	Petroleum					Natural Gas ^f	Other Fossil Gases ^g	Biomass		Other ⁱ
		Distillate Fuel Oil ^b	Residual Fuel Oil ^c	Other Liquids ^d	Petroleum Coke ^e	Total ^e			Wood ^h	Waste ^j	
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu			
1950 Total	91,871	5,423	69,998	NA	NA	75,421	629	NA	5	NA	NA
1955 Total	143,759	5,412	69,862	NA	NA	75,274	1,153	NA	3	NA	NA
1960 Total	176,685	3,824	84,371	NA	NA	88,195	1,725	NA	2	NA	NA
1965 Total	244,788	4,928	110,274	NA	NA	115,203	2,321	NA	3	NA	NA
1970 Total	320,182	24,123	311,381	NA	636	338,686	3,932	NA	1	2	NA
1975 Total	405,962	38,907	467,221	NA	70	506,479	3,158	NA	(s)	2	NA
1980 Total	569,274	29,051	391,163	NA	179	421,110	3,682	NA	3	2	NA
1985 Total	693,841	14,635	158,779	NA	231	174,571	3,044	NA	8	7	NA
1990 Total ^k	782,567	16,567	184,915	26	1,008	206,550	3,245	11	129	188	(s)
1995 Total	850,230	18,553	90,023	499	2,674	122,447	4,237	24	125	296	2
2000 Total	985,821	30,016	138,513	454	3,275	185,358	5,206	25	134	318	1
2005 Total	1,037,485	19,675	139,409	2,685	8,083	202,184	5,869	84	185	221	123
2010 Total	975,052	13,790	24,503	1,877	4,777	64,055	7,387	52	196	264	124
2011 Total	932,484	11,021	14,803	1,658	4,837	51,667	7,574	50	182	255	143
2012 Total	823,551	9,080	12,203	1,339	2,974	37,495	9,111	54	190	262	143
2013 Total	857,962	9,598	12,283	1,489	4,285	44,794	8,191	60	207	262	139
2014 Total	851,602	14,235	15,132	2,208	4,132	52,235	8,146	44	251	279	137
2015 Total	738,444	12,193	14,929	2,131	3,907	48,787	9,613	44	244	281	136
2016 Total	678,554	9,510	11,242	1,322	4,138	42,763	9,985	45	224	281	139
2017 Total	664,993	9,481	10,464	1,375	3,399	38,318	9,266	46	229	280	132
2018 Total	637,217	13,967	12,446	1,855	3,549	46,013	10,599	47	221	275	136
2019 Total	538,606	9,336	9,352	1,750	2,655	33,712	11,299	47	201	248	145
2020 Total	435,827	7,673	8,382	1,543	3,057	32,885	11,632	40	185	242	144
2021 Total	501,435	10,359	9,115	1,835	3,075	36,686	11,229	40	197	229	134
2022 Total	472,834	14,463	12,031	1,864	2,965	43,181	12,092	39	198	176	81
2023 Total	387,205	9,165	10,202	1,647	2,045	31,241	12,941	40	174	168	80
2024 January	42,463	1,547	1,038	173	163	3,574	1,137	3	16	14	7
February	26,017	533	701	118	119	1,947	913	3	14	13	6
March	22,422	574	707	116	89	1,844	919	3	14	14	6
April	21,281	832	690	98	124	2,240	880	3	11	12	6
May	26,198	728	780	74	139	2,278	1,048	2	12	13	6
June	34,447	702	801	99	172	2,462	1,238	3	14	13	6
July	40,471	890	879	120	199	2,884	1,528	3	15	13	6
August	39,397	887	837	106	196	2,809	1,496	3	15	14	6
September	31,502	611	799	67	110	2,027	1,223	3	13	13	6
October	27,308	702	866	83	106	2,180	1,071	3	10	13	6
November	26,336	661	790	84	102	2,047	987	3	12	13	6
December	35,416	1,029	1,030	122	140	2,878	1,037	3	15	13	6
Total	373,258	9,695	9,916	1,260	1,660	29,171	13,476	36	162	158	73
2025 January	45,929	3,112	1,491	233	207	5,874	1,125	4	15	13	6
February	35,224	1,072	870	144	138	2,777	932	4	13	12	6
March	28,022	659	763	99	162	2,332	830	3	14	13	6
April	25,861	686	727	83	132	2,158	830	2	10	12	6
May	27,931	582	720	56	140	2,058	972	2	13	12	6
June	36,563	967	899	124	199	2,983	1,211	3	15	13	6
July	45,140	883	991	113	209	3,029	1,494	3	15	13	7
August	39,722	842	868	118	200	2,827	1,409	2	15	12	7
September	33,409	675	822	89	168	2,426	1,221	2	15	12	6
October	31,008	675	850	100	171	2,480	1,035	3	13	12	6
November	30,977	905	757	115	140	2,476	946	3	13	13	6
December	37,209	1,445	1,689	159	121	3,897	1,047	2	16	13	7
Total	416,995	12,505	11,447	1,431	1,987	35,318	13,054	34	167	151	74
2026 January	39,867	5,462	2,516	626	167	9,438	1,093	3	16	12	6
February	31,224	3,265	1,368	248	151	5,637	947	2	15	12	6
March	25,228	947	780	213	124	2,560	918	2	14	13	6
April	22,570	798	733	115	132	2,307	898	3	10	12	6
4-Month Total	118,889	10,473	5,397	1,202	574	19,942	3,855	10	56	50	24
2025 4-Month Total	135,036	5,531	3,852	559	640	13,141	3,717	13	52	51	24
2024 4-Month Total	112,183	3,485	3,136	505	496	9,605	3,849	12	55	53	24

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal syntfuel.

^b Fuel oil nos. 1, 2, and 4. For 1949–1979, data are for gas turbine and internal combustion plant use of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.

^c Fuel oil nos. 5 and 6. For 1949–1979, data are for steam plant use of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.

^d Jet fuel, kerosene, other petroleum liquids, waste oil, and, beginning in 2011, propane.

^e Petroleum coke is converted from short tons to barrels by multiplying by 5.

^f Natural gas, plus a small amount of supplemental gaseous fuels.

^g Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

^h Wood and wood-derived fuels.

ⁱ Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and

tire-derived fuels).

^j Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^k Through 1988, data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 7.4c Consumption of Selected Combustible Fuels for Electricity Generation and Useful Thermal Output: Commercial and Industrial Sectors (Subset of Table 7.4a)

	Commercial Sector ^a				Industrial Sector ^b						
	Coal ^c	Petroleum ^d	Natural Gas ^e	Biomass	Coal ^c	Petroleum ^d	Natural Gas ^e	Other Fossil Gases ^g	Biomass		Other ⁱ
				Waste ^f					Wood ^h	Waste ^f	
	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu	Thousand Short Tons	Thousand Barrels	Billion Cubic Feet	Trillion Btu			
1990 Total	1,191	2,056	46	28	27,781	36,159	1,055	275	1,125	41	86
1995 Total	1,419	1,245	78	40	29,363	34,448	1,258	290	1,255	38	95
2000 Total	1,547	1,615	85	47	28,031	30,520	1,386	331	1,244	35	108
2005 Total	1,922	1,630	68	34	25,875	27,380	1,084	264	1,166	34	94
2010 Total	1,720	437	86	36	24,638	10,740	1,029	210	1,029	47	91
2011 Total	1,668	333	87	43	22,319	9,610	1,063	232	1,057	43	94
2012 Total	1,450	457	111	45	20,065	12,853	1,149	249	1,082	47	81
2013 Total	1,356	887	118	47	19,761	12,697	1,170	246	1,109	67	69
2014 Total	1,063	758	119	47	19,076	10,112	1,145	260	1,122	70	72
2015 Total	798	622	116	47	16,984	8,600	1,222	246	1,103	70	73
2016 Total	683	404	127	48	14,720	8,273	1,209	251	1,100	54	70
2017 Total	610	516	154	48	12,975	7,209	1,257	253	1,069	47	65
2018 Total	577	681	135	47	12,233	7,294	1,314	306	1,065	45	62
2019 Total	519	707	135	39	10,892	6,393	1,374	234	1,040	35	61
2020 Total	473	527	131	38	9,453	5,609	1,458	229	989	39	55
2021 Total	534	614	117	39	9,700	5,555	1,379	224	999	41	55
2022 Total	535	830	123	75	9,563	7,441	1,375	220	941	40	32
2023 Total	400	582	119	72	8,384	5,891	1,396	236	867	33	26
2024 January	63	124	12	6	794	482	129	21	73	4	2
February	47	63	11	6	671	360	113	20	70	4	2
March	37	81	10	6	733	354	115	20	72	3	2
April	31	58	9	6	595	380	110	19	71	3	3
May	19	83	9	6	632	340	112	21	70	4	2
June	26	116	10	6	622	350	112	20	70	2	2
July	28	14	12	6	684	395	121	20	71	2	3
August	31	14	12	6	664	358	123	20	72	2	2
September	31	11	10	6	652	332	114	18	71	2	2
October	31	14	10	6	663	382	109	18	67	3	2
November	37	22	10	6	692	372	114	18	72	3	2
December	41	49	11	6	731	447	124	19	76	3	2
Total	422	650	128	72	8,134	4,553	1,397	233	855	36	28
2025 January	49	NM	12	6	765	422	130	20	72	3	2
February	42	NM	11	5	671	332	111	18	64	3	1
March	38	26	10	6	743	382	118	20	72	4	2
April	32	18	9	6	685	337	110	18	65	3	2
May	30	41	9	5	581	390	111	18	68	3	2
June	26	24	10	5	624	468	110	19	68	2	2
July	34	20	11	6	673	331	116	20	72	2	2
August	32	41	11	6	646	400	118	18	72	2	2
September	32	16	10	6	620	367	113	19	69	2	2
October	32	16	10	6	621	397	113	20	68	3	2
November	33	20	21	6	629	373	117	20	67	3	2
December	33	NM	23	6	668	412	124	19	69	3	2
Total	413	397	149	67	7,926	4,609	1,389	227	826	34	19
2026 January	43	NM	33	5	695	484	126	20	68	3	2
February	37	NM	19	5	633	601	108	18	61	3	2
March	23	49	11	6	625	329	113	19	65	3	2
April	27	23	10	5	549	391	109	18	57	3	1
4-Month Total	131	310	73	21	2,502	1,804	455	75	250	13	6
2025 4-Month Total	161	163	42	23	2,864	1,472	469	75	273	13	6
2024 4-Month Total	178	326	42	24	2,793	1,577	467	79	285	14	10

^a Commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^b Industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

^c Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^d Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^e Natural gas, plus a small amount of supplemental gaseous fuels.

^f Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^g Blast furnace gas, and other manufactured and waste gases derived from fossil fuels. Through 2010, also includes propane gas.

^h Wood and wood-derived fuels.

ⁱ Batteries, chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous

technologies, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

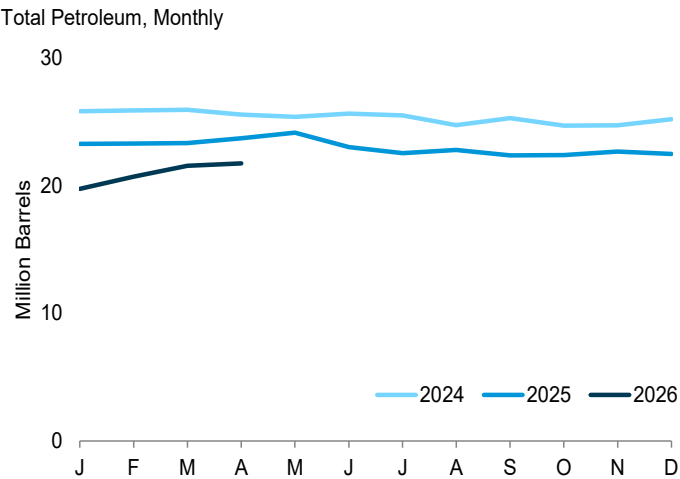
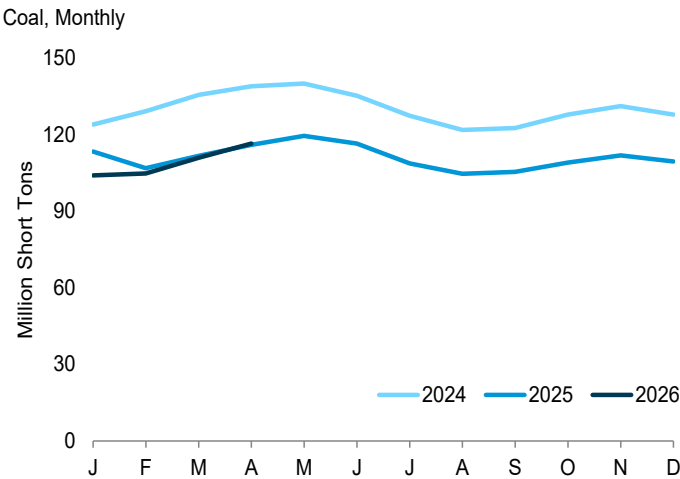
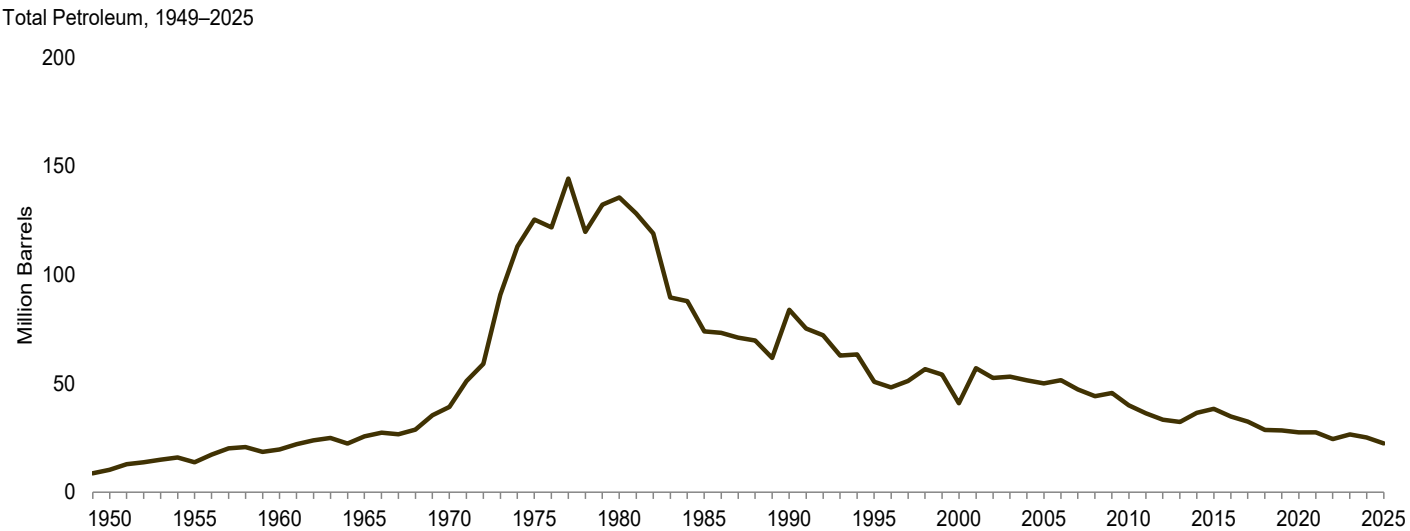
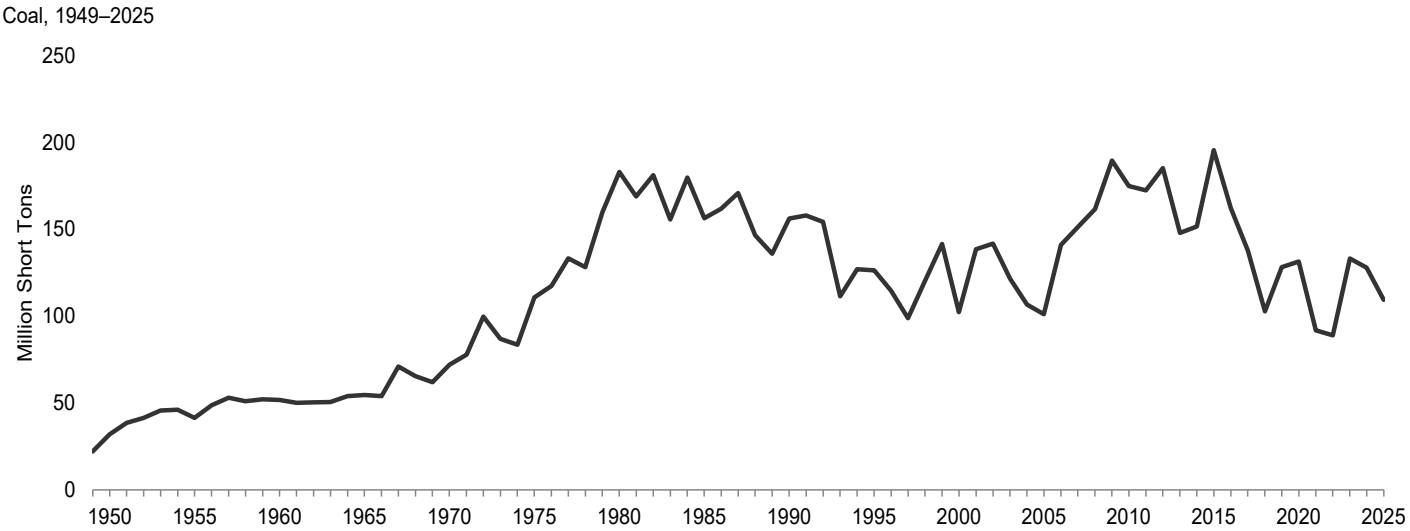
NM=Not meaningful.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 1989.

Sources: • **1989–1997:** U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • **1998–2000:** EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001–2003:** EIA, Form EIA-906, "Power Plant Report." • **2004–2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

Figure 7.5 Stocks of Coal and Petroleum: Electric Power Sector



Note: Data are for utility-sale facilities.
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.
Source: Table 7.5.

Table 7.5 Stocks of Coal and Petroleum: Electric Power Sector

	Coal ^a	Petroleum				
		Distillate Fuel Oil ^b	Residual Fuel Oil ^c	Other Liquids ^d	Petroleum Coke ^e	Total ^{e,f}
	Thousand Short Tons	Thousand Barrels			Thousand Short Tons	Thousand Barrels
1950 Year	31,842	NA	NA	NA	NA	10,201
1955 Year	41,391	NA	NA	NA	NA	13,671
1960 Year	51,735	NA	NA	NA	NA	19,572
1965 Year	54,525	NA	NA	NA	NA	25,647
1970 Year	71,908	NA	NA	NA	239	39,151
1975 Year	110,724	16,432	108,825	NA	31	125,413
1980 Year	183,010	30,023	105,351	NA	52	135,635
1985 Year	156,376	16,386	57,304	NA	49	73,933
1990 Year	156,166	16,471	67,030	NA	94	83,970
1995 Year	126,304	15,392	35,102	NA	65	50,821
2000 Year ^g	102,296	15,127	24,748	NA	211	40,932
2005 Year	101,137	18,778	27,624	NA	530	50,062
2010 Year	174,917	16,758	16,629	1,454	1,019	39,936
2011 Year	172,387	16,649	15,491	1,603	508	36,282
2012 Year	185,116	16,433	12,999	1,430	495	33,336
2013 Year	147,884	16,068	12,926	1,393	390	32,336
2014 Year	151,548	18,309	12,764	1,249	827	36,459
2015 Year	195,548	17,955	12,566	1,173	1,340	38,396
2016 Year	162,009	17,855	11,789	949	845	34,818
2017 Year	137,687	16,342	10,930	816	864	32,407
2018 Year	102,793	16,436	8,785	756	539	28,674
2019 Year	128,102	16,733	8,549	678	471	28,317
2020 Year	131,431	17,116	8,269	678	298	27,552
2021 Year	91,884	18,220	7,038	744	302	27,513
2022 Year	88,861	16,521	5,777	513	318	24,404
2023 Year	133,028	17,628	6,058	717	427	26,539
2024 January	123,854	17,609	5,929	737	312	25,834
February	129,170	17,564	6,065	725	308	25,897
March	135,537	17,431	6,118	727	333	25,941
April	138,839	17,099	6,191	721	309	25,554
May	139,893	17,003	6,111	720	311	25,389
June	135,229	17,300	5,974	700	332	25,632
July	127,378	17,040	5,730	673	410	25,494
August	121,756	16,520	5,573	650	399	24,737
September	122,555	16,813	5,465	650	470	25,275
October	127,747	16,490	5,435	642	428	24,705
November	131,091	16,633	5,419	645	404	24,719
December	127,826	17,044	5,291	678	438	25,204
2025 January	113,290	16,040	4,714	532	395	23,261
February	106,803	16,216	4,535	515	405	23,291
March	111,657	16,152	4,833	508	368	23,332
April	115,919	16,455	4,911	566	358	23,721
May	119,487	16,637	5,007	561	390	24,157
June	116,421	15,908	4,852	540	342	23,012
July	108,731	15,688	4,688	524	326	22,528
August	104,604	15,880	4,744	486	334	22,779
September	105,398	15,862	4,620	488	278	22,361
October	109,066	15,866	4,616	482	287	22,396
November	111,847	15,891	4,750	475	311	22,669
December	109,452	16,078	4,392	463	307	22,471
2026 January	104,018	14,458	3,535	313	287	19,740
February	104,721	15,086	3,807	363	289	20,700
March	110,929	15,275	4,183	353	346	21,543
April	116,494	15,252	4,339	351	360	21,740

^a Anthracite, bituminous coal, subbituminous coal, and lignite. Through 2000, also includes waste coal.

^b Fuel oil nos. 1, 2 and 4. For 1973–1979, data are for gas turbine and internal combustion plant stocks of petroleum. For 1980–2000, electric utility data also include small amounts of kerosene and jet fuel.

^c Fuel oil nos. 5 and 6. For 1973–1979, data are for steam plant stocks of petroleum. For 1980–2000, electric utility data also include a small amount of fuel oil no. 4.

^d Jet fuel and kerosene. Through 2003, data also include a small amount of waste oil.

^e Petroleum coke is converted from short tons to barrels by multiplying by 5.

^f Distillate fuel oil and residual fuel oil. Beginning in 1970, also includes petroleum coke. Beginning in 2002, also includes other liquids.

^g Through 1998, data are for electric utilities only. Beginning in 1999, data are for electric utilities and independent power producers.

NA=Not available.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose

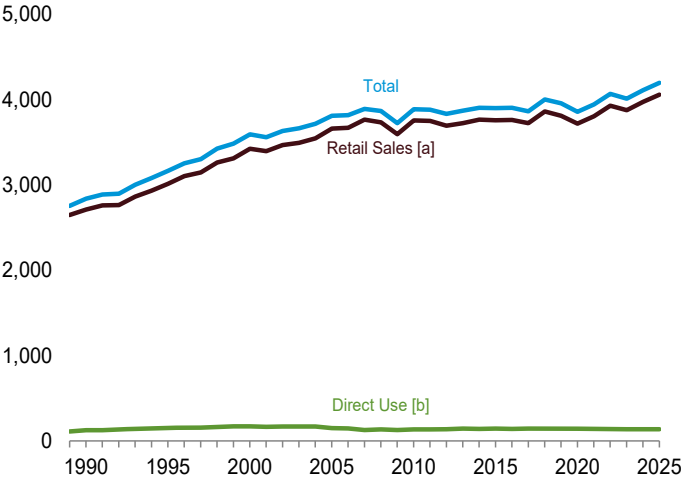
primary business is to sell electricity, or electricity and heat, to the public. • Stocks are at end of period. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

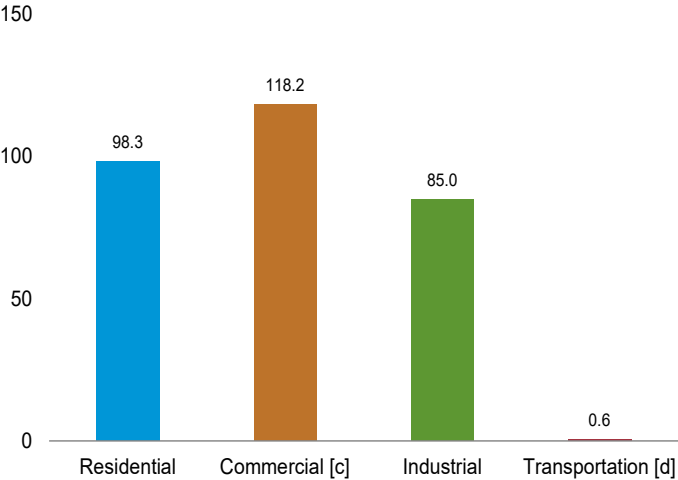
Sources: • **1949–September 1977:** Federal Power Commission, Form FPC-4, "Monthly Power Plant Report." • **October 1977–1981:** Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report." • **1982–1988:** U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report." • **1989–1997:** EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." • **1998–2000:** EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." • **2001–2003:** EIA, Form EIA-906, "Power Plant Report." • **2004–2007:** EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." • **2008 forward:** EIA, Form EIA-923, "Power Plant Operations Report."

Figure 7.6 Electricity End Use
(Billion Kilowatthours)

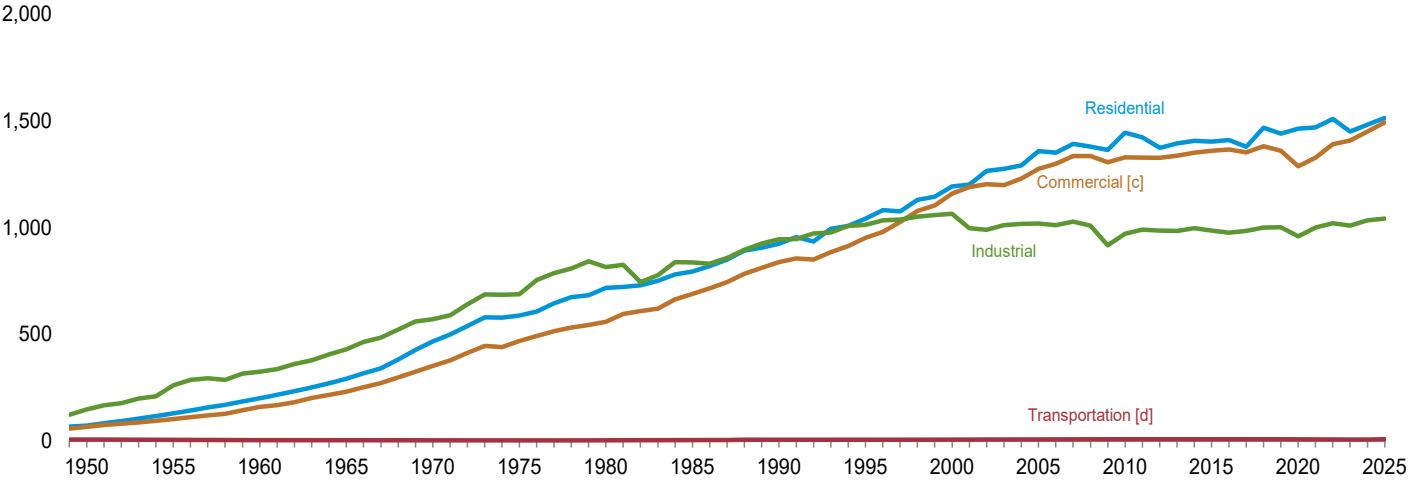
Electricity End Use Overview, 1989–2025



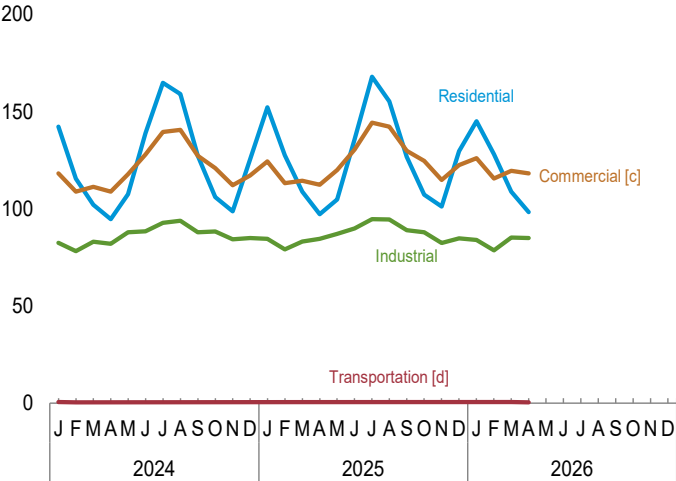
Sales to Ultimate Customers [a] by Sector, April 2026



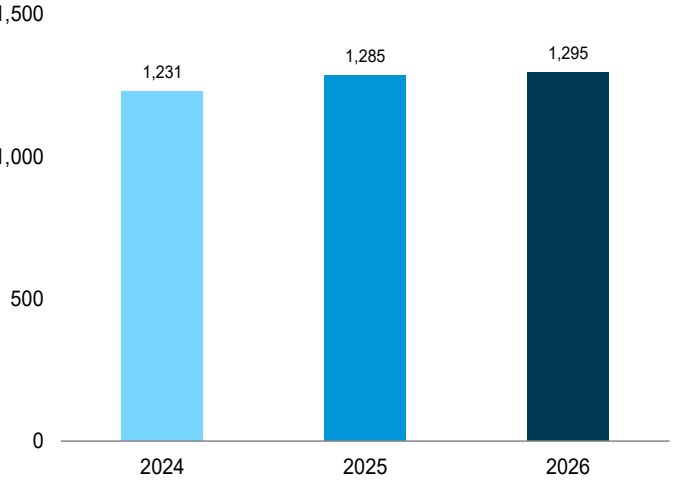
Sales to Ultimate Customers [a] by Sector, 1949–2025



Sales to Ultimate Customers [a] by Sector, Monthly



Sales to Ultimate Customers [a] Total, January–April



[a] Electricity sales to ultimate customers reported by utilities and other energy service providers.
[b] See “Direct Use” in Glossary.
[c] Commercial sector, including public street and highway lighting, inter-

departmental sales, and other sales to public authorities.
[d] Transportation sector, including sales to railroads and railways.
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#electricity>.
Source: Table 7.6.

Table 7.6 Electricity End Use and Electric Vehicle Use
(Million Kilowatthours)

	Sales to Ultimate Customers ^a					Direct Use ^g	Total End Use ^h	Electric Vehicle Use ^{b,i,j}
	Residential ^b	Commercial ^{b,c}	Industrial ^{b,d}	Transportation ^e	Total Sales ^f			
1950 Total	72,200	E 65,971	146,479	E 6,793	291,443	NA	291,443	NA
1955 Total	128,401	E 102,547	259,974	E 5,826	496,748	NA	496,748	NA
1960 Total	201,463	E 159,144	324,402	E 3,066	688,075	NA	688,075	NA
1965 Total	291,013	E 231,126	428,727	E 2,923	953,789	NA	953,789	NA
1970 Total	466,291	E 352,041	570,854	E 3,115	1,392,300	NA	1,392,300	NA
1975 Total	588,140	E 468,296	687,680	E 2,974	1,747,091	NA	1,747,091	NA
1980 Total	717,495	558,643	815,067	3,244	2,094,449	NA	2,094,449	NA
1985 Total	793,934	689,121	836,772	4,147	2,323,974	NA	2,323,974	NA
1990 Total	924,019	838,263	945,522	4,751	2,712,555	124,529	2,837,084	NA
1995 Total	1,042,501	953,117	1,012,693	4,975	3,013,287	150,677	3,163,963	NA
2000 Total	1,192,446	1,159,347	1,064,239	5,382	3,421,414	170,943	3,592,357	NA
2005 Total	1,359,227	1,275,079	1,019,156	7,506	3,660,969	150,016	3,810,984	NA
2010 Total	1,445,708	1,330,199	971,221	7,712	3,754,841	131,910	3,886,752	NA
2011 Total	1,422,801	1,328,057	991,316	7,672	3,749,846	132,754	3,882,600	NA
2012 Total	1,374,515	1,327,101	985,714	7,320	3,694,650	137,657	3,832,306	NA
2013 Total	1,394,812	1,337,079	985,352	7,625	3,724,868	143,462	3,868,330	NA
2014 Total	1,407,208	1,352,158	997,576	7,758	3,764,700	138,574	3,903,274	NA
2015 Total	1,404,096	1,360,752	986,508	7,637	3,758,992	141,168	3,900,160	NA
2016 Total	1,411,058	1,367,191	976,715	7,497	3,762,462	139,837	3,902,298	NA
2017 Total	1,378,648	1,352,888	984,298	7,523	3,723,356	140,959	3,864,315	NA
2018 Total	1,469,093	1,381,755	1,000,673	7,665	3,859,185	143,904	4,003,089	E 1,582
2019 Total	1,440,289	1,360,877	1,002,353	7,632	3,811,150	143,270	3,954,421	E 2,060
2020 Total	1,464,605	1,287,440	959,082	6,548	3,717,674	138,703	3,856,377	E 2,900
2021 Total	1,470,487	1,328,439	1,000,613	6,334	3,805,874	138,915	3,944,789	E 3,519
2022 Total	1,509,233	1,390,873	1,020,464	6,599	3,927,169	139,726	4,066,895	E 5,252
2023 Total	1,450,025	1,408,109	1,009,256	6,864	3,874,253	136,918	4,011,172	E 13,212
2024 January	142,354	118,234	82,517	612	343,717	E 12,266	355,982	E 1,354
February	115,477	108,967	78,277	538	303,258	E 11,002	314,260	E 1,246
March	102,203	111,382	83,100	593	297,278	E 11,090	308,369	E 1,389
April	94,674	108,972	82,078	532	286,257	E 10,760	297,017	E 1,370
May	107,605	117,864	87,901	592	313,961	E 11,077	325,038	E 1,434
June	138,920	127,949	88,446	566	355,882	E 11,042	366,924	E 1,434
July	164,833	139,551	92,848	641	397,873	E 11,900	409,773	E 1,532
August	159,098	140,632	93,848	621	394,199	E 12,227	406,427	E 1,547
September	127,340	127,248	87,920	563	343,071	E 11,025	354,096	E 1,470
October	106,083	120,899	88,354	566	315,902	E 10,264	326,166	E 1,607
November	98,782	112,091	84,369	554	295,796	E 10,715	306,511	E 1,599
December	125,504	117,152	84,927	605	328,188	E 11,672	339,860	E 1,818
Total	1,482,874	1,450,941	1,034,584	6,983	3,975,382	135,041	4,110,422	E 17,800
2025 January	152,329	124,447	84,519	686	361,981	E 12,282	374,263	E 1,758
February	127,517	113,204	79,229	610	320,561	E 10,758	331,319	E 1,622
March	108,969	114,427	83,210	635	307,241	E 11,398	318,639	E 1,770
April	97,306	112,436	84,536	569	294,846	E 10,557	305,403	E 1,802
May	104,856	119,943	87,134	556	312,489	E 10,822	323,311	E 1,937
June	135,822	130,589	90,022	667	357,100	E 11,264	368,365	E 2,004
July	168,011	144,363	94,651	605	407,630	E 11,964	419,594	E 2,182
August	155,204	142,263	94,540	625	392,631	E 12,040	404,671	E 2,173
September	126,778	129,791	89,041	592	346,202	E 11,479	357,681	E 2,045
October	107,313	124,680	88,004	590	320,588	E 11,357	331,945	E 2,086
November	101,222	114,822	82,422	555	299,022	E 11,358	310,379	E 1,967
December	129,667	122,522	84,907	621	337,716	E 11,799	349,514	E 2,187
Total	1,514,993	1,493,486	1,042,217	7,311	4,058,007	E 137,077	4,195,085	E 23,533
2026 January	145,115	126,120	84,043	663	355,940	E 11,831	367,771	E 2,246
February	128,055	115,691	78,653	635	323,035	E 10,384	333,419	E 2,076
March	108,868	119,622	85,228	591	314,308	E 11,077	325,385	E 2,294
April	98,322	118,237	85,004	564	302,127	E 10,544	312,670	E 2,219
4-Month Total	480,359	479,669	332,928	2,453	1,295,410	E 43,836	1,339,246	E 8,835
2025 4-Month Total	486,121	464,514	331,494	2,500	1,284,630	E 44,995	1,329,624	E 6,952
2024 4-Month Total	454,708	447,555	325,972	2,275	1,230,510	E 45,118	1,275,628	E 5,359

^a Electricity sales to ultimate customers based on classes of service reported by electric utilities and, beginning in 1996, other energy service providers.

^b Electricity sales to the residential, commercial, and industrial sectors, based on class of service, including sales of electricity to operate and move electric vehicles. See Note 4, "Experimental Estimates of Electric Vehicle Use," at end of section.

^c Commercial sector, including public street and highway lighting, interdepartmental sales, and other sales to public authorities.

^d Industrial sector. Through 2002, excludes agriculture and irrigation; beginning in 2003, includes agriculture and irrigation.

^e Sales to public railroads and railway systems only. Excludes the estimated amount of electricity used to operate and move electric vehicles.

^f The sum of "Residential," "Commercial," "Industrial," and "Transportation."

^g Use of electricity that is 1) self-generated, 2) produced by either the same entity that consumes the power or an affiliate, and 3) used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of station use.

^h The sum of "Total Sales to Ultimate Customers" and "Direct Use."

ⁱ Electricity used to operate and move on-road light-duty electric vehicles (less than or equal to 8,500 pounds). Excludes motor gasoline consumption by plug-in hybrid electric vehicles. Electric vehicle use is estimated independently and should not be added to the sales or total end use columns as it will result in double counting. See Note 4, "Experimental Estimates of Electric Vehicle Use," at end of section.

^j Beginning in 2023, the estimates are not strictly comparable with earlier years due to a change in the estimation methodology for vehicle miles traveled. For details see Table 1.9 footnote f.

E=Estimate. NA=Not available.

Notes: • See Note 1, "Coverage of Electricity Statistics," at end of section. • See Note 4, "Experimental Estimates of Electric Vehicle Use," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 7.7a Electric Net Summer Capacity: Total (All Sectors)

(Sum of Tables 7.7b, 7.7c, and 7.7d; Million Kilowatts)

	Fossil Fuels				Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy							Battery Storage	Total ⁱ
	Coal ^a	Petro-leum ^b	Natural Gas ^c	Total ^d			Conven-tional Hydro-electric Power ^e	Biomass		Geo-thermal	Solar ^h	Wind	Total		
								Wood ^f	Waste ^g						
1950 Year	NA	NA	NA	50.0	0.0	(^e)	19.2	(s)	(j)	NA	NA	NA	19.2	NA	69.2
1955 Year	NA	NA	NA	86.8	.0	(^e)	27.4	(s)	(j)	NA	NA	NA	27.4	NA	114.2
1960 Year	NA	NA	NA	130.8	.4	(^e)	35.8	.1	(j)	(s)	NA	NA	35.9	NA	167.1
1965 Year	NA	NA	NA	182.9	.8	(^e)	51.0	.1	(j)	(s)	NA	NA	51.1	NA	234.8
1970 Year	NA	NA	NA	265.4	7.0	(^e)	63.8	.1	(j)	.1	NA	NA	64.0	NA	336.4
1975 Year	NA	NA	NA	375.1	37.3	(^e)	78.4	.1	(j)	.5	NA	NA	79.0	NA	491.3
1980 Year	NA	NA	NA	444.1	51.8	(^e)	81.7	.1	(j)	.9	NA	NA	82.7	NA	578.6
1985 Year	NA	NA	NA	485.0	79.4	(^e)	88.9	.2	(j)	.2	1.6	(^k)	90.8	NA	655.2
1990 Year ^l	307.4	77.9	140.8	527.8	99.6	19.5	73.9	5.5	2.5	2.7	.3	1.8	86.8	NA	734.1
1995 Year	311.4	66.6	174.5	554.2	99.5	21.4	78.6	6.8	3.5	3.0	.3	1.7	93.9	NA	769.5
2000 Year	315.1	61.8	219.6	598.9	97.9	19.5	79.4	6.1	3.9	2.8	.4	2.4	94.9	NA	811.7
2005 Year	313.4	58.5	383.1	757.1	100.0	21.3	77.5	6.2	3.6	2.3	.4	8.7	98.7	NA	978.0
2010 Year	317.3	55.6	405.1	780.3	101.2	22.2	78.8	7.0	4.4	2.4	.9	39.1	132.6	(s)	1,039.1
2011 Year	317.6	51.5	415.2	786.2	101.4	22.3	78.7	7.1	4.5	2.4	1.5	45.7	139.9	.1	1,051.3
2012 Year	309.7	47.2	422.4	781.2	101.9	22.4	78.7	7.5	4.8	2.6	3.2	59.1	155.9	.1	1,063.0
2013 Year	303.3	43.5	425.4	774.3	99.2	22.4	79.2	8.4	5.0	2.6	6.6	60.0	161.8	.1	1,060.1
2014 Year	299.1	41.1	432.2	774.3	98.6	22.5	79.7	8.4	5.2	2.5	10.3	64.2	170.3	.2	1,068.4
2015 Year	279.7	36.8	439.4	758.5	98.7	22.6	79.7	9.0	5.1	2.5	13.7	72.6	182.5	.3	1,064.1
2016 Year	266.6	34.4	446.8	750.3	99.6	22.8	79.9	8.9	5.1	2.5	22.0	81.3	199.7	.6	1,074.3
2017 Year	256.5	33.3	456.0	748.2	99.6	22.8	79.8	8.8	5.1	2.5	27.0	87.6	210.8	.7	1,084.4
2018 Year	242.8	32.2	470.2	747.8	99.4	22.8	79.9	8.7	5.0	2.4	31.9	94.4	222.3	.9	1,094.7
2019 Year	228.7	31.4	476.6	739.1	98.1	22.8	79.8	8.4	4.7	2.6	37.5	103.6	236.5	1.0	1,099.1
2020 Year	215.6	27.6	485.8	731.2	96.5	23.0	79.9	8.3	4.6	2.6	48.1	118.4	261.9	1.5	1,115.7
2021 Year	209.8	28.2	491.9	731.8	95.5	23.0	79.9	7.9	4.5	2.6	61.6	132.8	289.2	4.7	1,145.9
2022 Year	189.3	30.8	502.4	724.2	94.7	23.0	80.1	7.8	4.3	2.6	72.9	141.4	309.1	9.0	1,161.4
2023 Year	178.4	29.4	507.5	717.3	95.7	23.1	80.0	7.7	4.1	2.7	92.0	147.4	334.0	16.0	1,187.6
2024 January	177.5	28.8	507.9	715.9	95.7	23.1	79.9	7.5	4.1	2.7	95.1	147.8	337.1	16.3	1,189.6
February	177.5	28.8	507.9	715.9	95.7	23.1	79.9	7.5	4.1	2.7	95.7	148.0	337.9	16.3	1,190.4
March	177.3	28.8	507.2	715.0	95.7	23.2	79.9	7.5	4.1	2.7	98.6	148.2	341.0	17.4	1,193.8
April	176.7	28.8	506.7	713.9	96.8	23.2	79.9	7.5	4.1	2.7	100.1	149.3	343.5	18.0	1,196.8
May	176.2	28.8	506.9	713.5	96.8	23.2	79.9	7.5	4.1	2.7	102.6	149.4	346.1	19.2	1,200.3
June	176.0	28.7	505.5	711.8	96.8	23.2	79.9	7.5	4.1	2.7	105.3	149.4	348.8	20.4	1,202.5
July	176.0	28.7	506.3	712.7	96.8	23.2	79.9	7.5	4.0	2.7	106.3	150.1	350.5	21.2	1,205.7
August	176.0	28.7	506.3	712.6	96.8	23.2	79.9	7.5	4.0	2.7	107.5	150.5	352.0	22.4	1,208.5
September	175.8	28.7	506.3	712.4	96.8	23.2	79.9	7.5	4.0	2.7	110.0	150.6	354.7	23.2	1,211.7
October	174.6	28.7	506.1	711.0	96.8	23.2	79.9	7.4	4.0	2.7	112.8	150.6	357.4	24.0	1,213.9
November	174.6	28.7	506.2	711.1	96.8	23.2	79.9	7.4	4.0	2.7	117.8	150.6	362.4	24.8	1,219.8
December	174.2	28.6	506.4	710.9	96.8	23.2	79.9	7.4	4.0	2.7	123.5	152.1	369.6	27.0	1,228.8
2025 January	172.9	28.2	507.4	710.3	96.8	23.2	79.9	7.4	4.0	2.7	126.8	153.5	374.3	27.6	1,233.6
February	172.5	28.2	507.5	709.9	96.8	23.2	79.9	7.4	4.0	2.7	128.0	153.9	375.8	28.2	1,235.3
March	172.2	28.2	507.3	709.4	96.8	23.2	79.9	7.4	4.0	2.7	130.6	153.9	378.4	29.2	1,238.5
April	172.2	28.2	507.5	709.5	96.8	23.2	79.9	7.4	4.0	2.7	132.6	154.1	380.7	30.5	1,242.2
May	172.2	28.1	508.0	709.9	96.9	23.2	79.9	7.4	4.0	2.7	134.0	154.3	382.3	32.2	1,246.0
June	172.2	28.1	508.6	710.5	96.9	23.2	79.9	7.4	4.0	2.7	136.5	154.9	385.3	33.8	1,251.1
July	171.8	28.1	509.0	710.5	96.9	23.2	79.9	7.3	4.0	2.7	138.0	155.1	386.9	35.5	1,254.4
August	171.8	28.1	509.6	711.2	96.9	23.2	79.9	7.3	4.0	2.7	140.5	155.3	389.6	36.6	1,258.9
September	171.8	28.1	509.6	711.2	96.9	23.2	79.9	7.3	4.0	2.7	142.4	155.5	391.8	37.5	1,262.1
October	170.9	28.1	510.2	710.9	96.9	23.2	79.9	7.3	4.0	2.7	144.1	155.9	393.8	39.2	1,265.5
November	170.0	28.1	510.4	710.2	96.9	23.2	79.9	7.3	4.0	2.7	146.4	156.3	396.6	40.6	1,268.9
December	169.8	28.1	512.1	711.6	96.9	23.2	79.9	7.3	4.0	2.7	151.2	158.3	403.3	42.8	1,279.2
2026 January	170.0	28.0	511.6	711.2	96.9	23.2	79.9	7.2	4.0	2.7	153.9	159.5	407.3	43.4	1,283.4
February	171.8	27.8	512.3	713.7	96.9	23.2	80.0	7.2	4.0	2.7	155.5	159.5	408.8	44.6	1,288.7
March	168.9	27.9	513.4	712.0	96.9	23.1	79.9	7.2	4.0	2.7	156.7	158.8	409.3	46.5	1,289.2
April	168.7	28.0	515.2	713.7	96.9	23.1	80.0	7.2	4.0	2.7	160.2	160.1	414.1	48.2	1,297.4

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^b Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^c Natural gas, plus a small amount of supplemental gaseous fuels.

^d Includes other fossil gases (blast furnace gas, other manufactured and waste gases derived from fossil fuels, and, through 2010, propane gas), which are not separately shown.

^e Through 1988, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."

^f Wood and wood-derived fuels.

^g Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^h Electric net summer capacity from solar thermal and photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic capacity.

ⁱ Includes chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, flywheels, and, beginning in 2001, non-renewable waste (municipal

solid waste from non-biogenic sources, and tire-derived fuels), which are not separately shown.

^j Through 1984, waste is included in "Wood."

^k Through 1988, solar is included in "Wind."

^l Through 1988, all data are for electric utilities only. Beginning in 1989, data are for electric utilities, independent power producers, commercial plants, and industrial plants.

NA=Not available. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of period. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one.

• Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Net summer capacity" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: Tables 7.7b–7.7d.

Table 7.7b Electric Net Summer Capacity: Electric Power Sector
(Subset of Table 7.7a; Million Kilowatts)

	Fossil Fuels				Nuclear Electric Power	Hydro-electric Pumped Storage	Renewable Energy								Battery Storage	Total ⁱ
	Coal ^a	Petro- leum ^b	Natural Gas ^c	Total ^d			Conven- tional Hydro- electric Power ^e	Biomass		Geo- thermal	Solar ^h	Wind	Total			
								Wood ^f	Waste ^g							
1950 Year	NA	NA	NA	50.0	0.0	(e)	19.2	(s)	(j)	NA	NA	NA	19.2	NA	69.2	
1955 Year	NA	NA	NA	86.8	.0	(e)	27.4	(s)	(j)	NA	NA	NA	27.4	NA	114.2	
1960 Year	NA	NA	NA	130.8	.4	(e)	35.8	.1	(j)	(s)	NA	NA	35.9	NA	167.1	
1965 Year	NA	NA	NA	182.9	.8	(e)	51.0	.1	(j)	(s)	NA	NA	51.1	NA	234.8	
1970 Year	NA	NA	NA	265.4	7.0	(e)	63.8	.1	(j)	.1	NA	NA	64.0	NA	336.4	
1975 Year	NA	NA	NA	375.1	37.3	(e)	78.4	.1	(j)	.5	NA	NA	79.0	NA	491.3	
1980 Year	NA	NA	NA	444.1	51.8	(e)	81.7	.1	(j)	.9	NA	NA	82.7	NA	578.6	
1985 Year	NA	NA	NA	485.0	79.4	(e)	88.9	.2	.2	1.6	(k)	(s)	90.8	NA	655.2	
1990 Year ^l	302.3	76.8	129.9	509.3	99.6	19.5	73.3	1.2	2.1	2.7	.3	1.8	81.4	NA	709.9	
1995 Year	306.0	65.4	161.9	533.7	99.5	21.4	77.4	1.8	3.0	3.0	.3	1.7	87.3	NA	741.8	
2000 Year	310.2	60.7	204.7	575.9	97.9	19.5	78.2	1.7	3.3	2.8	.4	2.4	88.8	NA	782.1	
2005 Year	309.0	57.4	367.5	734.3	100.0	21.3	76.9	1.6	3.0	2.3	.4	8.7	92.9	NA	948.6	
2010 Year	312.9	54.6	389.8	757.5	101.2	22.2	78.5	2.1	3.7	2.4	.9	39.1	126.6	(s)	1,009.2	
2011 Year	313.7	50.4	399.7	763.8	101.4	22.3	78.3	2.0	3.8	2.4	1.5	45.6	133.6	.1	1,021.3	
2012 Year	305.9	45.7	406.6	758.2	101.9	22.4	78.1	2.3	4.0	2.6	3.1	59.0	149.0	.1	1,032.0	
2013 Year	299.9	42.4	409.2	751.7	99.2	22.4	78.5	2.9	4.1	2.6	6.4	59.9	154.5	.1	1,029.0	
2014 Year	295.9	40.1	415.6	751.7	98.6	22.5	79.4	2.9	4.2	2.5	10.1	64.2	163.3	.2	1,037.6	
2015 Year	277.0	35.7	423.0	736.0	98.7	22.6	79.4	3.1	4.2	2.5	13.4	72.5	175.0	.3	1,032.9	
2016 Year	264.3	33.2	430.4	728.2	99.6	22.8	79.6	3.2	4.2	2.5	21.6	81.2	192.3	.6	1,043.6	
2017 Year	254.4	32.1	439.5	726.3	99.6	22.8	79.4	3.0	4.2	2.5	26.6	87.5	203.3	.7	1,053.6	
2018 Year	240.7	30.8	453.7	725.6	99.4	22.8	79.6	2.9	4.2	2.4	31.5	94.3	214.8	.8	1,063.7	
2019 Year	226.8	30.0	459.5	716.7	98.1	22.8	79.5	2.7	3.9	2.5	37.0	103.5	229.1	1.0	1,068.0	
2020 Year	214.0	26.2	468.2	708.7	96.5	23.0	79.6	2.7	3.8	2.5	47.6	118.0	254.3	1.5	1,084.2	
2021 Year	208.3	26.8	473.5	708.9	95.5	23.0	79.6	2.4	3.7	2.5	61.0	132.6	281.9	4.7	1,114.3	
2022 Year	187.9	29.2	483.6	701.1	94.7	23.0	79.8	2.4	2.9	2.6	72.2	141.3	301.3	8.9	1,129.2	
2023 Year	177.0	28.0	488.9	694.3	95.7	23.1	79.7	2.3	2.7	2.7	91.3	147.3	326.1	15.9	1,155.4	
2024 January	176.1	27.3	489.2	692.9	95.7	23.1	79.6	2.3	2.7	2.7	94.4	147.7	329.4	16.2	1,157.5	
February	176.1	27.3	489.2	692.9	95.7	23.1	79.6	2.3	2.7	2.7	95.0	147.9	330.2	16.3	1,158.4	
March	175.9	27.3	488.4	692.0	95.7	23.2	79.6	2.3	2.7	2.7	97.9	148.1	333.3	17.3	1,161.7	
April	175.3	27.3	488.0	691.0	96.8	23.2	79.6	2.3	2.7	2.7	99.4	149.2	335.8	18.0	1,165.0	
May	174.8	27.3	488.2	690.6	96.8	23.2	79.6	2.3	2.7	2.7	101.9	149.3	338.4	19.1	1,168.3	
June	174.6	27.2	486.8	688.9	96.8	23.2	79.6	2.3	2.7	2.7	104.6	149.3	341.1	20.4	1,170.6	
July	174.6	27.2	487.6	689.7	96.8	23.2	79.6	2.2	2.7	2.7	105.5	150.0	342.8	21.1	1,173.8	
August	174.6	27.2	487.6	689.7	96.8	23.2	79.6	2.2	2.7	2.7	106.7	150.3	344.3	22.4	1,176.6	
September	174.4	27.2	487.6	689.4	96.8	23.2	79.6	2.2	2.7	2.7	109.2	150.5	346.9	23.2	1,179.7	
October	173.2	27.2	487.4	688.1	96.8	23.2	79.6	2.2	2.7	2.7	112.1	150.5	349.8	23.9	1,182.0	
November	173.2	27.2	487.5	688.3	96.8	23.2	79.6	2.2	2.7	2.7	117.1	150.5	354.7	24.8	1,187.9	
December	172.8	27.2	487.9	688.2	96.8	23.2	79.6	2.2	2.7	2.7	122.7	152.0	361.9	27.0	1,197.2	
2025 January	171.5	26.8	489.0	687.6	96.8	23.2	79.6	2.2	2.7	2.7	126.1	153.3	366.6	27.5	1,201.8	
February	171.1	26.7	489.0	687.2	96.8	23.2	79.6	2.2	2.7	2.7	127.2	153.7	368.1	28.1	1,203.5	
March	170.8	26.7	488.8	686.7	96.8	23.2	79.6	2.2	2.7	2.7	129.8	153.7	370.7	29.1	1,206.7	
April	170.8	26.7	489.0	686.8	96.8	23.2	79.6	2.2	2.7	2.7	131.9	154.0	373.0	30.4	1,210.4	
May	170.8	26.6	489.5	687.2	96.9	23.2	79.6	2.2	2.7	2.7	133.2	154.2	374.6	32.1	1,214.1	
June	170.8	26.6	490.1	687.7	96.9	23.2	79.6	2.2	2.7	2.7	135.3	154.7	377.1	33.7	1,218.8	
July	170.4	26.6	490.5	687.8	96.9	23.2	79.6	2.2	2.7	2.7	136.7	154.9	378.7	35.4	1,222.2	
August	170.4	26.6	491.1	688.4	96.9	23.2	79.6	2.2	2.7	2.7	139.2	155.1	381.5	36.5	1,226.7	
September	170.4	26.6	491.1	688.5	96.9	23.2	79.6	2.2	2.7	2.7	140.9	155.3	383.4	37.5	1,229.6	
October	169.5	26.6	491.8	688.3	96.9	23.2	79.6	2.2	2.7	2.7	142.5	155.8	385.5	39.1	1,233.1	
November	168.6	26.6	492.0	687.6	96.9	23.2	79.6	2.2	2.7	2.7	144.9	156.2	388.2	40.5	1,236.6	
December	168.4	26.6	493.7	689.0	96.9	23.2	79.6	2.2	2.7	2.7	149.7	158.1	394.9	42.6	1,246.7	
2026 January	168.6	26.5	493.2	688.6	96.9	23.2	79.7	2.1	2.6	2.7	152.3	159.4	398.8	43.1	1,250.8	
February	170.4	26.3	494.1	691.1	96.9	23.2	79.7	2.1	2.6	2.7	153.8	159.4	400.3	44.3	1,256.0	
March	167.5	26.5	495.2	689.5	96.9	23.1	79.7	2.1	2.7	2.7	155.0	158.7	400.8	46.1	1,256.5	
April	167.2	26.5	497.0	691.1	96.9	23.1	79.7	2.1	2.7	2.7	158.5	160.0	405.6	47.9	1,264.7	

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^b Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^c Natural gas, plus a small amount of supplemental gaseous fuels.

^d Includes other fossil gases (blast furnace gas, other manufactured and waste gases derived from fossil fuels, and, through 2010, propane gas), which are not separately shown.

^e Through 1988, hydroelectric pumped storage is included in "Conventional Hydroelectric Power."

^f Wood and wood-derived fuels.

^g Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^h Electric net summer capacity from solar thermal and photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic capacity.

ⁱ Includes chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, flywheels, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels), which are not

separately shown.

^j Through 1984, waste is included in "Wood."

^k Through 1988, solar is included in "Wind."

^l Through 1988, all data are for electric utilities only. Beginning in 1989, data are for electric utilities and independent power producers.

NA=Not available. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of period. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one.

• Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Net summer capacity" in Glossary. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 7.7c Electric Net Summer Capacity: Commercial Sector
(Subset of Table 7.7a; Million Kilowatts)

	Fossil Fuels				Nuclear Electric Power	Hydro- electric Pumped Storage	Renewable Energy							Battery Storage	Total ^h				
	Coal ^a	Petro- leum ^b	Natural Gas ^c	Total ^d			Conven- tional Hydro- electric Power	Biomass		Geo- thermal	Solar ^g	Wind	Total						
								Wood ^e	Waste ^f										
1990 Year	0.3	0.2	0.7	1.2	—	—	(s)	(s)	0.2	—	—	—	0.2	—	1.4				
1995 Year	.3	.2	1.2	1.8	—	—	(s)	(s)	.3	—	—	—	.3	—	2.1				
2000 Year	.3	.3	1.2	1.8	—	—	(s)	(s)	.4	—	—	—	.4	—	2.2				
2005 Year	.4	.3	1.0	1.8	—	—	(s)	(s)	.4	—	—	—	.5	—	2.2				
2010 Year	.4	.4	1.2	1.9	—	—	(s)	(s)	.5	—	(s)	(s)	.5	—	2.5				
2011 Year	.4	.4	1.3	2.1	—	—	(s)	(s)	.6	—	.1	(s)	.7	—	2.8				
2012 Year	.4	.4	1.5	2.4	—	—	(s)	(s)	.6	—	.1	(s)	.8	—	3.2				
2013 Year	.3	.5	1.8	2.6	—	—	(s)	(s)	.7	—	.2	(s)	1.0	—	3.6				
2014 Year	.3	.5	1.8	2.6	—	—	(s)	.1	.7	—	.2	.1	1.1	—	3.7				
2015 Year	.2	.5	1.9	2.6	—	—	(s)	.1	.7	—	.3	.1	1.2	(s)	3.8				
2016 Year	.2	.5	2.0	2.7	—	—	.1	.1	.7	—	.3	.1	1.2	(s)	3.9				
2017 Year	.2	.6	2.0	2.8	—	—	.1	.1	.7	—	.3	.1	1.2	(s)	4.1				
2018 Year	.1	.8	2.2	3.1	—	—	.1	.1	.7	(s)	.3	.1	1.3	(s)	4.5				
2019 Year	.1	.9	2.2	3.2	—	—	.1	.1	.7	(s)	.4	.1	1.3	(s)	4.6				
2020 Year	.1	.9	2.3	3.3	—	—	.1	.1	.7	(s)	.4	.1	1.3	(s)	4.6				
2021 Year	.1	.9	2.3	3.3	—	—	.1	.1	.7	(s)	.4	.1	1.5	(s)	4.8				
2022 Year	(s)	1.0	2.4	3.4	—	—	.1	.1	1.3	—	.4	.1	2.0	(s)	5.4				
2023 Year	(s)	1.0	2.3	3.4	—	—	.1	.1	1.3	—	.4	.1	2.0	(s)	5.4				
2024 January	(s)	1.0	2.4	3.4	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.4				
February	(s)	1.0	2.4	3.4	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.4				
March	(s)	1.0	2.4	3.4	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.4				
April	(s)	1.0	2.4	3.4	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.4				
May	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.5				
June	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.5				
July	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.5				
August	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.5				
September	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	2.0	(s)	5.5				
October	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
November	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
December	(s)	1.0	2.4	3.4	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.4				
2025 January	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
February	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
March	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
April	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
May	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
June	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
July	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
August	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
September	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
October	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
November	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.4	.1	1.9	(s)	5.5				
December	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.5	.1	2.0	(s)	5.5				
2026 January	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.5	.1	2.0	(s)	5.5				
February	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.5	.1	1.9	(s)	5.5				
March	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.5	.1	1.9	(s)	5.5				
April	(s)	1.0	2.4	3.5	—	—	.1	.1	1.2	—	.5	.1	1.9	(s)	5.5				

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^b Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^c Natural gas, plus a small amount of supplemental gaseous fuels.

^d Includes other fossil gases (blast furnace gas, other manufactured and waste gases derived from fossil fuels, and, through 2010, propane gas), which are not separately shown.

^e Wood and wood-derived fuels.

^f Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^g Electric net summer capacity from solar thermal and photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic capacity.

^h Includes chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, flywheels, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels), which are not

separately shown.

—=No data reported. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of period. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Net summer capacity" in Glossary. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual data beginning in 1989 and monthly data beginning in 2008.

Sources: • 1989–1997: U.S. Energy Information Administration (EIA), Form EIA-867, "Annual Nonutility Power Producer Report." • 1998–2000: EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility." • 2001–2007: EIA, Form EIA-860, "Annual Electric Generator Report." • 2008 forward: EIA, Form EIA-860, "Annual Electric Generator Report," and Form EIA-860M, "Monthly Update to the Annual Electric Generator Report."

Table 7.7d Electric Net Summer Capacity: Industrial Sector
(Subset of Table 7.7a; Million Kilowatts)

	Fossil Fuels				Nuclear Electric Power	Hydro- electric Pumped Storage	Renewable Energy							Battery Storage	Total ^h				
	Coal ^a	Petro- leum ^b	Natural Gas ^c	Total ^d			Conven- tional Hydro- electric Power	Biomass		Geo- thermal	Solar ^g	Wind	Total						
								Wood ^e	Waste ^f										
1990 Year	4.8	0.9	10.3	17.3	—	—	0.6	4.3	0.2	—	—	—	5.1	—	22.9				
1995 Year	5.0	1.0	11.3	18.7	—	—	1.1	4.9	.2	—	—	—	6.3	—	25.5				
2000 Year	4.6	.8	13.7	21.2	—	—	1.1	4.4	.2	—	—	—	5.7	—	27.3				
2005 Year	4.0	.8	14.5	21.0	—	—	.7	4.5	.2	—	—	—	5.4	—	27.2				
2010 Year	4.0	.7	14.2	20.8	—	—	.3	4.9	.2	—	(s)	(s)	5.5	—	27.4				
2011 Year	3.5	.7	14.3	20.4	—	—	.3	5.0	.2	—	(s)	(s)	5.6	—	27.1				
2012 Year	3.3	1.0	14.3	20.5	—	—	.6	5.2	.2	—	(s)	(s)	6.1	—	27.8				
2013 Year	3.0	.7	14.4	20.0	—	—	.7	5.5	.2	—	(s)	(s)	6.4	—	27.5				
2014 Year	2.9	.6	14.7	20.0	—	—	.3	5.4	.2	—	(s)	(s)	5.9	—	27.2				
2015 Year	2.5	.7	14.5	19.8	—	—	.3	5.8	.2	—	(s)	(s)	6.4	—	27.4				
2016 Year	2.1	.7	14.5	19.4	—	—	.3	5.7	.2	—	(s)	(s)	6.2	—	26.8				
2017 Year	2.0	.6	14.5	19.1	—	—	.3	5.7	.2	—	(s)	(s)	6.3	(s)	26.7				
2018 Year	2.0	.6	14.4	19.1	—	—	.2	5.8	.1	—	(s)	(s)	6.2	(s)	26.6				
2019 Year	1.7	.5	14.8	19.2	—	—	.2	5.6	.1	—	.1	(s)	6.0	(s)	26.5				
2020 Year	1.5	.5	15.3	19.3	—	—	.2	5.6	.1	—	.1	(s)	6.3	(s)	26.8				
2021 Year	1.4	.5	16.1	19.6	—	—	.2	5.4	.1	—	.1	(s)	5.9	(s)	26.8				
2023 Year	1.4	.5	16.3	19.7	—	—	.2	5.2	.1	—	.2	.1	5.9	(s)	26.8				
2024 January	1.4	.5	16.4	19.6	—	—	.2	5.1	.1	—	.3	.1	5.7	(s)	26.6				
February	1.4	.5	16.4	19.6	—	—	.2	5.1	.1	—	.3	.1	5.7	(s)	26.6				
March	1.4	.5	16.4	19.6	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.6				
April	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
May	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
June	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
July	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
August	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
September	1.4	.5	16.3	19.5	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.5				
October	1.4	.5	16.2	19.4	—	—	.2	5.0	.1	—	.3	.1	5.7	(s)	26.4				
November	1.4	.5	16.2	19.4	—	—	.2	5.0	.1	—	.3	.1	5.7	(s)	26.4				
December	1.4	.5	16.1	19.3	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.3				
2025 January	1.4	.5	16.1	19.2	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.3				
February	1.4	.5	16.1	19.2	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.3				
March	1.4	.5	16.1	19.2	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.3				
April	1.4	.5	16.1	19.3	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.4				
May	1.4	.5	16.1	19.3	—	—	.2	5.1	.1	—	.3	.1	5.8	(s)	26.4				
June	1.4	.5	16.1	19.3	—	—	.2	5.1	.1	—	.8	.1	6.3	(s)	26.8				
July	1.4	.5	16.1	19.3	—	—	.2	5.0	.1	—	.8	.1	6.2	(s)	26.8				
August	1.4	.5	16.1	19.3	—	—	.2	5.0	.1	—	.8	.1	6.2	(s)	26.8				
September	1.4	.5	16.1	19.3	—	—	.2	5.0	.1	—	1.1	.1	6.4	(s)	27.0				
October	1.4	.5	16.0	19.1	—	—	.2	5.0	.1	—	1.1	.1	6.4	(s)	26.9				
November	1.4	.5	16.0	19.1	—	—	.2	5.0	.1	—	1.1	.1	6.4	(s)	26.8				
December	1.4	.5	16.0	19.1	—	—	.2	5.0	.1	—	1.1	.1	6.4	(s)	27.0				
2026 January	1.4	.5	16.0	19.1	—	—	.2	4.9	.1	—	1.2	.1	6.5	(s)	27.1				
February	1.4	.5	15.8	19.1	—	—	.2	4.9	.1	—	1.2	.1	6.5	(s)	27.1				
March	1.4	.5	15.8	19.1	—	—	.2	4.9	.1	—	1.2	.1	6.5	(s)	27.1				
April	1.4	.5	15.8	19.0	—	—	.2	4.9	.1	—	1.2	.1	6.5	(s)	27.1				

^a Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^b Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^c Natural gas, plus a small amount of supplemental gaseous fuels.

^d Includes other fossil gases (blast furnace gas, other manufactured and waste gases derived from fossil fuels, and, through 2010, propane gas), which are not separately shown.

^e Wood and wood-derived fuels.

^f Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^g Electric net summer capacity from solar thermal and photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic capacity.

^h Includes chemicals, hydrogen, pitch, purchased steam, sulfur, miscellaneous technologies, flywheels, and, beginning in 2001, non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels), which are not

separately shown.

—=No data reported. (s)=Less than 0.05 million kilowatts.

Notes: • Data are at end of period. • For plants that use multiple sources of energy, capacity is assigned to the energy source reported as the predominant one. • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • See "Net summer capacity" in Glossary. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

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Table 7.8a Capacity Factors and Usage Factors at Electric Generators: Total (All Sectors)
(Percent)

	Capacity Factors ^a											Usage Factors ^b		
	Coal ^{c,d}	Petroleum ^{c,e}	Natural Gas ^f			Nuclear Electric Power ^g	Conventional Hydro-electric Power	Bio-mass ^{c,h}	Geo-thermal	Solar		Wind ⁱ	Hydro-electric Pumped Storage	Battery Storage
			Combined Cycle	Gas Turbine	Steam Turbine					Photo-voltaic ^j	Thermal			
2008 Average	72.4	9.7	40.3	7.6	12.1	91.1	37.1	64.0	74.3	19.2	19.5	31.7	—	—
2009 Average	64.2	9.3	43.9	6.8	10.9	90.3	39.6	62.9	73.0	20.0	23.6	28.1	—	—
2010 Average	67.1	8.4	44.3	7.8	11.1	91.1	37.5	62.5	71.6	20.2	24.5	29.7	—	—
2011 Average	62.8	7.4	44.3	7.9	11.7	89.1	45.8	61.4	71.5	19.0	23.9	32.1	—	—
2012 Average	56.2	7.6	52.2	8.9	13.3	86.6	39.6	62.1	68.3	20.4	23.6	31.8	—	—
2013 Average	59.4	6.6	48.8	8.3	11.2	90.8	38.8	60.3	71.8	24.5	17.4	32.4	9.8	.7
2014 Average	60.5	6.7	48.6	8.3	10.3	91.7	37.2	61.0	72.0	25.6	18.3	34.0	10.2	1.7
2015 Average	54.3	6.7	55.8	9.8	11.3	92.3	35.7	60.5	71.9	25.5	21.7	32.2	10.2	3.6
2016 Average	52.8	5.9	55.4	11.0	12.3	92.3	38.2	59.9	71.6	25.0	22.1	34.5	11.2	3.8
2017 Average	53.1	6.3	51.2	9.6	10.7	92.3	43.0	60.8	73.2	25.6	21.8	34.6	11.4	6.8
2018 Average	53.6	6.6	55.1	11.9	12.6	92.5	41.9	61.1	76.0	25.1	23.6	34.6	10.8	5.2
2019 Average	47.5	5.5	57.4	11.4	14.1	93.4	41.2	60.3	69.6	24.3	21.2	34.4	10.4	5.4
2020 Average	40.5	5.2	57.1	11.6	14.2	92.4	40.7	59.5	69.1	24.2	20.6	35.3	10.5	5.2
2021 Average	49.1	5.5	55.0	11.7	12.5	92.8	36.0	61.1	69.8	24.4	20.5	34.4	10.2	6.1
2022 Average	48.4	5.4	56.6	12.9	15.6	92.7	36.3	58.7	69.0	24.4	23.1	35.9	11.1	6.4
2023 Average	42.4	4.1	59.7	12.9	17.4	93.0	35.0	55.8	69.4	23.2	22.1	33.2	10.9	6.6
2024 January	56.8	4.5	64.1	12.9	15.9	95.6	36.3	60.4	69.3	13.4	7.5	31.6	9.5	6.2
February	36.2	3.4	56.6	10.0	10.4	95.4	37.4	58.7	69.0	18.6	12.4	39.6	9.7	7.3
March	29.8	3.3	51.1	10.6	13.0	87.5	39.3	55.9	67.4	21.8	21.0	40.7	7.4	7.9
April	29.9	3.6	46.9	13.1	15.9	81.8	36.4	53.6	65.5	26.3	32.2	43.7	9.1	8.4
May	35.6	3.7	53.9	13.4	20.4	88.8	41.2	56.1	61.9	29.0	38.8	35.2	12.5	8.0
June	49.0	3.9	65.7	15.1	26.3	96.3	38.9	57.5	61.5	31.6	40.1	35.7	15.6	8.1
July	55.0	5.0	75.8	20.9	32.0	95.4	36.0	58.6	60.4	30.3	33.7	25.2	16.8	8.8
August	53.2	4.6	75.3	19.2	32.4	95.3	34.5	59.6	60.8	29.7	33.1	26.1	16.3	9.0
September	43.7	3.5	67.6	14.7	21.6	88.5	27.7	56.4	61.5	25.4	32.7	26.9	13.0	8.3
October	37.0	3.7	55.6	13.1	19.5	80.3	25.8	51.7	62.4	23.1	22.8	35.3	8.3	9.0
November	35.9	3.7	54.9	12.3	16.4	87.4	29.1	57.5	67.3	16.2	13.8	36.9	8.7	8.8
December	48.7	4.2	58.5	11.0	14.2	97.3	32.9	59.1	68.8	13.8	11.7	35.0	9.4	8.6
Average	42.6	3.9	60.5	13.9	19.9	90.8	34.6	57.1	64.6	23.2	25.0	34.3	11.4	8.3
2025 January	62.7	6.0	61.9	13.5	18.8	98.0	36.1	59.0	68.6	16.4	8.6	38.4	9.8	7.7
February	52.7	4.0	58.0	11.0	15.8	93.5	36.4	60.3	68.5	19.0	15.0	38.0	10.4	7.7
March	37.8	3.6	46.9	9.3	11.8	85.3	37.8	57.6	68.6	23.8	16.5	44.2	8.8	8.4
April	36.5	3.7	44.1	12.0	17.0	81.7	39.7	53.2	66.7	27.9	30.0	41.3	9.7	8.6
May	38.2	3.8	51.9	10.6	17.3	84.9	41.0	55.4	62.0	29.7	32.1	32.1	11.7	8.7
June	51.9	5.3	63.7	16.6	24.2	93.4	38.5	58.2	65.4	32.3	39.2	32.1	15.9	8.2
July	62.7	7.1	71.8	24.9	32.4	96.6	33.6	59.7	63.7	32.4	36.1	27.6	18.5	8.5
August	54.5	5.0	72.3	18.7	26.9	96.5	33.8	59.2	66.9	30.2	32.8	23.6	15.1	10.0
September	47.8	4.4	66.3	14.9	21.3	92.3	26.6	57.9	65.9	27.2	25.7	22.9	13.3	8.7
October	42.8	5.1	53.4	14.3	19.3	80.9	27.8	53.7	62.6	22.8	22.7	34.1	10.0	7.9
November	44.8	4.0	52.1	11.9	15.4	90.0	32.0	57.5	64.5	17.5	13.1	36.4	8.9	7.6
December	52.1	5.1	58.3	11.2	16.4	99.0	40.2	59.1	67.0	13.7	11.5	40.0	10.3	7.3
Average	48.7	4.8	58.4	14.1	19.8	91.0	35.3	57.6	65.9	24.4	23.6	34.2	11.9	8.3
2026 January	57.6	9.1	58.9	13.5	19.2	100.0	46.9	59.5	69.9	15.7	7.6	37.5	9.8	8.1
February	48.1	6.7	57.0	12.1	17.2	94.3	41.8	59.5	69.3	20.3	12.8	37.0	10.1	8.7
March	34.8	4.2	48.5	10.9	16.4	84.8	45.3	55.9	66.1	24.7	21.6	44.1	11.2	9.0
April	32.5	4.7	46.6	14.1	18.3	81.0	39.1	50.7	62.7	26.3	26.4	42.3	11.7	8.7

^a Capacity factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (net generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^b Usage factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (gross generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^c Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

^d Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^e Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^f Natural gas, plus a small amount of supplemental gaseous fuels. Capacity factors for natural gas internal combustion engine, energy storage, fuel cell, and other plants are not displayed.

^g See Table 8.1 for nuclear capacity factors for 1957–2007.

^h Wood and wood-derived fuels, municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through

2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

ⁱ Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

^j Onshore wind plants, and, beginning in 2017, offshore wind plants.

— = No data reported.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Monthly factors are based on a time-adjusted total net summer capacity of generators in operation for the entire month. Annual factors are based on a time-weighted average of the monthly time-adjusted capacity. • For plants that use multiple energy sources or technologies, capacity is assigned to the reported combination of predominant energy source and technology. • See EIA's *Electric Power Annual*, "Technical notes," for further information. • See "Capacity factor" in Glossary. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 2008.

Sources: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report"; Form EIA-860M, "Monthly Update to the Annual Electric Generator Report"; and Form EIA-923, "Power Plant Operations Report."

Table 7.8b Capacity Factors and Usage Factors at Electric Generators: Electric Power Sector (Percent)

	Capacity Factors ^a												Usage Factors ^b	
	Coal ^{c,d}	Petro- leum ^{c,e}	Natural Gas ^f			Nuclear Electric Power ^g	Conven- tional Hydro- electric Power	Bio- mass ^{c,h}	Geo- thermal	Solar		Wind ⁱ	Hydro- electric Pumped Storage	Battery Storage
			Combined Cycle	Gas Turbine	Steam Turbine					Photo- voltaic ^j	Thermal			
2008 Average	72.6	9.4	39.5	5.2	11.6	91.1	37.0	65.5	74.3	19.7	19.5	31.7	—	—
2009 Average	64.4	9.1	43.5	4.4	10.4	90.3	39.5	64.6	73.0	20.3	23.6	28.1	—	—
2010 Average	67.3	8.1	43.5	5.2	10.6	91.1	37.5	63.4	71.6	20.3	24.5	29.8	—	—
2011 Average	62.9	7.1	43.6	5.1	11.2	89.1	45.7	62.5	71.5	19.0	23.9	32.1	—	—
2012 Average	56.4	7.1	51.7	6.0	12.7	86.6	39.5	63.4	68.3	20.4	23.6	31.8	—	—
2013 Average	59.5	6.3	48.0	5.0	10.4	90.8	38.6	60.0	71.8	24.7	17.4	32.4	9.8	7
2014 Average	60.7	6.4	48.0	5.2	9.5	91.7	37.1	61.5	72.0	25.8	18.3	34.0	10.2	1.7
2015 Average	54.3	6.3	55.5	6.8	10.8	92.3	35.6	59.5	71.9	25.7	21.7	32.2	10.2	3.6
2016 Average	52.9	5.6	54.9	8.2	11.6	92.3	38.1	59.2	71.6	25.1	22.1	34.5	11.2	3.8
2017 Average	53.2	6.1	50.6	6.6	10.1	92.3	43.0	60.2	73.2	25.7	21.8	34.6	11.4	6.9
2018 Average	53.7	6.4	54.6	9.0	11.9	92.5	41.8	60.2	76.0	25.2	23.6	34.6	10.8	5.3
2019 Average	47.5	5.3	57.0	8.3	13.2	93.4	41.1	59.5	68.9	24.4	21.2	34.4	10.4	5.5
2020 Average	40.5	5.0	56.8	8.3	13.3	92.4	40.7	58.9	68.4	24.3	20.6	35.3	10.5	5.2
2021 Average	49.2	5.4	54.8	8.3	11.4	92.8	35.9	61.8	69.5	24.4	20.5	34.4	10.2	6.2
2022 Average	48.5	5.2	56.3	9.7	14.7	92.7	36.3	58.0	69.0	24.4	23.1	36.0	11.1	6.5
2023 Average	42.5	4.0	59.5	9.6	16.6	93.0	34.9	55.7	69.4	23.3	22.1	33.2	10.9	6.7
2024 January	57.0	4.5	64.0	9.6	14.7	95.6	36.2	58.5	69.3	13.5	7.5	31.6	9.5	6.2
February	36.2	3.2	56.3	6.9	9.1	95.4	37.3	55.7	69.0	18.7	12.4	39.6	9.7	7.3
March	29.7	3.2	50.8	7.8	11.7	87.5	39.2	52.2	67.4	21.8	21.0	40.7	7.4	7.9
April	29.9	3.5	46.5	10.3	14.9	81.8	36.3	47.3	65.5	26.3	32.2	43.7	9.1	8.4
May	35.6	3.7	53.7	10.5	19.5	88.8	41.1	52.2	61.9	29.0	38.8	35.2	12.5	8.1
June	49.1	3.9	65.9	12.1	25.5	96.3	38.9	55.8	61.5	31.6	40.1	35.7	15.6	8.1
July	55.1	4.9	76.1	17.9	31.5	95.4	36.0	56.7	60.4	30.3	33.7	25.2	16.8	8.8
August	53.3	4.5	75.4	16.1	32.0	95.3	34.5	58.7	60.8	29.7	33.1	26.1	16.3	9.0
September	43.8	3.4	67.7	11.6	20.9	88.5	27.7	54.5	61.5	25.5	32.7	26.9	13.0	8.4
October	37.1	3.6	55.6	10.3	18.9	80.3	25.8	47.0	62.4	23.1	22.8	35.3	8.3	9.0
November	35.8	3.6	54.7	9.3	15.6	87.4	29.1	52.4	67.3	16.3	13.8	36.9	8.7	8.8
December	48.7	4.1	58.3	7.6	13.0	97.3	32.8	56.3	68.8	13.8	11.7	35.0	9.4	8.6
Average	42.7	3.8	60.4	10.9	19.0	90.8	34.6	54.0	64.6	23.3	25.0	34.3	11.4	8.3
2025 January	62.8	6.0	61.7	10.1	17.8	98.0	36.0	57.7	68.6	16.4	8.6	38.4	9.8	7.7
February	52.8	4.0	57.8	7.6	14.8	93.5	36.4	58.6	68.5	19.0	15.0	38.0	10.4	7.7
March	37.8	3.4	46.3	6.0	10.6	85.3	37.7	56.2	68.6	23.8	16.5	44.2	8.8	8.5
April	36.5	3.6	43.5	9.2	16.0	81.7	39.7	48.8	66.7	27.9	30.0	41.4	9.7	8.6
May	38.2	3.7	51.6	7.8	16.5	84.9	40.9	53.9	62.0	29.7	32.1	32.1	11.7	8.7
June	52.0	5.2	63.6	13.8	23.5	93.4	38.5	58.0	65.4	32.3	39.2	32.2	15.9	8.2
July	62.9	7.2	71.9	22.4	31.9	96.6	33.6	58.9	63.7	32.4	36.1	27.6	18.5	8.6
August	54.6	4.9	72.4	15.8	26.3	96.5	33.8	58.3	66.9	30.2	32.8	23.6	15.1	10.1
September	47.9	4.3	66.3	11.9	20.5	92.3	26.5	57.1	65.9	27.3	25.7	22.9	13.3	8.7
October	42.9	5.1	53.1	11.5	18.6	80.9	27.8	48.9	62.6	22.8	22.7	34.1	10.0	7.9
November	44.9	3.9	51.6	8.9	14.4	90.0	32.0	55.2	64.5	17.5	13.1	36.4	8.9	7.6
December	52.3	5.2	57.9	8.0	15.4	99.0	40.2	58.9	67.0	13.7	11.5	40.0	10.3	7.4
Average	48.8	4.7	58.2	11.1	18.9	91.0	35.3	55.9	65.9	24.4	23.6	34.2	11.9	8.3
2026 January	57.8	9.2	58.6	10.5	18.3	100.0	46.9	58.9	69.9	15.7	7.6	37.5	9.8	8.1
February	48.2	6.7	56.7	9.2	16.4	94.3	41.8	63.0	69.3	20.3	12.8	37.1	10.1	8.7
March	34.8	4.2	48.1	8.1	15.6	84.8	45.2	57.1	66.1	24.8	21.6	44.1	11.2	9.0
April	32.6	4.6	46.1	11.5	17.6	81.0	39.0	50.0	62.7	26.4	26.4	42.3	11.7	8.7

^a Capacity factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (net generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^b Usage factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (gross generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^c Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

^d Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^e Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^f Natural gas, plus a small amount of supplemental gaseous fuels. Capacity factors for natural gas internal combustion engine, energy storage, fuel cell, and other plants are not displayed.

^g See Table 8.1 for nuclear capacity factors for 1957–2007.

^h Wood and wood-derived fuels, municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic

sources, and tire-derived fuels).

ⁱ Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

^j Onshore wind plants, and, beginning in 2017, offshore wind plants.

— = No data reported.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Monthly factors are based on a time-adjusted total net summer capacity of generators in operation for the entire month. Annual factors are based on a time-weighted average of the monthly time-adjusted capacity. • For plants that use multiple energy sources or technologies, capacity is assigned to the reported combination of predominant energy source and technology. • See EIA's *Electric Power Annual*, "Technical notes," for further information. • See "Capacity factor" in Glossary. • The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 2008.

Sources: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report"; Form EIA-860M, "Monthly Update to the Annual Electric Generator Report"; and Form EIA-923, "Power Plant Operations Report."

Table 7.8c Capacity Factors and Usage Factors at Electric Generators: Commercial Sector
(Percent)

	Capacity Factors ^a											Usage Factors ^b		
	Coal ^{c,d}	Petro- leum ^{c,e}	Natural Gas ^f			Nuclear Electric Power	Conven- tional Hydro- electric Power	Bio- mass ^{c,g}	Geo- thermal	Solar		Wind ⁱ	Hydro- electric Pumped Storage	Battery Storage
			Com- bined Cycle	Gas Turbine	Steam Turbine					Photo- voltaic ^h	Thermal			
2008 Average	36.5	3.6	52.2	43.9	36.8	—	31.6	56.2	—	9.9	—	—	—	—
2009 Average	28.1	3.6	53.6	43.1	33.6	—	38.0	57.3	—	4.8	—	2.0	—	—
2010 Average	34.5	3.2	54.6	53.8	32.2	—	42.7	55.7	—	11.1	—	17.6	—	—
2011 Average	32.1	2.3	50.9	58.8	33.4	—	17.0	60.1	—	18.7	—	24.2	—	—
2012 Average	31.8	1.9	54.5	52.2	26.7	—	17.0	60.0	—	19.5	—	21.1	—	—
2013 Average	31.7	1.9	52.8	51.9	33.7	—	28.2	60.3	—	20.6	—	22.4	—	—
2014 Average	30.2	2.4	48.6	55.1	31.5	—	20.5	57.4	—	19.9	—	25.5	—	—
2015 Average	35.0	2.6	51.7	53.2	28.6	—	18.6	56.0	—	18.7	—	24.4	—	—
2016 Average	29.4	1.5	53.3	49.7	32.1	—	33.3	52.5	—	20.5	—	26.3	—	4.8
2017 Average	29.8	1.3	53.4	54.0	29.5	—	36.5	52.2	—	19.5	—	26.8	—	5.4
2018 Average	31.4	.7	51.5	56.2	32.0	—	34.7	50.1	—	18.7	—	27.5	—	5.2
2019 Average	30.2	.7	51.0	52.6	35.1	—	28.7	52.3	—	18.2	—	27.8	—	1.0
2020 Average	27.4	.4	43.3	50.1	32.2	—	32.8	52.0	—	17.4	—	28.3	—	4.4
2021 Average	30.8	.4	40.7	54.2	25.5	—	34.1	49.3	—	17.0	—	28.3	—	.7
2022 Average	29.7	.6	44.6	55.1	24.5	—	34.7	60.8	—	17.4	—	28.1	—	1.1
2023 Average	38.7	.3	46.1	54.3	22.7	—	38.2	57.3	—	15.8	—	21.4	—	.8
2024 January	44.9	.6	45.0	53.9	25.6	—	46.1	61.2	—	7.2	—	19.6	—	3.5
February	43.3	.3	46.2	49.9	24.7	—	46.6	57.1	—	11.3	—	21.4	—	3.3
March	43.1	.4	42.7	44.7	24.2	—	47.8	53.7	—	15.2	—	26.5	—	3.3
April	38.5	.3	42.0	42.3	21.3	—	48.2	55.0	—	18.4	—	32.8	—	4.2
May	19.2	.2	42.5	41.4	18.6	—	48.8	59.5	—	20.3	—	25.1	—	4.4
June	28.2	.2	51.3	49.2	20.6	—	36.9	58.9	—	21.5	—	23.5	—	5.1
July	32.8	.2	54.8	59.7	23.5	—	36.9	59.7	—	19.8	—	16.2	—	5.5
August	40.3	.2	54.3	55.0	23.2	—	35.9	60.3	—	19.0	—	16.1	—	4.5
September	37.9	.2	51.5	46.2	22.3	—	31.3	58.1	—	15.6	—	17.8	—	4.7
October	35.7	.2	42.5	44.2	18.8	—	34.6	57.0	—	14.3	—	18.1	—	5.5
November	42.2	.3	42.0	46.5	23.6	—	38.5	58.4	—	9.8	—	21.1	—	4.1
December	42.5	.8	41.5	46.9	25.9	—	41.7	58.5	—	7.6	—	25.2	—	3.2
Average	37.4	.3	46.3	48.4	22.7	—	41.1	58.1	—	15.0	—	21.9	—	4.3
2025 January	40.4	.4	45.1	50.1	29.1	—	49.1	57.4	—	11.5	—	26.9	—	.4
February	38.3	.3	40.9	50.1	27.3	—	44.5	61.2	—	13.1	—	23.7	—	.3
March	30.3	.3	40.3	47.4	22.5	—	42.6	57.3	—	18.1	—	26.6	—	.2
April	34.1	.3	38.0	39.5	18.8	—	54.5	56.2	—	20.6	—	25.5	—	—
May	42.5	.3	35.7	40.3	18.7	—	50.9	52.5	—	20.8	—	20.0	—	—
June	23.6	.5	49.3	49.1	22.6	—	48.2	57.5	—	23.6	—	16.9	—	.2
July	39.0	.7	51.9	54.3	28.9	—	41.4	57.8	—	23.7	—	14.8	—	.3
August	33.8	.3	51.9	52.6	25.6	—	45.6	59.3	—	22.6	—	15.9	—	—
September	41.0	.3	51.0	49.0	23.6	—	31.6	55.9	—	20.7	—	16.1	—	—
October	40.7	.6	48.4	42.3	25.4	—	34.9	59.0	—	16.9	—	28.7	—	—
November	40.0	.3	46.5	51.2	25.2	—	42.9	59.3	—	14.4	—	29.3	—	—
December	36.6	.3	45.5	50.9	26.2	—	54.2	58.7	—	10.1	—	32.3	—	—
Average	36.7	.4	45.4	48.1	24.5	—	45.1	57.7	—	18.0	—	23.1	—	.1
2026 January	30.7	.5	47.6	52.9	30.1	—	67.6	53.8	—	11.7	—	31.2	—	—
February	25.5	.4	47.4	50.4	32.2	—	57.2	49.2	—	15.0	—	27.8	—	—
March	21.0	.4	46.2	49.1	24.8	—	59.0	52.4	—	18.7	—	34.1	—	—
April	21.8	.3	41.5	43.1	21.8	—	55.9	46.3	—	21.7	—	32.7	—	—

^a Capacity factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (net generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^b Usage factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (gross generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^c Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

^d Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^e Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^f Natural gas, plus a small amount of supplemental gaseous fuels. Capacity factors for natural gas internal combustion engine, energy storage, fuel cell, and other plants are not displayed.

^g Wood and wood-derived fuels, municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic

sources, and tire-derived fuels).

^h Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

ⁱ Onshore wind plants, and, beginning in 2017, offshore wind plants.

— = No data reported.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Monthly factors are based on a time-adjusted total net summer capacity of generators in operation for the entire month. Annual factors are based on a time-weighted average of the monthly time-adjusted capacity. • For plants that use multiple energy sources or technologies, capacity is assigned to the reported combination of predominant energy source and technology. • See EIA's *Electric Power Annual*, "Technical notes," for further information. • See "Capacity factor" in Glossary. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 2008.

Sources: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report"; Form EIA-860M, "Monthly Update to the Annual Electric Generator Report"; and Form EIA-923, "Power Plant Operations Report."

Table 7.8d Capacity Factors and Usage Factors at Electric Generators: Industrial Sector
(Percent)

	Capacity Factors ^a											Usage Factors ^b		
	Coal ^{c,d}	Petroleum ^{c,e}	Natural Gas ^f			Nuclear Electric Power	Conventional Hydro-electric Power	Bio-mass ^{c,g}	Geo-thermal	Solar		Wind ⁱ	Hydro-electric Pumped Storage	Battery Storage
			Combined Cycle	Gas Turbine	Steam Turbine					Photo-voltaic ^h	Thermal			
2008 Average	51.8	32.6	55.2	53.1	45.2	—	54.9	63.1	—	—	—	—	—	—
2009 Average	46.6	33.4	52.9	54.3	46.9	—	61.6	61.7	—	—	—	—	—	—
2010 Average	54.3	33.9	62.4	69.6	54.3	—	55.9	62.2	—	19.3	—	—	—	—
2011 Average	50.6	29.5	61.1	69.7	56.8	—	61.0	60.2	—	30.3	—	11.6	—	—
2012 Average	48.8	38.2	64.5	71.0	57.0	—	43.4	60.9	—	25.2	—	15.3	—	—
2013 Average	49.8	30.0	70.7	75.1	50.2	—	61.1	60.7	—	25.6	—	25.6	—	—
2014 Average	49.9	27.5	67.5	71.0	48.8	—	52.4	60.9	—	24.3	—	26.4	—	—
2015 Average	48.2	28.1	66.1	72.7	41.2	—	57.6	62.2	—	20.6	—	25.1	—	—
2016 Average	46.3	25.2	69.7	73.0	40.3	—	51.4	61.7	—	16.7	—	25.3	—	—
2017 Average	46.7	24.4	68.9	74.9	37.7	—	55.9	62.7	—	14.8	—	27.0	—	.9
2018 Average	45.6	26.2	71.8	75.3	40.8	—	62.8	63.6	—	12.1	—	25.8	—	.8
2019 Average	41.6	26.3	73.4	75.9	44.2	—	55.0	62.2	—	17.2	—	25.3	—	15.3
2020 Average	41.9	23.2	67.0	74.5	44.0	—	53.2	61.2	—	16.3	—	39.7	—	2.4
2021 Average	42.0	19.6	63.8	74.1	45.1	—	49.9	62.1	—	16.3	—	23.2	—	.4
2022 Average	42.0	26.3	67.0	73.2	41.7	—	49.1	59.0	—	19.9	—	26.2	—	2.6
2023 Average	37.4	14.8	65.9	74.3	44.0	—	46.3	55.6	—	20.7	—	22.7	—	4.1
2024 January	37.3	17.6	71.2	78.8	50.3	—	58.9	62.0	—	11.4	—	23.7	—	.9
February	37.5	19.1	69.4	70.3	49.8	—	64.1	61.9	—	16.8	—	12.3	—	1.0
March	37.7	17.9	63.1	65.8	50.6	—	59.6	60.1	—	20.8	—	15.2	—	1.1
April	31.8	16.2	64.4	68.9	47.0	—	61.7	59.2	—	25.5	—	18.1	—	.9
May	36.1	15.0	60.9	71.0	46.7	—	57.1	59.0	—	29.5	—	16.9	—	.8
June	38.4	16.0	61.2	74.2	51.0	—	40.4	58.8	—	30.4	—	17.9	—	.7
July	39.2	18.6	64.8	80.2	48.2	—	32.4	60.2	—	28.3	—	12.5	—	.7
August	38.0	14.5	71.9	80.8	47.1	—	34.0	60.2	—	27.2	—	12.3	—	.2
September	36.7	13.8	65.1	76.4	42.5	—	25.0	57.7	—	24.3	—	15.8	—	.9
October	36.2	14.8	56.2	68.3	38.0	—	41.5	54.7	—	19.9	—	21.1	—	.7
November	38.7	15.1	62.6	71.1	38.5	—	35.1	62.1	—	14.5	—	27.8	—	.7
December	41.4	16.4	67.6	78.0	46.9	—	42.2	62.0	—	11.1	—	30.2	—	.5
Average	37.4	16.2	64.9	73.7	46.4	—	46.0	59.8	—	21.6	—	19.1	—	.8
2025 January	40.6	21.8	71.7	82.7	46.7	—	44.8	60.7	—	15.6	—	26.4	—	—
February	40.0	13.9	67.9	77.4	47.1	—	46.7	61.7	—	18.0	—	25.6	—	—
March	38.6	19.4	67.8	73.6	46.2	—	51.1	59.1	—	22.6	—	31.7	—	—
April	34.9	16.5	66.0	68.5	46.5	—	47.5	56.6	—	26.8	—	28.6	—	—
May	33.3	17.8	66.7	66.8	43.2	—	52.0	57.6	—	28.2	—	23.9	—	—
June	40.9	20.2	67.9	70.7	46.1	—	48.5	58.6	—	31.0	—	24.7	—	—
July	41.0	13.5	68.7	75.1	49.6	—	45.4	61.0	—	31.9	—	20.4	—	—
August	39.3	22.3	69.8	76.5	46.0	—	42.4	59.9	—	29.8	—	17.4	—	—
September	36.6	16.5	68.3	76.5	45.1	—	37.6	59.2	—	26.9	—	15.4	—	—
October	36.7	17.4	65.9	72.1	43.1	—	36.9	57.0	—	23.4	—	22.1	—	—
November	36.0	17.0	72.7	73.9	45.3	—	40.2	59.2	—	18.3	—	26.5	—	—
December	34.8	14.1	73.4	76.4	46.1	—	41.5	59.3	—	14.0	—	29.9	—	—
Average	37.7	17.6	68.9	74.2	45.9	—	44.5	59.1	—	23.5	—	24.4	—	—
2026 January	37.4	19.5	72.4	74.2	45.9	—	48.9	61.6	—	16.8	—	27.1	—	—
February	37.9	19.9	68.6	72.3	42.6	—	42.8	59.0	—	20.4	—	25.3	—	7.4
March	35.6	15.2	64.6	69.3	40.7	—	53.7	55.7	—	24.0	—	33.2	—	5.7
April	31.7	20.1	65.8	68.8	42.5	—	45.9	52.4	—	24.3	—	31.1	—	7.3

^a Capacity factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (net generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^b Usage factors are a measure of how often electric generators operate over a specific period of time, using a ratio of actual output (gross generation) to the maximum possible output over that same time period (using time-adjusted capacity).

^c Steam turbine, gas turbine, internal combustion engine, combined-cycle, and other plants.

^d Anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and coal synfuel.

^e Distillate fuel oil, residual fuel oil, petroleum coke, jet fuel, kerosene, other petroleum, waste oil, and, beginning in 2011, propane.

^f Natural gas, plus a small amount of supplemental gaseous fuels. Capacity factors for natural gas internal combustion engine, energy storage, fuel cell, and other plants are not displayed.

^g Wood and wood-derived fuels, municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic

sources, and tire-derived fuels).

^h Solar photovoltaic (PV) energy at utility-scale facilities. Does not include small-scale solar photovoltaic generators.

ⁱ Onshore wind plants, and, beginning in 2017, offshore wind plants.

— = No data reported.

Notes: • Data are for utility-scale facilities. See Note 1, "Coverage of Electricity Statistics," at end of section. • Monthly factors are based on a time-adjusted total net summer capacity of generators in operation for the entire month. Annual factors are based on a time-weighted average of the monthly time-adjusted capacity. • For plants that use multiple energy sources or technologies, capacity is assigned to the reported combination of predominant energy source and technology. • See EIA's *Electric Power Annual*, "Technical notes," for further information. • See "Capacity factor" in Glossary. • See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of section. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#electricity> (Excel and CSV files) for all available annual and monthly data beginning in 2008.

Sources: U.S. Energy Information Administration (EIA), Form EIA-860, "Annual Electric Generator Report"; Form EIA-860M, "Monthly Update to the Annual Electric Generator Report"; and Form EIA-923, "Power Plant Operations Report."

Note 1. Coverage of Electricity Statistics. Data in Section 7 cover the following:

Through 1984, data for electric utilities also include institutions (such as universities) and military facilities that generated electricity primarily for their own use; beginning in 1985, data for electric utilities exclude institutions and military facilities. Beginning in 1989, data for the commercial sector include institutions and military facilities.

The generation, consumption, and stocks data in Section 7 are for utility-scale facilities—those with a combined generation nameplate capacity of 1 megawatt or more. Data exclude small-scale facilities—those with a combined generator nameplate capacity of less than 1 megawatt. For data on small-scale solar photovoltaic (PV) generation in the residential, commercial, and industrial sectors, see Table 10.6.

Note 2. Classification of Power Plants into Energy-Use Sectors. The U.S. Energy Information Administration (EIA) classifies power plants (both electricity-only and combined-heat-and-power plants) into energy-use sectors based on the North American Industry Classification System (NAICS), which replaced the Standard Industrial Classification (SIC) system in 1997. Plants with a NAICS code of 22 are assigned to the Electric Power Sector. Those with NAICS codes beginning with 11 (agriculture, forestry, fishing, and hunting); 21 (mining, including oil and gas extraction); 23 (construction); 31–33 (manufacturing); 2212 (natural gas distribution); and 22131 (water supply and irrigation systems) are assigned to the Industrial Sector. Those with all other codes are assigned to the Commercial Sector. Form EIA-860, "Annual Electric Generator Report," asks respondents to indicate the primary purpose of the facility by assigning a NAICS code from the list at http://www.eia.gov/survey/form/eia_860/instructions.pdf.

Note 3. Electricity Forecast Values. Data values preceded by "F" in this section are forecast values. They are derived from EIA's Short-Term Integrated Forecasting System (STIFS). STIFS is driven primarily by data and assumptions about key macroeconomic variables, energy prices, and weather. The electricity forecast relies on additional variables such as alternative fuel prices (natural gas and oil) and power generation by sources other than fossil fuels, including nuclear, renewables, and hydroelectric power. Each month, EIA staff review the model output and make adjustments, if appropriate, based on their knowledge of developments in the electricity industry.

The STIFS model results are published monthly in EIA's Short-Term Energy Outlook, which is accessible on the Web at <http://www.eia.gov/forecasts/steo/>.

Note 4. Experimental Estimates of Electric Vehicle Use. These are experimental estimates of on-road light-duty electric vehicle (EV) electricity consumption to operate and move the vehicle. These estimates are based on models and are subject to model error. The electricity consumed by light-duty EVs is not identified as a separate class of service by electric utilities. Instead, the electricity consumption by light-duty EVs is accounted for based on the location of where the vehicle is charged. This results in electric utilities reporting light-duty EV consumption as part of the Residential, Commercial, and Industrial Sales to Ultimate Customers. Estimates are for light-duty Battery Electric Vehicles and Plug-in Hybrid Electric Vehicles that weigh less than or equal to 8,500 pounds. Estimates exclude plug-in hybrid motor gasoline consumption, on-road medium- and heavy-duty EVs, and off-road EVs such as golf carts and forklifts. For more information, see the detailed estimation methodology at <https://www.eia.gov/electricity/monthly/pdf/technotes-appendix-d.pdf>.

Table 7.1 Sources

Net Generation, Electric Power Sector

1949 forward: Table 7.2b.

Net Generation, Commercial and Industrial Sectors

1949 forward: Table 7.2c.

Trade

1949–September 1977: Unpublished Federal Power Commission data.

October 1977–1980: Unpublished Economic Regulatory Administration (ERA) data.

1981: U.S. Department of Energy (DOE), Office of Energy Emergency Operations, "Report on Electric Energy Exchanges with Canada and Mexico for Calendar Year 1981," April 1982 (revised June 1982).

1982 and 1983: DOE, ERA, *Electricity Exchanges Across International Borders*.

1984–1986: DOE, ERA, *Electricity Transactions Across International Borders*.

1987 and 1988: DOE, ERA, Form ERA-781R, "Annual Report of International Electrical Export/Import Data."

1989: DOE, Fossil Energy, Form FE-781R, "Annual Report of International Electrical Export/Import Data."

1990–2000: National Energy Board of Canada; and DOE, Office of Electricity Delivery and Energy Reliability, Form FE-781R, "Annual Report of International Electrical Export/Import Data."

2001–May 2011: National Energy Board of Canada; DOE, Office of Electricity Delivery and Energy Reliability, Form OE-781R, "Monthly Electricity Imports and Exports Report," and predecessor form; and California Independent System Operator.

June 2011–2015: National Energy Board of Canada; California Independent System Operator; and EIA estimates for Texas transfers.

2016 forward: EIA, Form EIA-111, "Quarterly Electricity Imports and Exports Report"; and for forecast values, EIA Short-Term Integrated Forecasting System (STIFS).

T&D Losses and Unaccounted for

1949 forward: Calculated as the sum of total net generation and imports minus end use and exports.

End Use

1949 forward: Table 7.6.

Table 7.2b Sources

1949–September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report."

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report."

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

1989–1997: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report."

1998–2000: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility."

2001–2003: EIA, Form EIA-906, "Power Plant Report."

2004–2007: EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report."

2008 forward: EIA, Form EIA-923, "Power Plant Operations Report".

Table 7.2c Sources

Industrial Sector, Hydroelectric Power, 1949–1988

1949–September 1977: Federal Power Commission (FPC), Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FPC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants.

October 1977–1978: Federal Energy Regulatory Commission (FERC), Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and FERC, Form FPC-12C, "Industrial Electric Generating Capacity," for all other plants.

1979: FERC, Form FPC-4, "Monthly Power Plant Report," for plants with generating capacity exceeding 10 megawatts, and U.S. Energy Information Administration (EIA) estimates for all other plants.

1980–1988: Estimated by EIA as the average generation over the 6-year period of 1974–1979.

All Data, 1989 Forward

1989–1997: EIA, Form EIA-867, "Annual Nonutility Power Producer Report."

1998–2000: EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility."

2001–2003: EIA, Form EIA-906, "Power Plant Report."

2004–2007: EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report."

2008 forward: EIA, Form EIA-923, "Power Plant Operations Report".

Table 7.3b Sources

1949–September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report."

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report."

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

1989–1997: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report."

1998–2000: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility."

2001–2003: EIA, Form EIA-906, "Power Plant Report."

2004–2007: EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report."

2008 forward: EIA, Form EIA-923, "Power Plant Operations Report".

Table 7.4b Sources

1949–September 1977: Federal Power Commission, Form FPC-4, "Monthly Power Plant Report."

October 1977–1981: Federal Energy Regulatory Commission, Form FPC-4, "Monthly Power Plant Report."

1982–1988: U.S. Energy Information Administration (EIA), Form EIA-759, "Monthly Power Plant Report."

1989–1997: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report."

1998–2000: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility."

2001–2003: EIA, Form EIA-906, "Power Plant Report."

2004–2007: EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report."

2008 forward: EIA, Form EIA-923, "Power Plant Operations Report".

Table 7.6 Sources

Sales to Ultimate Customers, Residential and Industrial

1949–September 1977: Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."

October 1977–February 1980: Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenue and Income."

March 1980–1982: FERC, Form FPC-5, "Electric Utility Company Monthly Statement."

1983: U.S. Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement."

1984–2003: EIA, Form EIA-861, "Annual Electric Utility Report."

2004 forward: EIA, *Electric Power Monthly (EPM)*, June 2026, Table 5.1.

Sales to Ultimate Customers, Commercial

1949–2002: Data are estimates. See estimation methodology at http://www.eia.gov/state/seds/sep_use/notes/use_elec.pdf.

2003: EIA, Form EIA-861, "Annual Electric Utility Report."

2004 forward: EIA, EPM, June 2026, Table 5.1.

Sales to Ultimate Customers, Transportation

1949–2002: Data are estimates. See estimation methodology at http://www.eia.gov/state/seds/sep_use/notes/use_elec.pdf.

2003: EIA, Form EIA-861, "Annual Electric Utility Report."

2004 forward: EIA, EPM, June 2026, Table 5.1.

Direct Use, Annual

1989–1997: EIA, Form EIA-867, "Annual Nonutility Power Producer Report."

1998–2000: EIA, Form EIA-860B, "Annual Electric Generator Report—Nonutility."

2001–2024: EIA, *Electric Power Annual 2024*, October 2025, Table 2.2.

Direct Use, Monthly

1989 forward: Annual shares are calculated as annual direct use divided by annual commercial and industrial net generation (on Table 7.1). Then monthly direct use estimates are calculated as the annual share multiplied by the monthly commercial and industrial net generation values. For 2025 and 2026, the 2024 annual share is used.

Electric Vehicle Use

2018 forward: EIA, EPM, June 2026, Table D1.

Table 7.7b Sources

Net Summer Capacity, Nuclear Power

1949 forward: Table 8.1.

All Other Data

1949–1984: U.S. Energy Information Administration (EIA) estimates.

1985–1988: EIA, Form EIA-860, "Annual Electric Generator Report."

1989–1997: EIA, Form EIA-860, "Annual Electric Generator Report," and Form EIA-867, "Annual Nonutility Power Producer Report."

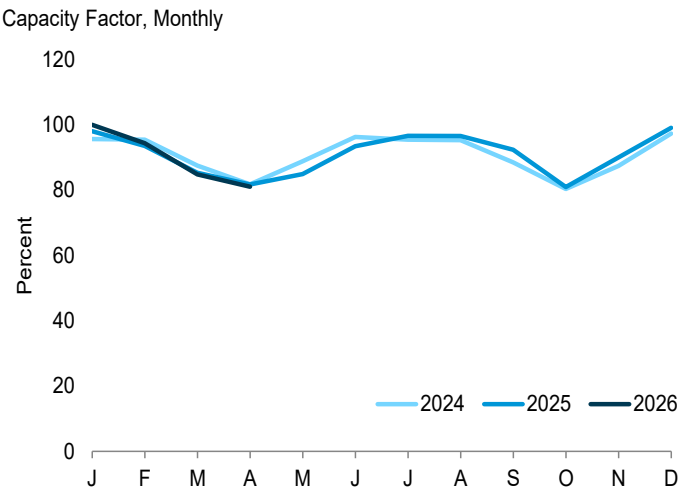
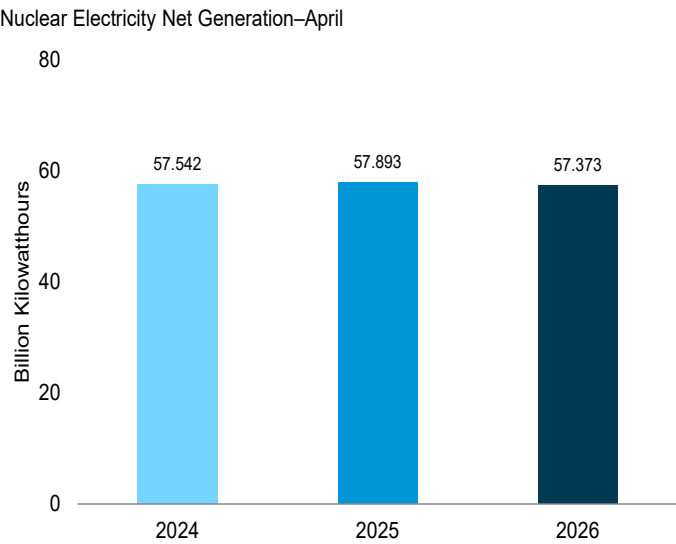
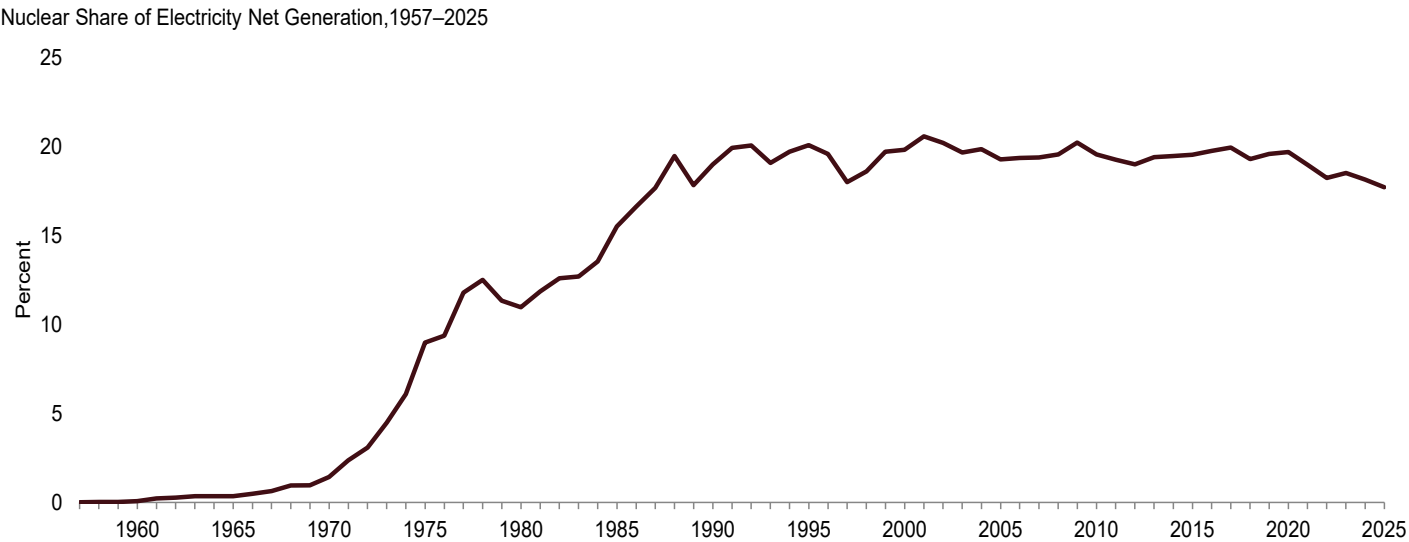
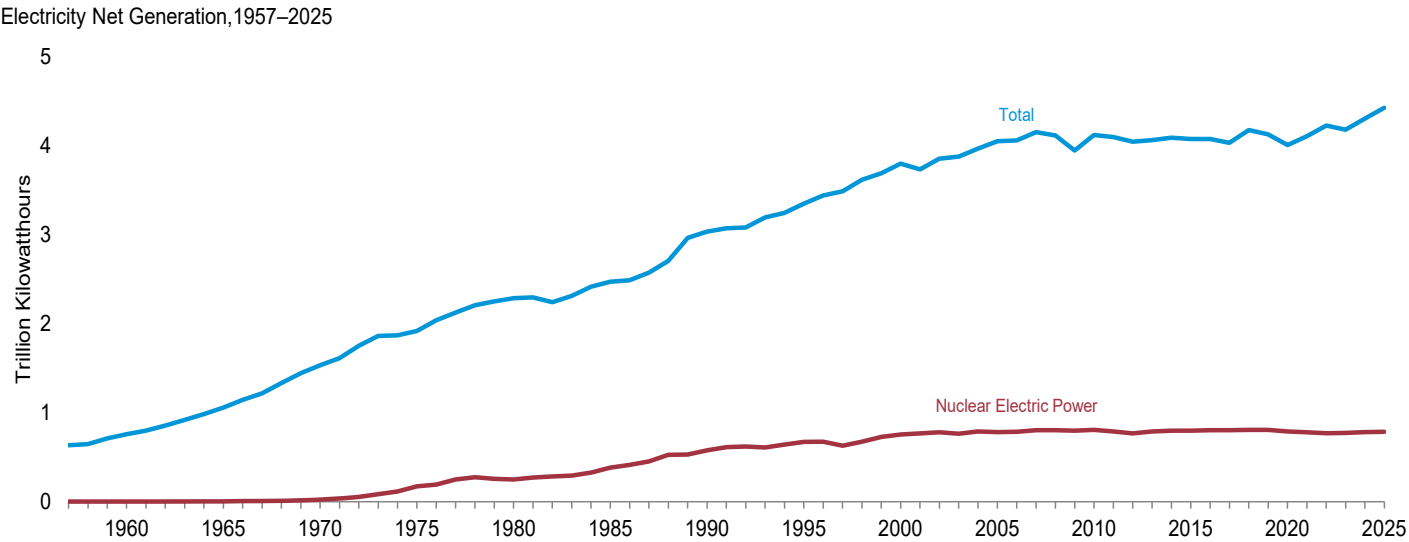
1998–2000: EIA, Form EIA-860A, "Annual Electric Generator Report–Utility," and Form EIA-860B, "Annual Electric Generator Report–Nonutility."

2001–2007: EIA, Form EIA-860, "Annual Electric Generator Report."

2008 forward: EIA, Form EIA-860, "Annual Electric Generator Report," and Form EIA-860M, "Monthly Update to the Annual Electric Generator Report."

8. Nuclear Energy

Figure 8.1 Nuclear Energy Overview



Web Page: <http://www.eia.gov/totalenergy/data/monthly/#nuclear>.
Sources: Tables 7.2a and 8.1.

Table 8.1 Nuclear Energy Overview

	Total Operable Units ^{a,b}	Net Summer Capacity of Operable Units ^{b,c}	Nuclear Electricity Net Generation	Nuclear Share of Electricity Net Generation	Capacity Factor ^d
	Number	Million Kilowatts	Million Kilowatthours	Percent	
1957 Total	1	0.055	10	(s)	NA
1960 Total	3	.411	518	.1	NA
1965 Total	13	.793	3,657	.3	NA
1970 Total	20	7.004	21,804	1.4	NA
1975 Total	57	37.267	172,505	9.0	55.9
1980 Total	71	51.810	251,116	11.0	56.3
1985 Total	96	79.397	383,691	15.5	58.0
1990 Total	112	99.624	576,862	19.0	66.0
1995 Total	109	99.515	673,402	20.1	77.4
2000 Total	104	97.860	753,893	19.8	88.1
2005 Total	104	99.988	781,986	19.3	89.3
2010 Total	104	101.167	806,968	19.6	91.1
2011 Total	104	101.419	790,204	19.3	89.1
2012 Total	104	101.885	769,331	19.0	86.6
2013 Total	100	99.240	789,016	19.4	90.8
2014 Total	99	98.569	797,166	19.5	91.7
2015 Total	99	98.672	797,178	19.5	92.3
2016 Total	99	99.565	805,694	19.8	92.3
2017 Total	99	99.629	804,950	19.9	92.3
2018 Total	98	99.433	807,084	19.3	92.5
2019 Total	96	98.119	809,409	19.6	93.4
2020 Total	94	96.501	789,879	19.7	92.4
2021 Total	93	95.546	779,645	19.0	92.8
2022 Total	92	94.659	771,537	18.2	92.7
2023 Total	93	95.712	774,873	18.5	93.0
2024 January	93	95.706	69,080	18.1	95.6
February	93	95.706	64,584	20.0	95.4
March	93	95.706	63,346	19.5	87.5
April	93	96.820	57,542	18.5	81.8
May	94	96.820	64,973	18.6	88.8
June	94	96.820	68,192	17.4	96.3
July	94	96.820	69,851	16.3	95.4
August	94	96.820	69,760	16.5	95.3
September	94	96.820	62,660	17.4	88.5
October	94	96.820	58,773	17.6	80.3
November	94	96.820	61,904	19.2	87.4
December	94	96.820	71,200	19.7	97.3
Total	94	96.820	781,865	18.1	90.8
2025 January	94	96.834	71,739	17.8	98.0
February	94	96.834	61,829	18.3	93.5
March	94	96.834	62,457	18.7	85.3
April	94	96.834	57,893	18.1	81.7
May	94	96.880	62,145	18.1	84.9
June	94	96.880	66,222	16.8	93.4
July	94	96.880	70,781	15.9	96.6
August	94	96.880	70,705	16.8	96.5
September	94	96.880	65,458	17.8	92.3
October	94	96.880	59,222	17.2	80.9
November	94	96.880	63,809	19.0	90.0
December	94	96.880	72,521	19.0	99.0
Total	94	96.880	784,781	17.7	91.0
2026 January	94	96.867	73,251	18.3	100.0
February	94	96.870	62,384	18.2	94.3
March	94	96.853	62,096	17.8	84.8
April	94	96.853	57,373	17.3	81.0
4-Month Total	94	96.853	255,104	17.9	90.0
2025 4-Month Total	94	96.834	253,917	18.2	89.6
2024 4-Month Total	93	96.820	254,551	19.0	90.0

^a Total of nuclear generating units holding full-power licenses, or equivalent permission to operate, at end of period. See Note 1, "Operable Nuclear Reactors," at end of section.

^b At end of period.

^c For the definition of "Net Summer Capacity," see Note 2, "Nuclear Capacity," at end of section. Beginning in 2011, monthly capacity values are estimated in two steps: 1) uprates and derates reported on Form EIA-860M are added to specific months; and 2) the difference between the resulting year-end capacity (from data reported on Form EIA-860M) and final capacity (reported on Form EIA-860) is allocated to the month of January.

^d Beginning in 2008, capacity factor data are calculated using a new

methodology. For an explanation of the method of calculating the capacity factor, see Note 2, "Nuclear Capacity," at end of section.

E=Estimate. NA=Not available. (s)=Less than 0.05%.

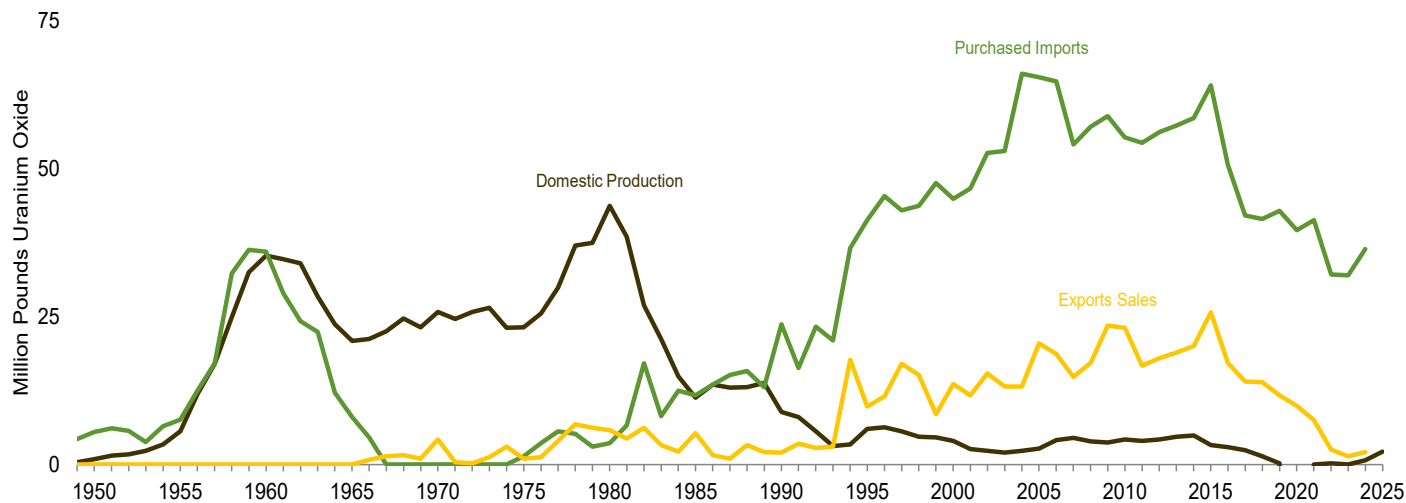
Notes: • For a discussion of nuclear reactor unit coverage, see Note 1, "Operable Nuclear Reactors," at end of section. • Nuclear electricity net generation totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#nuclear> (Excel and CSV files) for all available annual data beginning in 1957 and monthly data beginning in 1973.

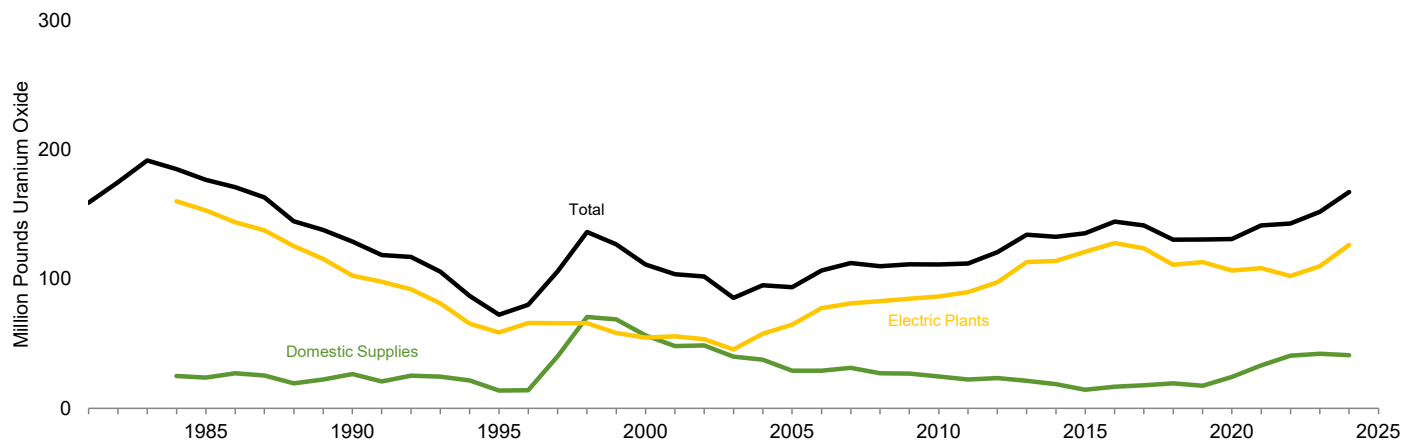
Sources: See end of section.

Figure 8.2 Uranium Overview

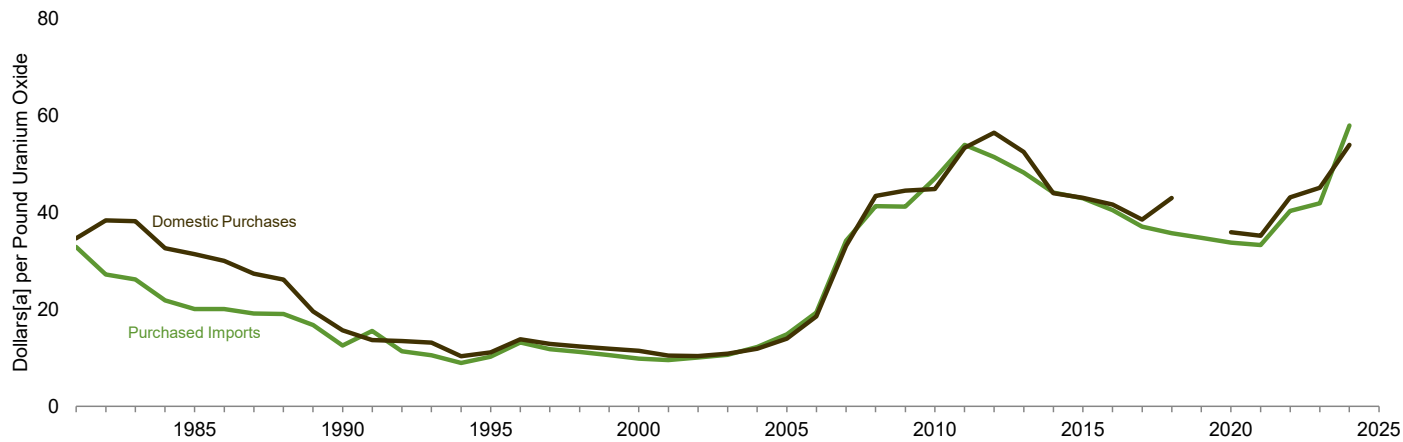
Production and Trade, 1949–2025



Inventories, End of Year 1981–2025



Average Prices, 1981–2025



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.
Note: See “Uranium Oxide” in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#nuclear>.
Source: Table 8.2.

Table 8.2 Uranium Overview

	Domestic Concentrate Production ^a	Purchased Imports ^b	Export ^b Sales	Electric Plant Purchases From Domestic Suppliers	Loaded Into U.S. Nuclear Reactors ^c	Inventories			Average Price	
						Domestic Suppliers	Electric Plants	Total	Purchased Imports	Domestic Purchases
	Million Pounds Uranium Oxide								Dollars ^d per Pound Uranium Oxide	
1950	0.92	5.5	0.0	NA	NA	NA	NA	NA	NA	NA
1955	5.56	7.6	.0	NA	NA	NA	NA	NA	NA	NA
1960	35.28	36.0	.0	NA	NA	NA	NA	NA	NA	NA
1965	20.88	8.0	.0	NA	NA	NA	NA	NA	NA	NA
1970	25.81	.0	4.2	NA	NA	NA	NA	NA	—	NA
1975	23.20	1.4	1.0	NA	NA	NA	NA	NA	NA	NA
1980	43.70	3.6	5.8	NA	NA	NA	NA	NA	NA	NA
1981	38.47	6.6	4.4	32.6	NA	NA	NA	159.2	32.90	34.65
1982	26.87	17.1	6.2	27.1	NA	NA	NA	174.8	27.23	38.37
1983	21.16	8.2	3.3	24.2	NA	NA	NA	191.8	26.16	38.21
1984	14.88	12.5	2.2	22.5	NA	25.0	160.2	185.2	21.86	32.65
1985	11.31	11.7	5.3	21.7	NA	23.7	153.2	176.9	20.08	31.43
1986	13.51	13.5	1.6	18.9	NA	27.0	144.1	171.1	20.07	30.01
1987	12.99	15.1	1.0	20.8	NA	25.4	137.8	163.2	19.14	27.37
1988	13.13	15.8	3.3	17.6	NA	19.3	125.5	144.8	19.03	26.15
1989	13.84	13.1	2.1	18.4	NA	22.2	115.8	138.1	16.75	19.56
1990	8.89	23.7	2.0	20.5	NA	26.4	102.7	129.1	12.55	15.70
1991	7.95	16.3	3.5	26.8	34.6	20.7	98.0	118.7	15.55	13.66
1992	5.65	23.3	2.8	23.4	43.0	25.2	92.1	117.3	11.34	13.45
1993	3.06	21.0	3.0	15.5	45.1	24.5	81.2	105.7	10.53	13.14
1994	3.35	36.6	17.7	22.7	40.4	21.5	65.4	86.9	8.95	10.30
1995	6.04	41.3	9.8	22.3	51.1	13.7	58.7	72.5	10.20	11.11
1996	6.32	45.4	11.5	23.7	46.2	13.9	66.1	80.0	13.15	13.81
1997	5.64	43.0	17.0	19.4	48.2	40.4	65.9	106.2	11.81	12.87
1998	4.70	43.7	15.1	21.6	38.2	70.7	65.8	136.5	11.19	12.31
1999	4.61	47.6	8.5	21.4	58.8	68.8	58.3	127.1	10.55	11.88
2000	3.98	44.9	13.6	24.3	51.5	56.5	54.8	111.3	9.84	11.45
2001	2.64	46.7	11.7	27.5	52.7	48.1	55.6	103.8	9.51	10.45
2002	e,E 2.34	52.7	15.4	22.7	57.2	48.7	53.5	102.1	10.05	10.35
2003	e,E 2.00	53.0	13.2	21.7	62.3	39.9	45.6	85.5	10.59	10.84
2004	2.28	66.1	13.2	28.2	50.1	37.5	57.7	95.2	12.25	11.91
2005	2.69	65.5	20.5	27.3	58.3	29.1	64.7	93.8	14.83	13.98
2006	4.11	64.8	18.7	27.9	51.7	29.1	77.5	106.6	19.31	18.54
2007	4.53	54.1	14.8	18.5	45.5	31.2	81.2	112.4	34.18	33.13
2008	3.90	57.1	17.2	20.4	51.3	27.0	83.0	110.0	41.30	43.43
2009	3.71	58.9	23.5	17.6	49.4	26.8	84.8	111.5	41.23	44.53
2010	4.23	55.3	23.1	16.2	44.3	24.7	86.5	111.3	47.01	44.88
2011	3.99	54.4	16.7	19.8	50.9	22.3	89.8	112.1	54.00	53.41
2012	4.15	56.2	18.0	21.5	49.5	23.3	97.6	120.9	51.44	56.51
2013	4.66	57.3	18.9	23.3	42.6	21.3	113.1	134.4	48.24	52.51
2014	4.89	58.6	20.0	20.5	50.5	18.7	114.0	132.7	44.11	43.99
2015	3.34	64.1	25.7	19.6	47.4	14.3	121.1	135.5	42.96	43.03
2016	2.92	50.7	17.2	18.8	42.5	16.7	128.0	144.6	40.45	41.64
2017	2.44	42.1	14.0	14.0	45.5	17.8	123.9	141.7	37.09	38.57
2018	1.45	41.5	13.9	11.1	50.4	19.3	111.2	130.5	35.73	42.98
2019	.17	42.9	11.7	W	43.2	17.5	113.1	130.7	34.77	W
2020	W	39.6	9.9	10.5	48.6	24.2	106.7	131.0	33.79	35.92
2021	.02	41.3	7.5	8.2	44.4	33.2	108.5	141.7	33.26	35.18
2022	.19	32.1	2.5	4.4	44.4	40.7	102.4	143.1	40.31	43.15
2023	.05	32.0	1.4	5.9	43.9	42.1	110.0	152.1	41.88	45.09
2024	.66	36.4	2.1	7.2	53.6	41.0	126.4	167.4	57.99	53.99
2025	2.16	NA	NA	NA	NA	NA	NA	NA	NA	NA

^a See "Uranium Concentrate" in Glossary.

^b Import quantities through 1970 are reported for fiscal years. Prior to 1968, the Atomic Energy Commission was the sole purchaser of all imported uranium oxide. Trade data prior to 1982 were for transactions conducted by uranium suppliers only. For 1982 forward, transactions by uranium buyers (consumers) have been included. Buyer imports and exports prior to 1982 are believed to be small.

^c Does not include any fuel rods removed from reactors and later reloaded.

^d Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^e Value has been rounded to avoid disclosure of individual company data.

NA=Not available. W=Value withheld to avoid disclosure of individual company data. —=Not applicable.

Note: See "Uranium Oxide" in Glossary.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly#nuclear> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: • **1949–1966:** U.S. Department of Energy, Grand Junction Office, *Statistical Data of the Uranium Industry*, Report No. GJO-100, annual reports. • **1967–2001:** U.S. Energy Information Administration (EIA), *Uranium Industry Annual*, annual reports. • **2003–2022:** EIA, "Domestic Uranium Production Report," annual reports; and EIA, "Uranium Marketing Annual Report," annual reports. • **2023 forward:** EIA, "2024 Domestic Uranium Production Report" (July 2025), Table 3; and EIA, "2024 Uranium Marketing Annual Report" (September 2025), Tables 5, 18, 19, 21, and 22.

Note 1. Operable Nuclear Reactors. A reactor is defined as operable when it possesses a full-power license from the Nuclear Regulatory Commission or its predecessor, the Atomic Energy Commission, or equivalent permission to operate, at the end of the year or month shown. The definition includes units retaining full-power licenses during long, non-routine shutdowns that for a time rendered them unable to generate electricity.

Note 2. Nuclear Capacity. Nuclear generating units may have more than one type of net capacity rating, including the following:

(a) Net Summer Capacity—The steady hourly output that generating equipment is expected to supply to system load, exclusive of auxiliary power, as demonstrated by test at the time of summer peak demand. Auxiliary power of a typical nuclear power plant is about 5% of gross generation.

(b) Net Design Capacity or Net Design Electrical Rating (DER)—The nominal net electrical output of a unit, specified by the utility and used for plant design.

Through 2007, the monthly capacity factors are calculated as the monthly nuclear electricity net generation divided by the maximum possible nuclear electricity net generation for that month. The maximum possible nuclear electricity net generation is the number of hours in the month (assuming 24-hour days, with no adjustment for changes to or from Daylight Savings Time) multiplied by the net summer capacity of operable nuclear generating units at the end of the month. That fraction is then multiplied by 100 to obtain a percentage. Annual capacity factors are calculated as the annual nuclear electricity net generation divided by the annual maximum possible nuclear electricity net generation (the sum of the monthly values for maximum possible nuclear electricity net generation). For the methodology used to calculate capacity factors beginning in 2008, see U.S. Energy Information Administration, *Electric Power Annual*, Appendix technical notes on “Capacity Factors and Usage Factors.”

Table 8.1 Sources

Total Operable Units and Net Summer Capacity of Operable Units

1957–1982: Compiled from various sources, primarily U.S. Department of Energy, Office of Nuclear Reactor Programs, “U.S. Central Station Nuclear Electric Generating Units: Significant Milestones.”

1983 forward: U.S. Energy Information Administration (EIA), Form EIA-860, “Annual Electric Generator Report,” and predecessor forms; Form EIA-860M, “Monthly Update to the Annual Electric Generator Report”; and monthly updates as appropriate. See <https://www.eia.gov/nuclear/generation/index.html> for a list of operable units.

Nuclear Electricity Net Generation and Nuclear Share of Electricity Net Generation

1957 forward: Table 7.2a.

Capacity Factor

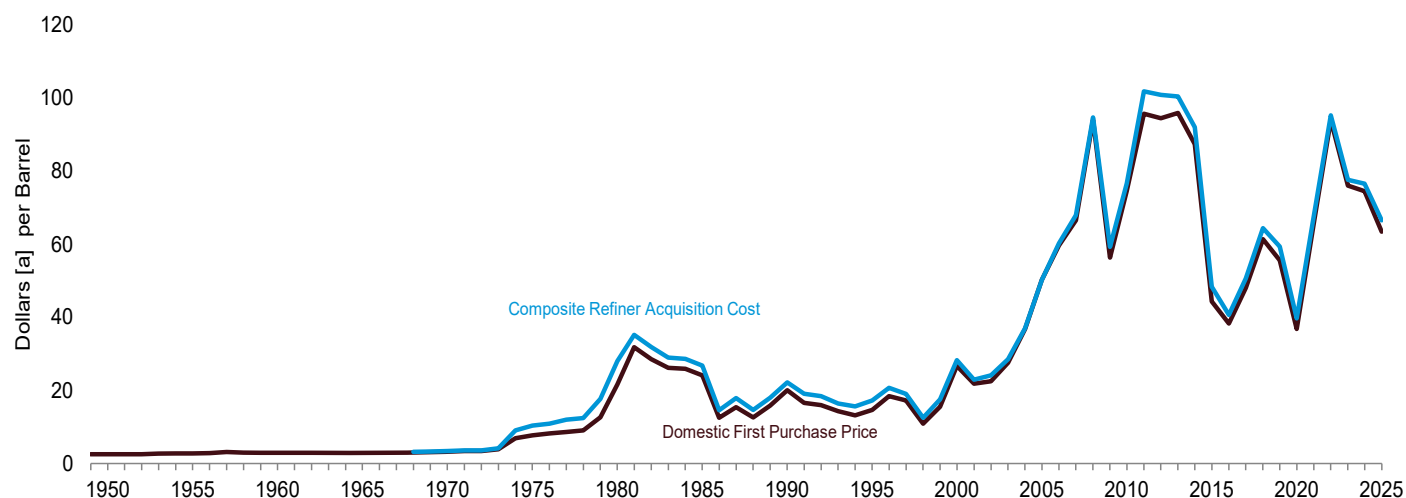
1973–2007: Calculated by EIA using the method described above in Note 2.

2008 forward: Table 7.8a.

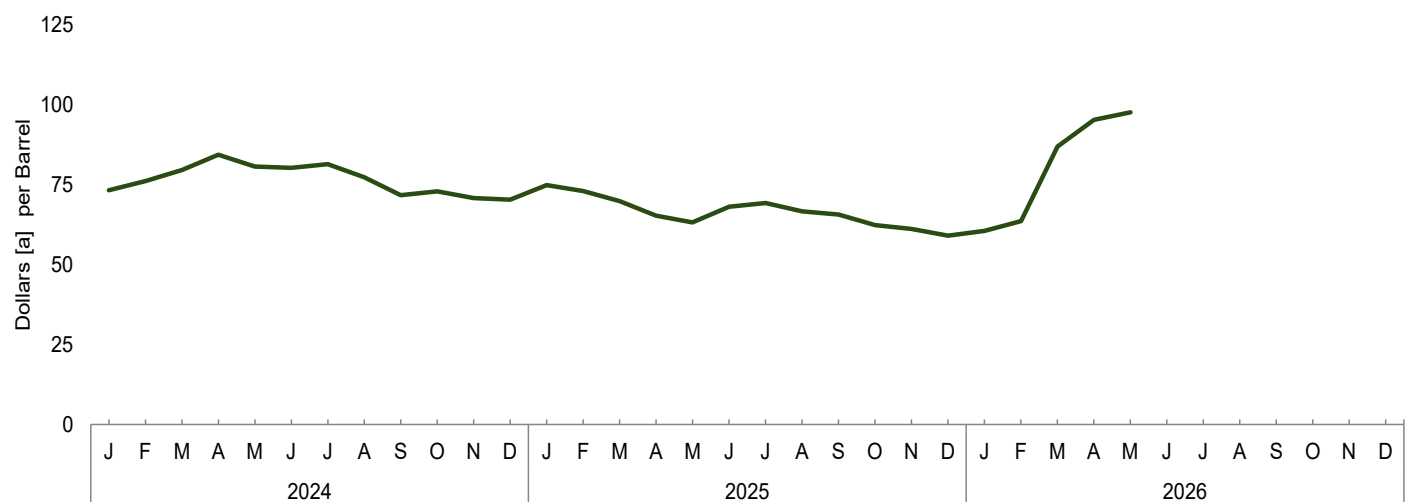
9. Energy Prices

Figure 9.1 Petroleum Prices

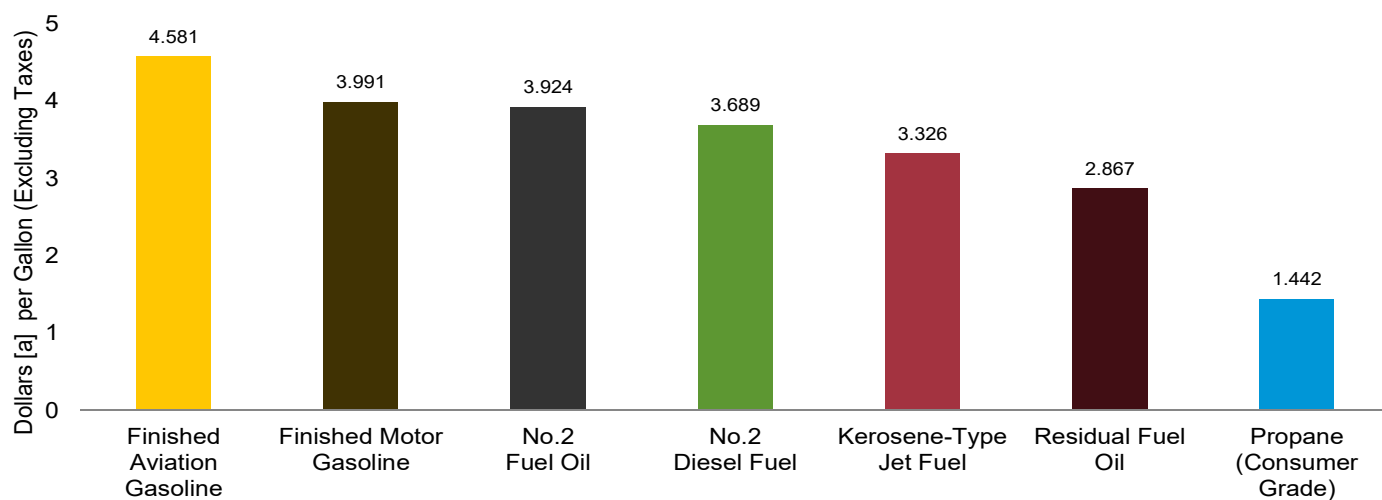
Crude Oil Prices, 1949–2025



Composite Refiner Acquisition Cost, Monthly



Refiner Prices to End Users: Select Products, March 2022



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.

Sources: Tables 9.1, 9.5, and 9.7.

“Refiner Prices to End Users” has not been updated due to the suspension of Forms EIA-782A and EIA-782C.

Table 9.1 Crude Oil Price Summary
(Dollars^a per Barrel)

	Domestic First Purchase Price ^c	F.O.B. Cost of Imports ^d	Landed Cost of Imports ^e	Refiner Acquisition Cost ^d		
				Domestic	Imported	Composite
1950 Average	2.51	NA	NA	NA	NA	NA
1955 Average	2.77	NA	NA	NA	NA	NA
1960 Average	2.88	NA	NA	NA	NA	NA
1965 Average	2.86	NA	NA	NA	NA	NA
1970 Average	3.18	NA	NA	^E 3.46	^E 2.96	^E 3.40
1975 Average	7.67	11.18	12.70	8.39	13.93	10.38
1980 Average	21.59	32.37	33.67	24.23	33.89	28.07
1985 Average	24.09	25.84	26.67	26.66	26.99	26.75
1990 Average	20.03	20.37	21.13	22.59	21.76	22.22
1995 Average	14.62	15.69	16.78	17.33	17.14	17.23
2000 Average	26.72	26.27	27.53	29.11	27.70	28.26
2005 Average	50.28	47.60	49.29	52.94	48.86	50.24
2010 Average	74.71	74.19	76.50	78.01	75.86	76.69
2011 Average	95.73	101.66	102.92	100.71	102.63	101.87
2012 Average	94.52	99.78	101.00	100.72	101.09	100.93
2013 Average	95.99	96.56	96.99	102.91	98.11	100.49
2014 Average	87.39	85.65	88.16	94.05	89.56	92.02
2015 Average	44.39	41.91	45.38	49.94	46.38	48.39
2016 Average	38.29	36.37	38.56	42.41	38.75	40.66
2017 Average	48.05	45.58	48.50	52.05	49.12	50.68
2018 Average	61.40	56.31	58.89	67.05	60.95	64.38
2019 Average	55.59	54.27	56.60	60.31	57.94	59.38
2020 Average	36.86	33.66	36.42	41.23	37.41	39.75
2021 Average	65.84	62.04	65.05	69.07	65.85	67.83
2022 Average	93.97	85.98	89.62	97.45	91.83	95.29
2023 Average	76.10	67.65	71.82	79.71	74.53	77.67
2024 January	72.30	62.90	66.82	75.98	69.28	73.28
February	75.02	67.35	71.59	78.28	72.91	76.20
March	79.04	70.54	73.35	82.26	75.88	79.67
April	83.21	75.76	79.29	86.36	81.87	84.47
May	78.21	71.89	76.25	82.29	78.34	80.70
June	77.38	73.02	75.93	81.33	78.79	80.28
July	79.11	72.20	76.80	82.64	79.67	81.50
August	75.00	69.38	72.83	79.15	74.67	77.39
September	68.75	63.80	67.58	73.08	69.61	71.75
October	70.45	65.17	67.92	74.15	70.91	72.95
November	68.24	63.37	67.21	72.05	69.08	70.89
December	68.10	63.96	66.69	71.67	68.21	70.37
Average	74.52	68.48	71.91	78.20	74.24	76.64
2025 January	73.16	66.53	69.38	76.31	72.65	74.93
February	70.11	64.08	67.96	74.18	71.14	73.04
March	67.07	60.70	65.06	71.24	67.48	69.94
April	62.01	57.96	62.11	66.38	63.53	65.38
May	59.91	57.96	60.63	64.02	61.82	63.26
June	65.33	62.45	65.28	68.47	67.40	68.11
July	65.97	62.05	66.77	69.78	68.42	69.30
August	63.37	58.35	62.85	67.35	65.55	66.73
September	62.23	57.17	61.31	66.14	64.66	65.66
October	58.89	54.00	57.81	63.12	60.95	62.40
November	58.11	53.27	57.22	61.98	59.82	61.22
December	56.31	51.10	55.58	60.01	57.26	59.09
Average	63.41	58.74	62.68	67.28	65.13	66.54
2026 January	58.44	51.81	56.24	61.47	59.05	60.60
February	62.44	56.20	^R 60.41	65.03	61.43	63.69
March	88.15	^R 77.68	^R 80.05	^R 88.09	^R 84.81	^R 86.95
April	^R 97.75	^R 86.13	^R 89.70	^R 95.96	^R 94.33	^R 95.36
May	NA	NA	NA	^E 99.48	^E 94.88	^E 97.70

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b See Note 1, "Crude Oil Refinery Acquisition Costs," at end of section.

^c See Note 2, "Crude Oil Domestic First Purchase Prices," at end of section.

^d See Note 3, "Crude Oil F.O.B. Costs," at end of section.

^e See Note 4, "Crude Oil Landed Costs," at end of section.

R=Revised; NA=Not available; E=Estimate.

Notes: • Domestic first purchase prices and refinery acquisition costs for the current two months are preliminary. F.O.B. and landed costs for the current three months are preliminary. • Through 1980, F.O.B. and landed costs reflect the

period of reporting; beginning in 1981, they reflect the period of loading. • Annual averages are the averages of the monthly prices, weighted by volume. • Geographic coverage is the 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, and all U.S. Territories and Possessions.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 9.2 F.O.B. Costs of Crude Oil Imports From Selected Countries

(Dollars^a per Barrel)

	Selected Countries							Persian Gulf Nations ^b	Total OPEC ^c	Total Non-OPEC ^c
	Angola	Colombia	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela			
1973 Average ^d	W	W	—	7.81	3.25	—	5.39	3.68	5.43	4.80
1975 Average	10.97	—	11.44	11.82	10.87	—	11.04	10.88	11.34	10.62
1980 Average	33.45	W	31.06	35.93	28.17	34.36	24.81	28.92	32.21	32.85
1985 Average	26.30	—	25.33	28.04	22.04	27.64	23.64	23.31	25.67	25.96
1990 Average	20.23	20.75	19.26	22.46	20.36	23.43	19.55	18.54	20.40	20.32
1995 Average	16.58	16.73	15.64	17.40	W	16.94	13.86	W	15.36	16.02
2000 Average	27.90	29.04	25.39	28.70	24.62	27.21	24.45	24.72	25.56	26.77
2005 Average	52.48	51.89	43.00	55.95	47.96	54.48	46.39	47.21	49.60	45.79
2010 Average	78.18	72.56	72.46	80.83	76.44	W	70.30	75.65	75.23	73.24
2011 Average	111.82	100.21	100.90	115.35	107.08	—	97.23	106.47	105.34	98.49
2012 Average	111.23	106.43	101.84	114.51	106.65	—	100.15	105.45	104.39	95.71
2013 Average	107.71	101.24	98.40	110.06	101.16	W	97.52	100.62	100.57	93.67
2014 Average	W	80.75	86.55	W	95.60	—	84.51	94.03	89.76	82.95
2015 Average	W	47.52	44.90	W	47.53	—	40.73	46.95	43.25	41.19
2016 Average	42.68	35.28	36.22	46.20	39.30	W	34.71	38.76	38.51	34.81
2017 Average	W	48.34	46.66	54.77	51.30	W	45.60	50.16	49.55	43.30
2018 Average	74.44	62.51	62.75	71.41	68.23	71.65	61.25	66.55	65.61	51.41
2019 Average	66.97	60.61	56.72	67.21	63.48	65.20	48.57	61.43	62.11	52.36
2020 Average	W	36.03	36.00	W	35.35	43.39	—	36.06	38.34	33.22
2021 Average	75.02	66.15	64.42	73.83	68.43	W	—	66.72	69.18	60.93
2022 Average	W	93.57	89.32	W	95.58	—	—	92.34	99.69	83.86
2023 Average	W	W	70.27	W	W	—	W	79.77	82.32	65.91
2024 January	—	—	69.74	W	W	—	—	W	W	61.10
February	—	—	71.87	W	W	—	W	W	77.03	65.77
March	W	W	74.14	W	W	—	W	W	83.20	68.03
April	W	W	76.72	W	—	—	W	W	82.72	74.92
May	W	W	73.86	W	—	—	W	—	79.97	71.25
June	W	W	73.52	W	—	—	W	W	83.04	71.54
July	W	W	74.33	W	—	—	W	—	78.50	71.72
August	W	73.54	72.95	W	—	—	W	—	81.14	67.62
September	—	W	66.37	W	—	—	W	—	70.59	63.07
October	W	W	67.18	W	—	—	W	W	71.44	64.09
November	W	W	64.78	W	—	—	W	—	71.65	62.18
December	W	—	64.27	W	—	—	W	W	71.07	62.76
Average	82.00	73.28	71.05	W	W	—	60.35	W	78.12	67.21
2025 January	—	W	67.55	W	—	—	—	W	W	66.15
February	—	W	68.74	W	—	—	—	W	74.78	63.12
March	—	68.09	64.97	W	—	—	—	W	74.49	59.97
April	—	61.81	61.24	W	—	—	—	W	67.41	56.82
May	W	W	57.87	W	—	—	—	W	67.16	56.36
June	W	64.66	63.63	W	—	—	—	W	71.12	61.48
July	—	66.71	63.76	W	—	—	—	W	W	61.21
August	—	62.45	62.86	—	—	—	—	—	—	58.35
September	—	64.49	60.79	W	—	—	—	—	W	56.77
October	—	W	56.25	W	—	—	W	W	63.46	53.17
November	—	60.97	56.26	W	—	—	—	W	64.13	52.73
December	W	W	W	W	—	—	—	W	62.24	50.34
Average	65.70	64.14	61.67	W	—	—	W	W	68.81	58.01
2026 January	—	W	54.12	W	—	—	—	W	W	51.51
February	—	W	W	W	—	—	—	W	W	55.00
March	—	W	85.75	W	—	—	—	W	^R 110.65	^R 75.81
April	—	W	W	W	—	—	—	W	100.60	85.37

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).

^c See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary for exact years of each country's membership. On this table, "Total OPEC" for all years includes Algeria, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela; Angola is included in "Total OPEC" 2007 forward; Gabon is included in "Total OPEC" 1974–1995 and July 2016 forward; Ecuador is included in "Total OPEC" 1973–1992 and 2008 forward; Indonesia is included in "Total OPEC" 1973–2008 and 2016.

^d Based on October, November, and December data only.

^R=Revised. — =No data reported. W=Value withheld to avoid disclosure of individual company data.

Notes: • The Free on Board (F.O.B.) cost at the country of origin excludes all

costs related to insurance and transportation. See "F.O.B. (Free on Board)" in Glossary, and Note 3, "Crude Oil F.O.B. Costs," at end of section. • Values for the current two months are preliminary. • Through 1980, prices reflect the period of reporting; beginning in 1981, prices reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported. • U.S. geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 9.3 Landed Costs of Crude Oil Imports From Selected Countries
(Dollars^a per Barrel)

	Selected Countries								Persian Gulf Nations ^b	Total OPEC ^c	Total Non-OPEC ^c
	Angola	Canada	Colombia	Mexico	Nigeria	Saudi Arabia	United Kingdom	Venezuela			
1973 Average^d	W	5.33	W	—	9.08	5.37	—	5.99	5.91	6.85	5.64
1975 Average	11.81	12.84	—	12.61	12.70	12.50	—	12.36	12.64	12.70	12.70
1980 Average	34.76	30.11	W	31.77	37.15	29.80	35.68	25.92	30.59	33.56	33.99
1985 Average	27.39	25.71	—	25.63	28.96	24.72	28.36	24.43	25.50	26.86	26.53
1990 Average	21.51	20.48	22.34	19.64	23.33	21.82	22.65	20.31	20.55	21.23	20.98
1995 Average	17.66	16.65	17.45	16.19	18.25	16.84	17.91	14.81	16.78	16.61	16.95
2000 Average	29.57	26.69	29.68	26.03	30.04	26.58	29.26	26.05	26.77	27.29	27.80
2005 Average	54.31	44.73	53.42	43.47	57.55	50.31	55.28	47.87	49.68	51.36	47.31
2010 Average	80.61	72.80	74.25	72.86	83.14	79.29	80.29	72.43	78.60	78.28	74.68
2011 Average	114.05	89.92	102.57	101.21	116.43	108.83	118.45	100.14	108.01	107.84	98.64
2012 Average	114.95	84.24	107.07	102.45	116.88	108.15	W	101.58	107.74	107.56	95.05
2013 Average	110.81	84.41	103.00	99.06	112.87	102.60	111.23	99.34	102.53	102.98	91.99
2014 Average	99.25	81.30	88.29	87.48	102.16	94.91	W	86.88	95.30	93.10	84.67
2015 Average	51.73	41.99	49.53	45.51	54.70	49.78	W	42.87	49.43	47.44	44.09
2016 Average	44.65	36.27	38.86	36.64	48.11	42.14	W	35.50	41.20	40.54	37.09
2017 Average	54.17	44.93	50.60	47.73	56.48	52.56	56.11	47.02	51.42	51.26	46.67
2018 Average	73.42	48.34	66.75	63.48	71.93	69.40	73.28	62.46	67.55	67.22	54.27
2019 Average	68.58	51.10	62.83	57.96	68.78	64.86	66.65	52.36	63.27	63.41	54.65
2020 Average	41.03	33.81	41.04	37.18	46.24	35.84	44.51	—	37.98	39.28	35.95
2021 Average	75.50	61.30	69.25	65.48	73.90	72.69	74.71	—	71.39	71.90	63.87
2022 Average	—	84.39	95.19	91.18	108.45	97.51	105.28	—	95.41	98.71	87.89
2023 Average	86.06	67.09	76.70	72.44	88.85	84.19	84.43	67.63	80.46	80.93	70.23
2024 January	W	60.82	76.43	70.25	W	W	W	W	85.13	81.48	65.11
February	—	65.98	77.38	73.85	91.51	88.34	—	W	80.15	80.12	69.88
March	W	68.48	79.39	75.73	W	W	—	W	81.35	83.12	71.71
April	W	74.88	85.04	78.00	W	W	—	71.73	87.55	85.53	78.27
May	W	72.67	78.74	75.60	W	W	W	68.31	84.05	83.16	75.15
June	W	72.34	79.75	74.56	88.56	85.07	—	70.20	81.81	82.97	74.59
July	W	73.67	79.98	75.36	85.73	W	W	73.73	82.33	80.98	76.05
August	W	68.77	75.77	73.72	85.80	83.39	—	68.06	78.85	79.51	71.28
September	W	65.09	68.53	67.03	W	W	78.16	64.45	71.88	71.59	66.72
October	W	64.60	68.79	67.86	W	76.62	W	64.09	71.37	71.88	67.10
November	W	63.73	68.92	66.05	W	74.47	W	63.24	71.12	71.33	66.24
December	W	63.85	70.08	65.66	W	74.72	W	65.04	74.05	72.11	65.58
Average	84.08	67.91	75.48	72.08	86.44	82.76	80.15	66.97	78.57	78.25	70.72
2025 January	—	67.08	72.02	68.93	W	80.34	W	68.51	78.95	74.66	68.61
February	—	65.20	72.11	69.02	81.35	W	W	66.13	76.58	74.18	67.05
March	W	60.95	69.20	66.39	77.39	74.32	—	63.17	71.86	71.10	63.81
April	W	57.95	64.41	62.39	74.29	69.65	W	60.06	65.61	67.59	61.05
May	W	57.43	63.77	59.12	71.14	67.76	W	W	63.10	66.13	59.72
June	W	62.10	67.20	64.85	77.89	73.75	—	W	69.21	70.95	64.32
July	—	63.55	68.35	65.00	W	73.43	W	—	71.02	73.17	65.81
August	W	60.08	66.00	63.71	W	70.25	W	W	68.23	68.36	62.17
September	—	58.00	65.87	62.56	W	69.88	W	59.19	67.44	66.09	60.84
October	—	54.99	62.01	58.25	W	W	W	W	62.80	62.75	57.10
November	W	54.37	64.97	57.97	W	66.21	W	58.31	63.15	63.30	56.42
December	W	52.78	59.55	55.80	W	64.08	—	55.12	59.79	60.80	54.70
Average	71.55	59.51	66.44	62.92	74.53	71.23	71.63	61.65	67.72	68.38	61.81
2026 January	—	52.98	61.72	55.70	W	64.17	W	W	62.52	62.49	55.37
February	—	55.73	64.58	59.21	W	^R 68.76	W	W	^R 66.59	^R 66.19	^R 59.03
March	—	^R 76.95	88.70	89.67	W	^R 72.77	W	84.73	^R 79.20	^R 84.56	^R 79.21
April	—	87.30	97.83	97.88	W	86.65	W	89.24	88.21	89.79	89.69

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.
^b Bahrain, Iran, Iraq, Kuwait, Qatar, Saudi Arabia, United Arab Emirates, and the Neutral Zone (between Kuwait and Saudi Arabia).
^c See "Organization of the Petroleum Exporting Countries (OPEC)" in Glossary for exact years of each country's membership. On this table, "Total OPEC" for all years includes Algeria, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates, and Venezuela; Angola is included in "Total OPEC" 2007 forward; Gabon is included in "Total OPEC" 1974–1995 and July 2016 forward; Ecuador is included in "Total OPEC" 1973–1992 and 2008 forward; Indonesia is included in "Total OPEC" 1973–2008 and 2016.
^d Based on October, November, and December data only.
^RRevised. — =No data reported. W=Value withheld to avoid disclosure of individual company data.
Notes: • See "Landed Costs" in Glossary, and Note 4, "Crude Oil Landed Costs," at end of section. • Values for the current two months are preliminary.
• Through 1980, prices reflect the period of reporting; beginning in 1981, prices

reflect the period of loading. • Annual averages are averages of the monthly prices, including prices not published, weighted by volume. • Cargoes that are purchased on a "netback" basis, or under similar contractual arrangements whereby the actual purchase price is not established at the time the crude oil is acquired for importation into the United States, are not included in the published data until the actual prices have been determined and reported. • U.S. geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual and monthly data beginning in 1973.
Sources: • **October 1973–September 1977:** Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report." • **October 1977–December 1977:** U.S. Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report." • **1978–2007:** EIA, *Petroleum Marketing Annual 2008*, Table 22. • **2008 forward:** EIA, *Petroleum Marketing Monthly*, December 2025, Table 22, and EIA, Petroleum Data Tables.

Table 9.4 Retail Motor Gasoline and On-Highway Diesel Fuel Prices

(Dollars^a per Gallon, Including Taxes)

	Platt's / Bureau of Labor Statistics Data				U.S. Energy Information Administration Data			
	Motor Gasoline by Grade				Regular Motor Gasoline by Area Type			On-Highway Diesel Fuel
	Leaded Regular	Unleaded Regular	Unleaded Premium ^b	All Grades ^c	Conventional Gasoline Areas ^d	Reformulated Gasoline Areas ^e	All Areas	
1950 Average	0.268	NA	NA	NA	--	--	--	--
1955 Average	.291	NA	NA	NA	--	--	--	--
1960 Average	.311	NA	NA	NA	--	--	--	--
1965 Average	.312	NA	NA	NA	--	--	--	--
1970 Average	.357	NA	NA	NA	--	--	--	--
1975 Average	.567	NA	NA	NA	--	--	--	--
1980 Average	1.191	1.245	NA	1.221	--	--	--	--
1985 Average	1.115	1.202	1.340	1.196	--	--	--	--
1990 Average	1.149	1.164	1.349	1.217	NA	NA	NA	NA
1995 Average	--	1.147	1.336	1.205	1.103	1.163	1.111	1.109
2000 Average	--	1.510	1.693	1.563	1.462	1.543	1.484	1.491
2005 Average	--	2.295	2.491	2.338	2.240	2.335	2.270	2.402
2010 Average	--	2.788	3.047	2.836	2.742	2.864	2.782	2.992
2011 Average	--	3.527	3.792	3.577	3.476	3.616	3.521	3.840
2012 Average	--	3.644	3.922	3.695	3.552	3.757	3.618	3.968
2013 Average	--	3.526	3.843	3.584	3.443	3.635	3.505	3.922
2014 Average	--	3.367	3.713	3.425	3.299	3.481	3.358	3.825
2015 Average	--	2.448	2.866	2.510	2.334	2.629	2.429	2.707
2016 Average	--	2.142	2.610	2.204	2.070	2.296	2.143	2.304
2017 Average	--	2.408	2.911	2.469	2.333	2.586	2.415	2.650
2018 Average	--	2.735	3.270	2.794	2.631	2.904	2.719	3.178
2019 Average	--	2.636	3.212	2.698	2.501	2.827	2.604	3.056
2020 Average	--	2.174	2.791	2.242	2.074	2.370	2.168	2.551
2021 Average	--	3.051	3.692	3.133	2.908	3.224	3.008	3.287
2022 Average	--	4.094	4.863	4.192	3.803	4.274	3.951	4.989
2023 Average	--	3.658	4.469	3.771	3.397	3.783	3.519	4.214
2024 January	--	3.221	4.053	3.353	2.957	3.331	3.075	3.854
February	--	3.359	4.162	3.486	3.102	3.446	3.212	4.044
March	--	3.581	4.379	3.707	3.318	3.657	3.426	4.022
April	--	3.776	4.604	3.907	3.466	3.922	3.611	4.002
May	--	3.755	4.580	3.885	3.459	3.916	3.603	3.822
June	--	3.601	4.413	3.729	3.326	3.730	3.455	3.722
July	--	3.622	4.411	3.747	3.378	3.713	3.484	3.810
August	--	3.521	4.322	3.648	3.295	3.594	3.389	3.700
September	--	3.344	4.189	3.478	3.106	3.450	3.214	3.558
October	--	3.279	4.122	3.412	3.036	3.357	3.137	3.585
November	--	3.181	4.026	3.315	2.958	3.255	3.053	3.522
December	--	3.145	3.980	3.277	2.926	3.214	3.018	3.494
Average	--	3.449	4.270	3.579	3.191	3.547	3.304	3.760
2025 January	--	3.211	4.035	3.342	2.981	3.279	3.076	3.634
February	--	3.261	4.110	3.396	3.003	3.375	3.121	3.675
March	--	3.232	4.085	3.368	2.976	3.354	3.096	3.585
April	--	3.330	4.184	3.465	3.049	3.434	3.171	3.567
May	--	3.306	4.171	3.443	3.022	3.422	3.150	3.499
June	--	3.306	4.164	3.442	3.034	3.397	3.150	3.599
July	--	3.285	4.149	3.422	3.018	3.352	3.125	3.779
August	--	3.295	4.163	3.433	3.027	3.356	3.133	3.744
September	--	3.339	4.231	3.481	3.041	3.430	3.166	3.748
October	--	3.239	4.157	NA	2.938	3.320	3.060	3.679
November	--	3.228	4.139	3.373	2.925	3.317	3.050	3.822
December	--	3.050	3.958	3.195	2.771	3.158	2.894	3.615
Average	--	3.257	4.129	3.396	2.980	3.348	3.097	3.660
2026 January	--	2.961	3.861	3.104	2.698	3.046	2.809	3.523
February	--	3.065	3.983	3.211	2.776	3.187	2.908	3.722
March	--	3.988	4.757	3.843	3.483	3.964	3.638	4.921
April	--	4.409	5.190	4.263	3.936	4.456	4.103	5.501
May	--	4.793	5.550	4.651	4.330	4.794	4.479	5.600
June	--	4.346	5.150	4.195	3.901	4.368	4.050	5.024

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.
^b The 1981 average (available in Web file) is based on September through December data only.
^c Also includes grades of motor gasoline not shown separately.
^d Any area that does not require the sale of reformulated gasoline.
^e "Reformulated Gasoline Areas" are ozone nonattainment areas designated by the U.S. Environmental Protection Agency that require the use of reformulated gasoline (RFG). Areas are reclassified each time a shift in or out of an RFG program occurs due to federal or state regulations.
 NA=Not available. --=Not applicable.
 Notes: • See Note 5, "Motor Gasoline Prices," at end of section. • See "Motor Gasoline Grades," "Motor Gasoline, Conventional," "Motor Gasoline, Oxygenated," and "Motor Gasoline, Reformulated" in Glossary. • Geographic coverage: for columns 1–4, current coverage is 85 urban areas; for columns 5–7, coverage is the 50 states and the District of Columbia; for column 8, coverage is the 48 contiguous

states and the District of Columbia.
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
 Sources: • **Motor Gasoline by Grade, Monthly Data: October 1973 forward**—U.S. Department of Labor, Bureau of Labor Statistics (BLS), *U.S. City Average Gasoline Prices*. • **Motor Gasoline by Grade, Annual Data: 1949–1973**—Platt's Oil Price Handbook and Oilmanac, 1974, 51st Edition. **1974 forward**—calculated by the U.S. Energy Information Administration (EIA) as simple averages of the BLS monthly data. • **Regular Motor Gasoline by Area Type:** EIA, calculated as simple averages of weighted weekly estimates from "Weekly U.S. Retail Gasoline Prices, Regular Grade." • **On-Highway Diesel Fuel:** EIA, calculated as simple averages of weighted weekly estimates from "Weekly Retail On-Highway Diesel Prices."

Table 9.5 Refiner Prices of Residual Fuel Oil

(Dollars^a per Gallon, Excluding Taxes)

	Residual Fuel Oil Sulfur Content Less Than or Equal to 1%		Residual Fuel Oil Sulfur Content Greater Than 1%		Average	
	Sales for Resale	Sales to End Users	Sales for Resale	Sales to End Users	Sales for Resale	Sales to End Users
1978 Average	0.293	0.314	0.245	0.275	0.263	0.298
1980 Average	.608	.675	.479	.523	.528	.607
1985 Average	.610	.644	.560	.582	.577	.610
1990 Average	.472	.505	.372	.400	.413	.444
1995 Average	.383	.436	.338	.377	.363	.392
2000 Average	.627	.708	.512	.566	.566	.602
2005 Average	1.115	1.168	.842	.974	.971	1.048
2006 Average	1.202	1.342	1.085	1.173	1.136	1.218
2007 Average	1.406	1.436	1.314	1.350	1.350	1.374
2008 Average	1.918	2.144	1.843	1.889	1.866	1.964
2009 Average	1.337	1.413	1.344	1.306	1.342	1.341
2010 Average	1.756	1.920	1.679	1.619	1.697	1.713
2011 Average	2.389	2.736	2.316	2.257	2.336	2.401
2012 Average	2.548	3.025	2.429	2.433	2.457	2.592
2013 Average	2.363	2.883	2.249	2.353	2.278	2.482
2014 Average	2.153	2.694	1.996	2.221	2.044	2.325
2015 Average	.971	1.529	.999	1.227	.996	1.285
2016 Average	.736	1.138	.746	.897	.745	.945
2017 Average	1.112	W	1.117	1.237	1.116	1.287
2018 Average	1.397	W	1.466	1.587	1.463	1.662
2019 Average	1.649	W	1.391	1.510	1.428	1.584
2020 January	1.788	W	1.526	1.634	1.675	1.939
February	1.673	W	1.336	1.557	1.540	1.735
March	1.188	W	.993	1.146	1.121	1.371
April	.796	W	.639	.942	.733	.976
May	.792	W	NA	.727	.775	.817
June	1.018	W	1.013	.894	1.017	.949
July	1.153	W	1.089	.981	1.137	1.071
August	1.189	W	1.068	1.026	1.135	1.224
September	1.098	W	1.000	1.035	1.066	1.200
October	1.078	W	.996	1.071	1.041	1.151
November	1.164	W	1.098	1.068	1.145	1.145
December	1.351	W	1.266	1.193	1.320	1.290
Average	1.186	W	1.066	1.090	1.143	1.246
2021 January	1.491	W	1.352	1.344	1.432	1.462
February	1.583	W	1.429	1.469	1.518	1.617
March	1.780	W	1.558	1.590	1.683	1.766
April	1.780	W	1.534	1.556	1.686	1.756
May	1.828	W	1.628	1.552	1.736	1.760
June	1.909	W	1.650	1.608	1.783	1.867
July	1.852	W	1.766	1.721	1.818	1.969
August	1.842	W	1.674	1.666	1.776	1.901
September	1.913	W	1.768	1.748	1.845	1.950
October	2.124	W	1.964	1.876	2.069	2.091
November	2.065	W	1.834	1.827	1.927	2.141
December	1.940	2.282	1.766	1.726	1.861	2.090
Average	1.849	W	1.669	1.650	1.770	1.864
2022 January	2.210	2.342	1.966	1.871	2.085	2.160
February	2.415	NA	2.085	2.106	2.274	2.432
March	2.932	NA	2.423	2.478	2.689	2.867

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

NA=Not available. W=Value withheld to avoid disclosure of individual company data.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and commercial consumers. • Values for the current month are preliminary.

- Through 1982, prices are U.S. Energy Information Administration (EIA)

estimates. See Note 6, "Historical Petroleum Prices," at end of section.

• Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1978 and monthly data beginning in 1982.

Sources: • **1978–2007:** EIA, *Petroleum Marketing Annual 2007*, Table 17.

• **2008 forward:** EIA, *Petroleum Marketing Monthly*, July 2022, Table 16.

This table has not been updated due to the suspension of Forms EIA-782A and EIA-782C.

Table 9.6 Refiner Prices of Petroleum Products for Resale(Dollars^a per Gallon, Excluding Taxes)

	Finished Motor Gasoline ^b	Finished Aviation Gasoline	Kerosene-Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average	0.434	0.537	0.386	0.404	0.369	0.365	0.237
1980 Average	.941	1.128	.868	.864	.803	.801	.415
1985 Average	.835	1.130	.794	.874	.776	.772	.398
1990 Average	.786	1.063	.773	.839	.697	.694	.386
1995 Average	.626	.975	.539	.580	.511	.538	.344
2000 Average	.963	1.330	.880	.969	.886	.898	.595
2005 Average	1.670	2.076	1.723	1.757	1.623	1.737	.933
2006 Average	1.969	2.490	1.961	2.007	1.834	2.012	1.031
2007 Average	2.182	2.758	2.171	2.249	2.072	2.203	1.194
2008 Average	2.586	3.342	3.020	2.851	2.745	2.994	1.437
2009 Average	1.767	2.480	1.719	1.844	1.657	1.713	.921
2010 Average	2.165	2.874	2.185	2.299	2.147	2.214	1.212
2011 Average	2.867	3.739	3.014	3.065	2.907	3.034	1.467
2012 Average	2.929	3.919	3.080	3.163	3.031	3.109	1.033
2013 Average	2.812	3.869	2.953	3.084	2.966	3.028	1.048
2014 Average	2.618	3.687	2.763	2.882	2.741	2.812	1.165
2015 Average	1.726	2.764	1.592	1.735	1.565	1.667	.555
2016 Average	1.454	2.404	1.295	1.383	1.239	1.378	.523
2017 Average	1.689	2.682	1.603	1.730	1.600	1.691	.800
2018 Average	1.980	3.006	2.073	2.160	2.002	2.130	.877
2019 Average	1.858	2.842	1.929	2.017	1.895	1.958	.622
2020 January	1.743	2.752	1.891	2.008	1.863	1.858	.557
February	1.669	2.698	1.613	1.802	1.627	1.671	.530
March	1.127	2.279	1.189	1.115	1.238	1.278	.410
April	.645	1.590	.703	.837	.872	.908	.378
May	1.049	1.869	.690	.848	.795	.878	.454
June	1.311	2.134	1.002	1.099	1.002	1.135	.514
July	1.380	2.253	1.144	1.172	1.152	1.254	.507
August	1.389	2.219	1.162	1.250	1.179	1.275	.536
September	1.354	2.246	1.076	1.215	1.091	1.195	.516
October	1.312	2.217	1.107	1.293	1.089	1.215	.597
November	1.287	2.123	1.180	1.322	1.156	1.315	.630
December	1.394	2.289	1.353	1.585	1.341	1.475	.725
Average	1.330	2.233	1.295	1.310	1.246	1.286	.535
2021 January	1.575	2.482	1.456	1.688	1.481	1.580	.922
February	1.784	2.659	1.599	1.939	1.667	1.806	1.032
March	2.011	2.978	1.720	1.854	1.726	1.956	.985
April	2.055	3.018	1.688	1.816	1.700	1.911	.849
May	2.181	3.107	1.790	1.800	1.806	2.072	.824
June	2.252	3.190	1.871	1.907	1.927	2.147	.950
July	2.337	3.337	1.946	1.940	1.931	2.182	1.075
August	2.302	3.299	1.922	1.899	1.885	2.146	1.110
September	2.310	3.248	2.008	2.109	2.041	2.240	1.280
October	2.494	3.367	2.281	2.434	2.356	2.504	1.460
November	2.484	3.410	2.283	2.405	2.267	2.454	1.329
December	2.304	3.154	2.145	2.272	2.111	2.273	1.140
Average	2.193	3.133	1.914	2.069	1.876	2.116	1.087
2022 January	2.423	3.373	2.422	2.655	2.438	2.550	1.249
February	2.639	3.684	2.655	2.916	2.742	2.830	1.376
March	3.232	4.088	3.285	3.612	3.479	3.582	1.483

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.^b See Note 5, "Motor Gasoline Prices," at end of section.

Notes: • Sales for resale are those made to purchasers other than ultimate consumers. Sales to end users are shown in Table 9.7; they are sales made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. • Values for the current month are preliminary. • Through 1982, prices are U.S. Energy Information Administration (EIA) estimates. See Note 6, "Historical Petroleum

Prices," at end of section. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1978 and monthly data beginning in 1982.

Sources: • **1978–2007:** EIA, *Petroleum Marketing Annual 2007*, Table 4.
• **2008 forward:** EIA, *Petroleum Marketing Monthly*, July 2022, Table 4.

This table has not been updated due to the suspension of Forms EIA-782A and EIA-782C.

Table 9.7 Refiner Prices of Petroleum Products to End Users

(Dollars^a per Gallon, Excluding Taxes)

	Finished Motor Gasoline ^b	Finished Aviation Gasoline	Kerosene- Type Jet Fuel	Kerosene	No. 2 Fuel Oil	No. 2 Diesel Fuel	Propane (Consumer Grade)
1978 Average	0.484	0.516	0.387	0.421	0.400	0.377	0.335
1980 Average	1.035	1.084	.868	.902	.788	.818	.482
1985 Average	.912	1.201	.796	1.030	.849	.789	.717
1990 Average	.883	1.120	.766	.923	.734	.725	.745
1995 Average	.765	1.005	.540	.589	.562	.560	.492
2000 Average	1.106	1.306	.899	1.123	.927	.935	.603
2005 Average	1.829	2.231	1.735	1.957	1.705	1.786	1.089
2006 Average	2.128	2.682	1.998	2.244	1.982	2.096	1.358
2007 Average	2.345	2.849	2.165	2.263	2.241	2.267	1.489
2008 Average	2.775	3.273	3.052	3.283	2.986	3.150	1.892
2009 Average	1.888	2.442	1.704	2.675	1.962	1.834	1.220
2010 Average	2.301	3.028	2.201	3.063	2.462	2.314	1.481
2011 Average	3.050	3.803	3.054	3.616	3.193	3.117	1.709
2012 Average	3.154	3.971	3.104	3.843	3.358	3.202	1.139
2013 Average	3.049	3.932	2.979	3.842	3.335	3.122	1.028
2014 Average	2.855	3.986	2.772	W	3.329	2.923	1.097
2015 Average	2.003	W	1.629	W	2.016	1.819	.481
2016 Average	1.730	W	1.319	W	1.716	1.511	.498
2017 Average	1.976	W	1.629	W	2.010	1.811	.772
2018 Average	2.303	W	2.119	3.113	2.380	2.256	.925
2019 Average	2.245	W	1.970	W	2.269	2.114	.603
2020 January	2.150	W	1.958	W	2.328	2.002	.502
February	2.060	W	1.667	W	2.113	1.835	.469
March	1.862	W	1.257	W	1.813	1.486	.378
April	1.490	W	.740	W	1.220	1.137	.368
May	1.598	W	.728	W	1.162	1.130	.421
June	1.768	W	1.046	3.321	1.338	1.354	.515
July	1.806	2.761	1.175	3.059	1.394	1.431	.518
August	1.814	2.805	1.188	3.163	1.464	1.456	.541
September	1.804	2.613	1.110	W	1.411	1.386	.508
October	1.773	2.495	1.134	W	1.360	1.400	.548
November	1.736	2.485	1.216	W	1.760	1.482	.577
December	1.828	2.674	1.395	W	2.004	1.624	.697
Average	1.829	2.685	1.293	W	1.660	1.486	.502
2021 January	1.986	2.829	1.485	W	2.103	1.713	.908
February	2.201	3.148	1.642	W	2.173	1.933	.972
March	2.442	3.364	1.763	W	2.323	2.111	.964
April	2.493	3.363	1.724	W	2.185	2.090	.851
May	2.683	3.447	1.822	W	2.291	2.177	.833
June	3.000	3.492	1.906	W	2.341	2.228	.966
July	3.105	W	1.981	2.860	2.505	2.282	1.096
August	3.146	W	1.965	W	2.395	2.266	1.122
September	3.143	W	2.032	2.817	2.387	2.323	1.296
October	3.201	3.783	2.303	3.425	2.678	2.561	1.459
November	3.318	3.778	2.309	3.799	2.651	2.542	1.292
December	3.283	W	2.168	3.279	2.760	2.374	1.098
Average	2.569	3.469	1.954	W	2.413	2.203	1.088
2022 January	3.145	3.689	2.451	3.822	3.169	2.648	1.225
February	3.313	W	2.653	4.042	3.269	2.900	1.365
March	3.991	4.581	3.326	4.689	3.924	3.689	1.442

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b See Note 5, "Motor Gasoline Prices," at end of section.

W=Value withheld to avoid disclosure of individual company data.

Notes: • Sales to end users are those made directly to ultimate consumers, including bulk consumers (such as agriculture, industry, and electric utilities) and residential and commercial consumers. Sales for resale are shown in Table 9.6; they are sales made to purchasers other than ultimate consumers. • Values for the current month are preliminary. • Through 1982, prices are U.S. Energy

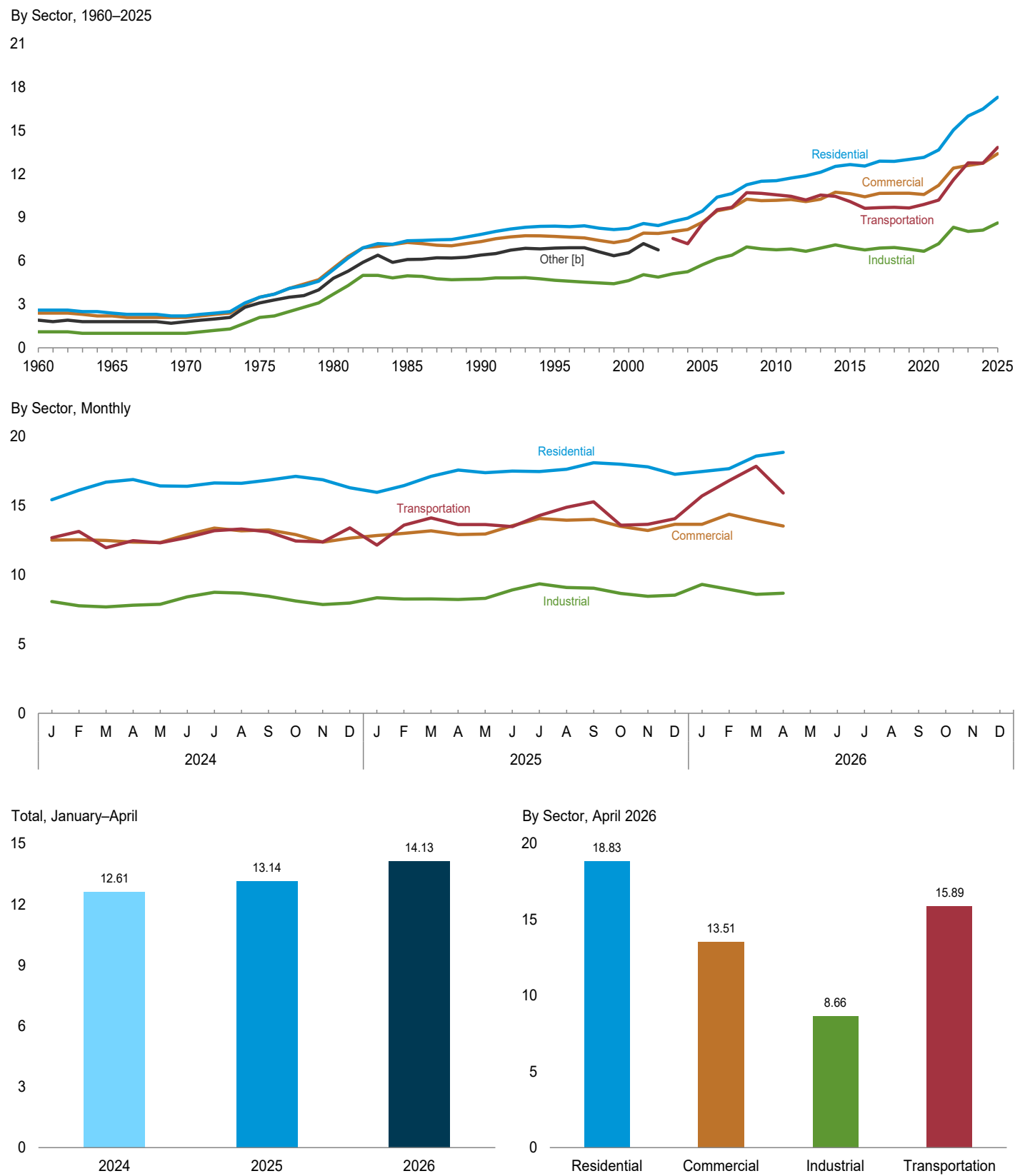
Information Administration (EIA) estimates. See Note 6, "Historical Petroleum Prices," at end of section. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1978 and monthly data beginning in 1982.

Sources: • **1978–2007:** EIA, *Petroleum Marketing Annual 2007*, Table 2. • **2008 forward:** EIA, *Petroleum Marketing Monthly*, July 2022, Table 2.

This table has not been updated due to the suspension of Forms EIA-782A and EIA-782C.

Figure 9.2 Average Prices of Electricity to Ultimate Customers
(Cents [a] per Kilowatthour)



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.
[b] Public street and highway lighting, interdepartmental sales, other sales to public authorities, agricultural and irrigation, and transportation including railroads and railways.

Note: Includes taxes.
Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.
Source: Table 9.8.

Table 9.8 Average Prices of Electricity to Ultimate Customers
(Cents^a per Kilowatthour, Including Taxes)

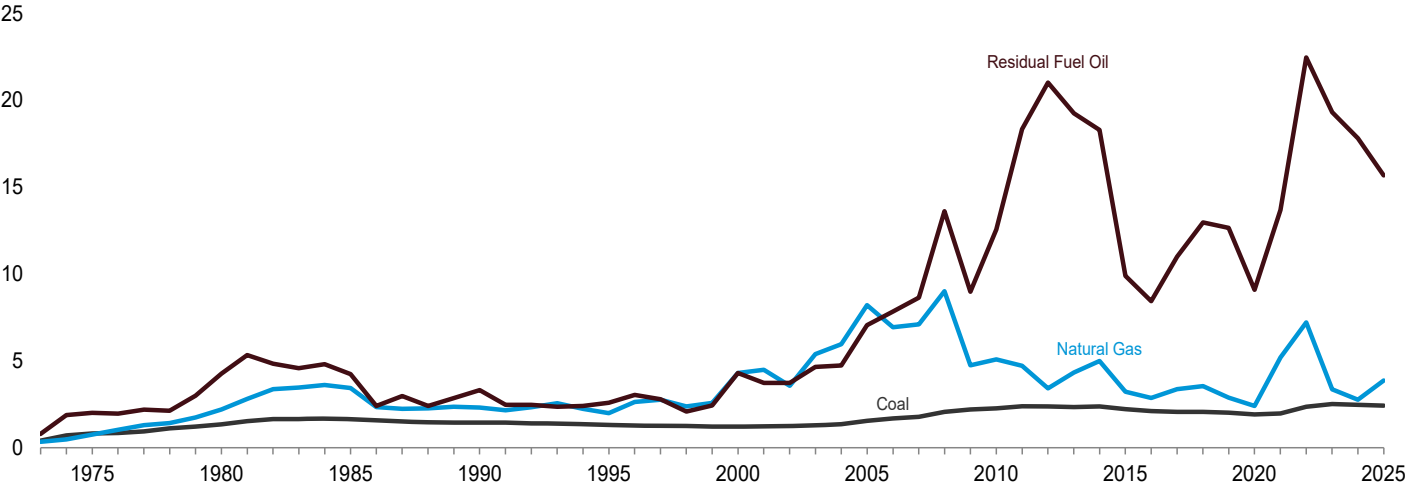
	Residential	Commercial ^b	Industrial ^c	Transportation ^d	Other ^e	Total
1960 Average	2.60	2.40	1.10	NA	1.90	1.80
1965 Average	2.40	2.20	1.00	NA	1.80	1.70
1970 Average	2.20	2.10	1.00	NA	1.80	1.70
1975 Average	3.50	3.50	2.10	NA	3.10	2.90
1980 Average	5.40	5.50	3.70	NA	4.80	4.70
1985 Average	7.39	7.27	4.97	NA	6.09	6.44
1990 Average	7.83	7.34	4.74	NA	6.40	6.57
1995 Average	8.40	7.69	4.66	NA	6.88	6.89
2000 Average	8.24	7.43	4.64	NA	6.56	6.81
2005 Average	9.45	8.67	5.73	8.57	--	8.14
2010 Average	11.54	10.19	6.77	10.56	--	9.83
2011 Average	11.72	10.24	6.82	10.46	--	9.90
2012 Average	11.88	10.09	6.67	10.21	--	9.84
2013 Average	12.13	10.26	6.89	10.55	--	10.07
2014 Average	12.52	10.74	7.10	10.45	--	10.44
2015 Average	12.65	10.64	6.91	10.09	--	10.41
2016 Average	12.55	10.43	6.76	9.63	--	10.27
2017 Average	12.89	10.66	6.88	9.68	--	10.48
2018 Average	12.87	10.67	6.92	9.70	--	10.53
2019 Average	13.01	10.68	6.81	9.66	--	10.54
2020 Average	13.15	10.59	6.67	9.90	--	10.59
2021 Average	13.66	11.22	7.18	10.20	--	11.10
2022 Average	15.04	12.41	8.32	11.59	--	12.36
2023 Average	16.00	12.59	8.04	12.77	--	12.68
2024 January	15.41	12.50	8.07	12.66	--	12.65
February	16.10	12.53	7.76	13.12	--	12.66
March	16.67	12.47	7.68	11.95	--	12.57
April	16.86	12.35	7.79	12.46	--	12.54
May	16.40	12.32	7.87	12.29	--	12.47
June	16.38	12.89	8.41	12.68	--	13.14
July	16.62	13.37	8.73	13.18	--	13.63
August	16.60	13.16	8.67	13.30	--	13.48
September	16.82	13.23	8.45	13.09	--	13.34
October	17.09	12.89	8.11	12.43	--	12.96
November	16.85	12.35	7.85	12.37	--	12.57
December	16.27	12.64	7.96	13.38	--	12.82
Average	16.48	12.75	8.13	12.75	--	12.94
2025 January	15.94	12.82	8.34	12.13	--	13.09
February	16.43	12.98	8.24	13.58	--	13.18
March	17.09	13.16	8.26	14.10	--	13.23
April	17.55	12.89	8.21	13.62	--	13.09
May	17.37	12.93	8.29	13.62	--	13.13
June	17.47	13.54	8.90	13.47	--	13.86
July	17.45	14.05	9.33	14.27	--	14.36
August	17.61	13.93	9.08	14.86	--	14.22
September	18.08	13.99	9.02	15.25	--	14.21
October	17.97	13.49	8.65	13.56	--	13.66
November	17.78	13.19	8.44	13.64	--	13.43
December	17.24	13.63	8.53	14.04	--	13.73
Average	17.30	13.41	8.62	13.83	--	13.63
2026 January	17.45	13.64	9.29	15.68	--	14.17
February	17.65	14.37	8.95	16.78	--	14.36
March	18.56	13.92	8.58	17.83	--	14.08
April	18.83	13.51	8.66	15.89	--	13.88
4-Month Average	18.04	13.85	8.87	16.53	--	14.13
2025 4-Month Average	16.65	12.96	8.26	13.33	--	13.14
2024 4-Month Average	16.17	12.47	7.83	12.53	--	12.61

^a Prices are not adjusted for inflation. See "Nominal Price" in Glossary.
^b Commercial sector. For 1960–2002, prices exclude public street and highway lighting, interdepartmental sales, and other sales to public authorities.
^c Industrial sector. For 1960–2002, prices exclude agriculture and irrigation.
^d Prices for public railroads and railway systems only.
^e Public street and highway lighting, interdepartmental sales, other sales to public authorities, agriculture and irrigation, and transportation including railroads and railways.
 NA=Not available. --=Not applicable.
 Notes: • Beginning in 2003, the category "Other" has been replaced by "Transportation," and the categories "Commercial" and "Industrial" have been redefined. • Prices are calculated by dividing revenue by sales. Revenue may not correspond to sales for a particular month because of energy service provider billing and accounting procedures. That lack of correspondence could result in uncharacteristic increases or decreases in the monthly prices. • Prices include state and local taxes, energy or demand charges, customer service charges, environmental surcharges, franchise fees, fuel adjustments, and other miscellaneous charges applied to end-use customers during normal billing operations. Prices do not include deferred charges, credits, or other adjustments, such as fuel or revenue from purchased power, from previous reporting periods.
 • Through 1979, data are for Classes A and B privately owned electric utilities only. (Class A utilities are those with operating revenues of \$2.5 million or more; Class B

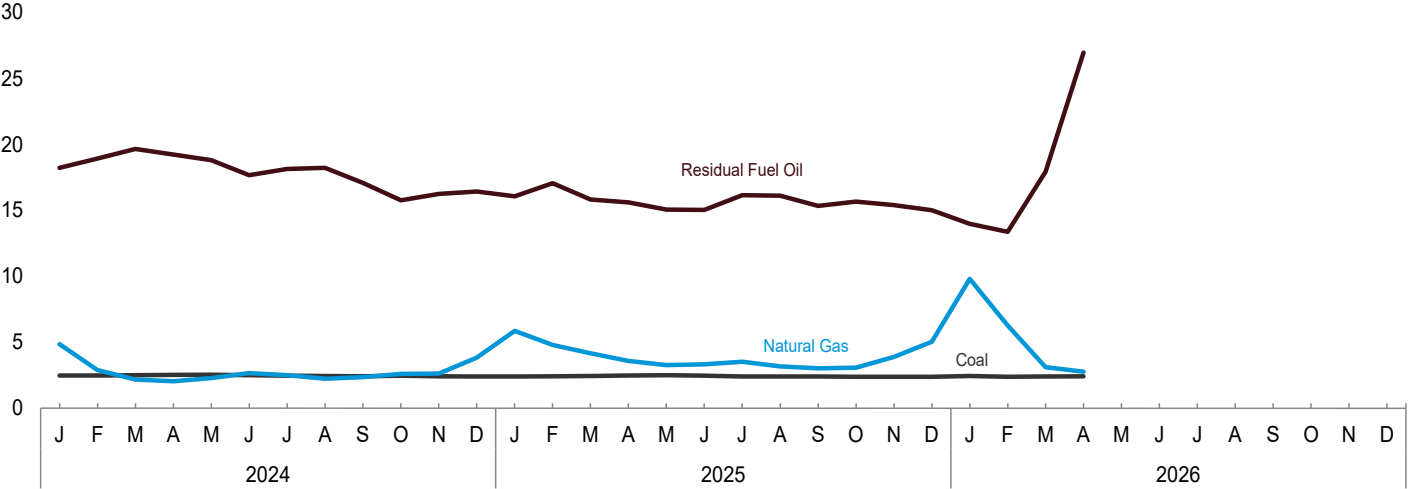
utilities are those with operating revenues between \$1 million and \$2.5 million.) For 1980–1982, data are for selected Class A utilities whose electric operating revenues were \$100 million or more during the previous year. For 1983, data are for a selected sample of electric utilities. Beginning in 1984, data are for a census of electric utilities. Beginning in 1996, data also include energy service providers selling to retail customers. • See Note 7, "Electricity Prices to Ultimate Customers," at end of section for plant coverage, and for information on preliminary and final values. • Geographic coverage is the 50 states and the District of Columbia.
 Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1960 and monthly data beginning in 1976.
 Sources: • **1960–September 1977:** Federal Power Commission, Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income." • **October 1977–February 1980:** Federal Energy Regulatory Commission (FERC), Form FPC-5, "Monthly Statement of Electric Operating Revenues and Income." • **March 1980–1982:** FERC, Form FERC-5, "Electric Utility Company Monthly Statement." • **1983:** U.S. Energy Information Administration (EIA), Form EIA-826, "Electric Utility Company Monthly Statement." • **1984–2010:** EIA, Form EIA-861, "Annual Electric Power Industry Report." • **2011 forward:** EIA, *Electric Power Monthly*, December 2025, Table 5.3.

Figure 9.3 Cost of Fossil-Fuel Receipts at Electric Generating Plants
(Dollars [a] per Million Btu, Including Taxes)

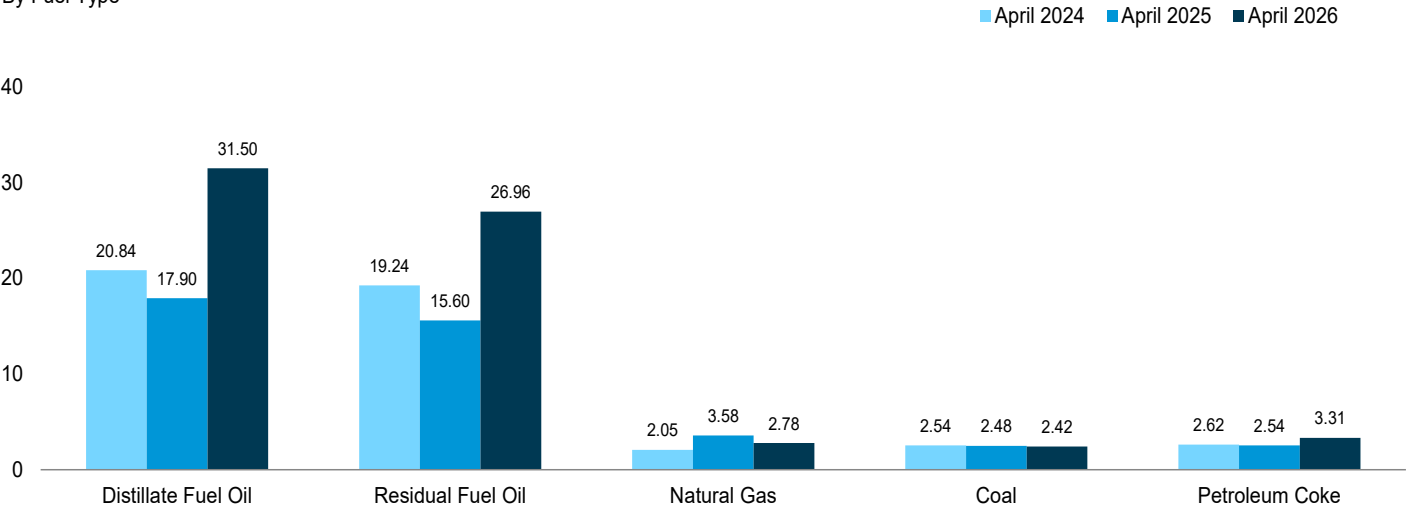
Costs, 1973–2025



Costs, Monthly



By Fuel Type



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.
Source: Table 9.9.

Table 9.9 Cost of Fossil-Fuel Receipts at Electric Generating Plants

(Dollars^a per Million Btu, Including Taxes)

	Coal	Petroleum				Natural Gas ^e	All Fossil Fuels ^f
		Residual Fuel Oil ^b	Distillate Fuel Oil ^c	Petroleum Coke	Total ^d		
1973 Average	0.41	0.79	NA	NA	0.80	0.34	0.48
1975 Average	.81	2.01	NA	NA	2.02	.75	1.04
1980 Average	1.35	4.27	NA	NA	4.35	2.20	1.93
1985 Average	1.65	4.24	NA	NA	4.32	3.44	2.09
1990 Average	1.45	3.32	5.38	.80	3.35	2.32	1.69
1995 Average	1.32	2.59	3.99	.65	2.57	1.98	1.45
2000 Average	1.25	3.73	5.34	.78	3.34	3.56	1.86
2005 Average^g	1.54	7.06	11.72	1.11	6.44	8.21	3.25
2006 Average	1.69	7.85	13.28	1.33	6.23	6.94	3.02
2007 Average	1.77	8.64	14.85	1.51	7.17	7.11	3.23
2008 Average	2.07	13.62	21.46	2.11	10.87	9.01	4.12
2009 Average	2.21	8.98	13.22	1.61	7.02	4.74	3.04
2014 Average	2.37	18.30	21.88	1.98	11.60	5.00	3.31
2015 Average	2.22	9.89	14.06	1.84	6.74	3.23	2.65
2016 Average	2.11	8.45	10.90	1.65	5.24	2.87	2.47
2017 Average	2.06	11.00	13.22	2.13	7.10	3.37	2.65
2018 Average	2.06	12.97	16.16	2.54	9.68	3.55	2.83
2019 Average	2.02	12.66	15.19	1.91	9.07	2.88	2.50
2020 Average	1.92	9.09	10.73	1.70	5.98	2.40	2.22
2021 Average	1.98	13.70	15.89	3.16	10.08	5.20	3.82
2022 Average	2.36	22.48	25.64	4.35	16.53	7.21	5.22
2023 Average	2.51	19.32	22.09	4.05	15.98	3.36	3.12
2024							
January	2.48	18.22	19.64	2.65	17.72	4.86	4.10
February	2.48	18.94	20.84	2.63	16.67	2.90	2.81
March	2.50	19.67	20.60	2.63	17.42	2.19	2.38
April	2.54	19.24	20.84	2.62	17.30	2.05	2.30
May	2.56	18.81	19.44	2.86	15.18	2.29	2.45
June	2.51	17.68	18.62	3.11	13.02	2.68	2.69
July	2.47	18.15	19.57	3.23	11.42	2.51	2.55
August	2.44	18.23	18.37	3.08	12.94	2.25	2.37
September	2.42	17.08	17.79	3.09	12.23	2.37	2.44
October	2.47	15.76	17.32	2.63	14.89	2.61	2.63
November	2.42	16.25	18.85	2.64	14.90	2.63	2.62
December	2.40	16.43	17.67	2.66	14.60	3.85	3.38
Average	2.47	17.82	19.05	2.96	14.70	2.76	2.73
2025							
January	2.41	16.07	18.90	2.81	14.11	5.88	4.69
February	2.42	17.06	18.42	2.90	14.77	4.81	3.96
March	2.45	15.83	17.42	2.99	13.61	4.17	3.49
April	2.48	15.60	17.90	2.54	13.87	3.58	3.18
May	2.50	15.05	16.75	2.55	12.50	3.28	3.03
June	2.46	15.04	17.64	3.09	12.13	3.34	3.05
July	2.40	16.16	18.39	2.88	11.95	3.52	3.19
August	2.41	16.12	17.81	2.90	13.00	3.17	2.96
September	2.41	15.34	18.13	2.73	12.51	3.04	2.85
October	2.39	15.67	18.07	2.66	11.65	3.08	2.85
November	2.39	15.41	18.30	2.51	13.35	3.89	3.33
December	2.38	15.02	17.33	2.85	14.03	5.04	4.07
Average	2.42	15.68	18.01	2.80	13.18	3.87	3.37
2026							
January	2.45	13.99	17.73	2.81	13.81	9.81	6.93
February	2.39	13.38	17.69	2.69	14.24	6.28	4.86
March	2.41	17.93	23.17	2.92	15.68	3.11	2.95
April	2.42	26.96	31.50	3.31	22.42	2.78	2.78
4-Month Average	2.42	16.82	19.72	2.92	15.57	5.68	4.50
2025 4-Month Average	2.44	16.09	18.40	2.83	14.09	4.71	3.87
2024 4-Month Average	2.50	18.98	20.22	2.63	17.33	3.09	2.96

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b For 1973–2001, electric utility data are for heavy oil (fuel oil nos. 5 and 6, and small amounts of fuel oil no. 4).

^c For 1973–2001, electric utility data are for light oil (fuel oil nos. 1 and 2).

^d For all years, includes residual fuel oil and distillate fuel oil. For 1990 forward, also includes petroleum coke. For 1973–2012, also includes jet fuel, kerosene, and waste oil. For 1983–2012, also includes other petroleum, such as propane and refined motor oil.

^e Natural gas, plus a small amount of supplemental gaseous fuels. For 1973–2000, data also include a small amount of blast furnace gas and other fossil gases derived from fossil fuels.

^f Weighted average of costs shown under "Coal," "Petroleum," and "Natural Gas."

^g Through 2001, data are for electric utilities only. Beginning in 2002, data also include independent power producers, and electric generating plants in the

commercial and industrial sectors.

NA=Not available.

Notes: • Receipts are purchases of fuel. • Yearly costs are averages of monthly values, weighted by quantities in Btu. • For this table, there are several breaks in the data series related to what plants and fuels are covered. Beginning in 2013, data cover all regulated generating plants; plus unregulated plants whose total fossil-fueled nameplate generating capacity is 50 megawatts or more for coal, and 200 megawatts or more for natural gas, residual fuel oil, distillate fuel oil, and petroleum coke. For data coverage before 2013, see EIA, *Electric Power Monthly*, Appendix C, Form EIA-923 notes, "Receipts and cost and quality of fossil fuels" section. • Geographic coverage is the 50 states and the District of Columbia.

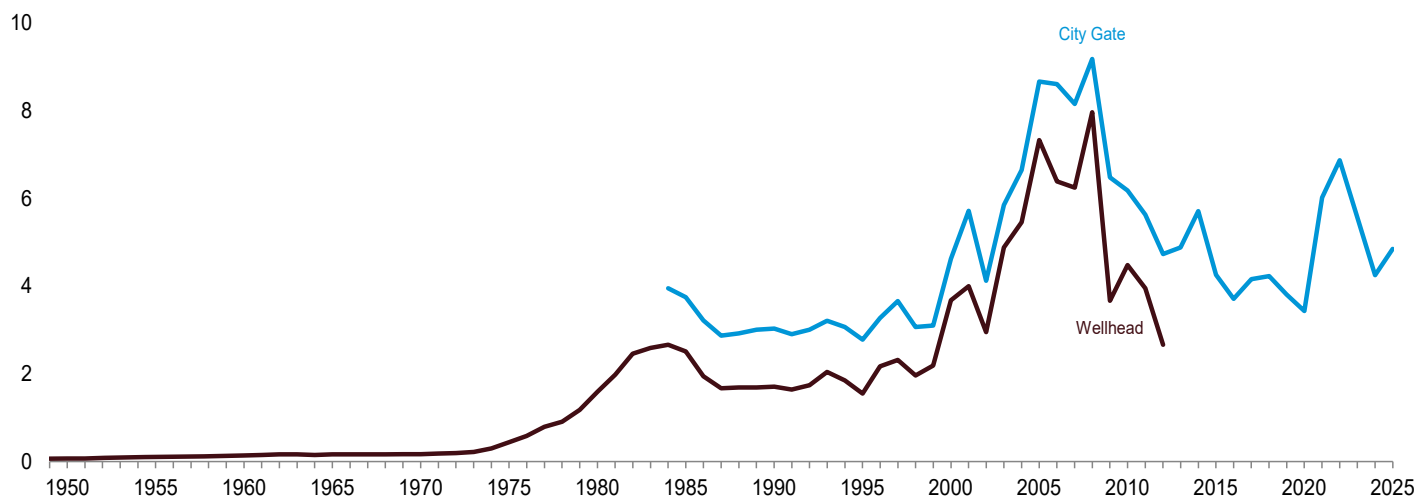
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

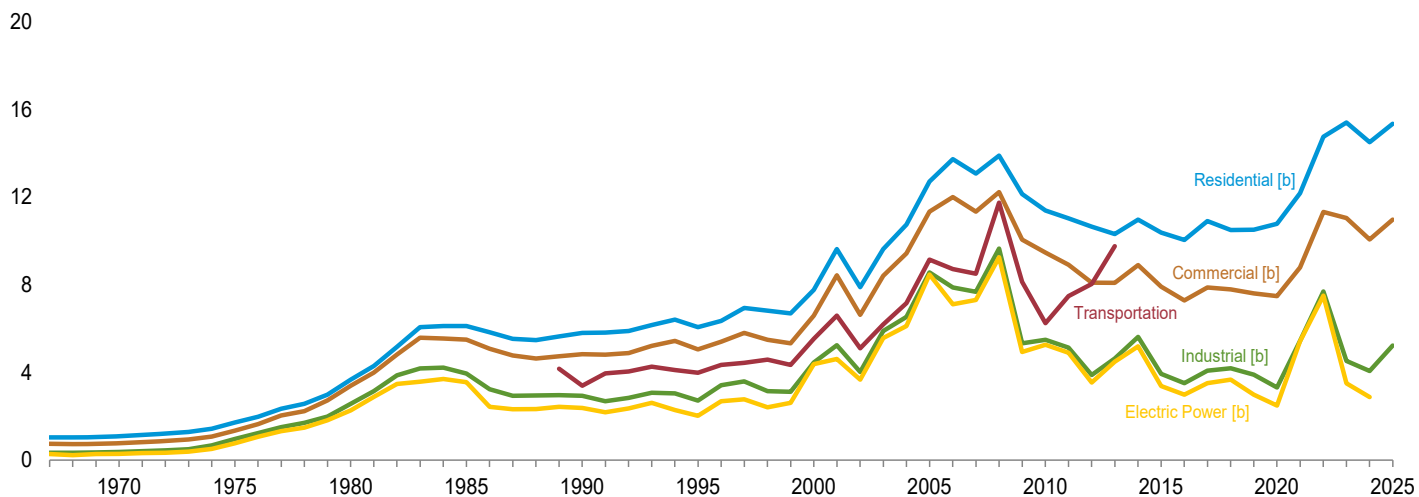
Figure 9.4 Natural Gas Prices

(Dollars [a] per Thousand Cubic Feet)

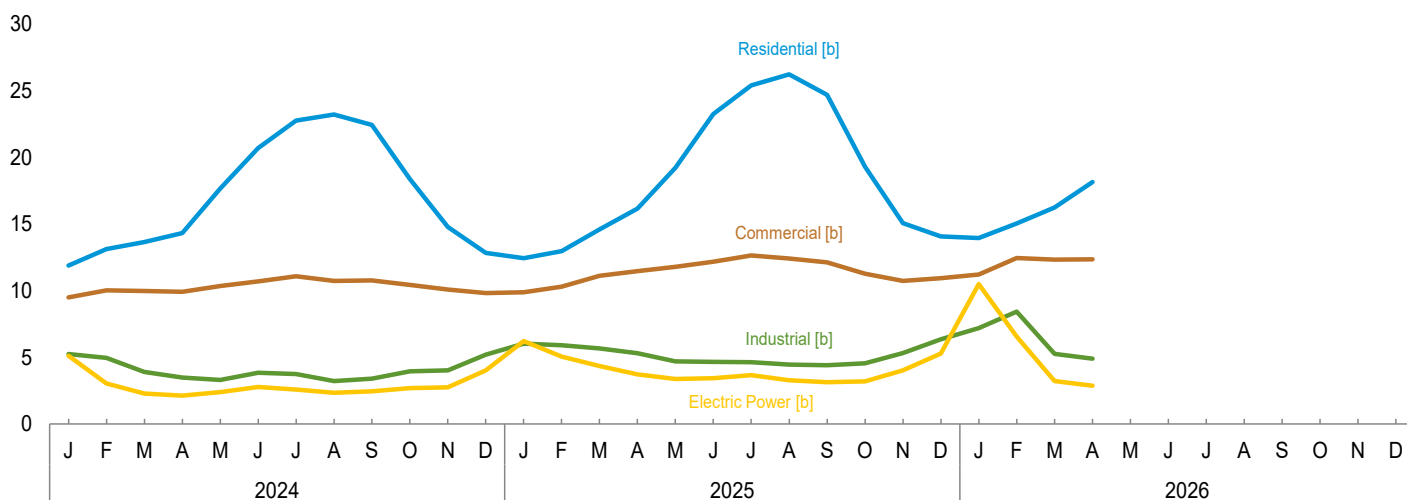
Wellhead and Citygate, 1949–2025



Consuming Sectors, 1967–2025



Consuming Sectors, Monthly



[a] Prices are not adjusted for inflation. See “Nominal Dollars” in Glossary.
[b] Includes taxes.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#prices>.
Source: Table 9.10.

Table 9.10 Natural Gas Prices
(Dollars^a per Thousand Cubic Feet)

	Wellhead Price ^f	City-gate Price ^g	Consuming Sectors ^b								
			Residential		Commercial ^c		Industrial ^d		Transportation	Electric Power ^e	
			Price ^h	Percentage of Sector ⁱ	Price ^h	Percentage of Sector ⁱ	Price ^h	Percentage of Sector ⁱ	Vehicle Fuel ^j Price ^h	Price ^h	Percentage of Sector ^{i,k}
1950 Average	0.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1955 Average	.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1960 Average	.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1965 Average	.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1970 Average	.17	NA	1.09	NA	.77	NA	.37	NA	NA	.29	NA
1975 Average	.44	NA	1.71	NA	1.35	NA	.96	NA	NA	.77	96.1
1980 Average	1.59	NA	3.68	NA	3.39	NA	2.56	NA	NA	2.27	96.9
1985 Average	2.51	3.75	6.12	NA	5.50	NA	3.95	68.8	NA	3.55	94.0
1990 Average	1.71	3.03	5.80	99.2	4.83	86.6	2.93	35.2	3.39	2.38	76.8
1995 Average	1.55	2.78	6.06	99.0	5.05	76.7	2.71	24.5	3.98	2.02	71.4
2000 Average	3.68	4.62	7.76	92.6	6.59	63.9	4.45	19.8	5.54	4.38	50.5
2005 Average	7.33	8.67	12.70	98.1	11.34	82.1	8.56	24.0	9.14	8.47	91.3
2010 Average	4.48	6.18	11.39	97.4	9.47	77.5	5.49	18.0	6.25	5.27	100.8
2011 Average	3.95	5.63	11.03	96.3	8.91	67.3	5.13	16.3	7.48	4.89	101.2
2012 Average	E 2.66	4.73	10.65	95.8	8.10	65.2	3.88	16.2	8.04	3.54	95.5
2013 Average	NA	4.88	10.32	95.7	8.08	65.8	4.64	16.6	9.76	4.49	94.9
2014 Average	NA	5.71	10.97	95.5	8.90	65.8	5.62	15.9	NA	5.19	94.6
2015 Average	NA	4.26	10.38	95.6	7.91	65.7	3.93	14.8	NA	3.38	94.6
2016 Average	NA	3.71	10.05	95.8	7.28	64.8	3.51	14.9	NA	2.99	95.6
2017 Average	NA	4.16	10.91	95.9	7.88	65.4	4.08	14.8	NA	3.51	95.4
2018 Average	NA	4.23	10.50	96.0	7.79	65.8	4.19	14.5	NA	3.68	95.4
2019 Average	NA	3.81	10.51	96.2	7.61	65.5	3.90	13.0	NA	2.99	96.5
2020 Average	NA	3.43	10.78	96.3	7.48	64.6	3.32	13.2	NA	2.49	96.2
2021 Average	NA	6.02	12.18	96.6	8.79	65.1	5.44	13.4	NA	5.43	96.1
2022 Average	NA	6.87	14.75	96.7	11.32	65.8	7.69	13.4	NA	7.51	96.1
2023 Average	NA	5.56	15.40	96.9	11.04	65.3	4.53	13.3	NA	3.50	96.1
2024 January	NA	4.77	11.89	96.9	9.50	71.1	5.24	13.9	NA	5.13	95.8
February	NA	4.52	13.14	97.1	10.03	69.2	4.97	14.1	NA	3.03	96.2
March	NA	3.99	13.66	97.0	9.99	67.8	3.90	14.0	NA	2.29	96.3
April	NA	3.36	14.32	96.6	9.93	63.7	3.48	13.5	NA	2.12	95.5
May	NA	3.68	17.67	96.6	10.35	58.8	3.31	13.4	NA	2.38	96.1
June	NA	4.22	20.72	96.9	10.70	56.6	3.85	12.9	NA	2.78	96.3
July	NA	4.47	22.78	96.9	11.08	53.7	3.74	13.4	NA	2.60	95.9
August	NA	4.17	23.22	96.8	10.75	54.1	3.22	13.6	NA	2.34	95.2
September	NA	4.16	22.46	97.0	10.78	53.1	3.40	13.2	NA	2.45	96.5
October	NA	4.10	18.38	97.1	10.43	57.9	3.94	13.1	NA	2.70	96.4
November	NA	4.01	14.79	97.3	10.10	63.2	4.04	13.5	NA	2.75	96.9
December	NA	4.40	12.85	97.2	9.82	68.3	5.21	14.1	NA	4.03	95.6
Average	NA	4.25	14.50	97.0	10.07	64.3	4.07	13.6	NA	2.87	96.0
2025 January	NA	4.86	12.44	97.1	9.88	70.6	6.03	13.8	NA	6.21	87.7
February	NA	4.84	12.97	96.7	10.32	70.3	5.92	14.1	NA	5.06	88.0
March	NA	4.87	14.62	97.1	11.12	67.3	5.67	14.3	NA	4.35	88.4
April	NA	4.51	16.17	96.9	11.48	63.6	5.31	13.4	NA	3.72	86.4
May	NA	4.62	19.24	96.7	11.80	58.7	4.69	12.8	NA	3.39	89.1
June	NA	4.85	23.26	96.8	12.17	55.0	4.65	13.2	NA	3.45	86.4
July	NA	5.18	25.41	97.0	12.65	53.8	4.63	13.2	NA	3.66	85.1
August	NA	5.15	26.24	97.0	12.42	53.1	4.46	13.3	NA	3.28	87.0
September	NA	5.07	24.70	97.2	12.13	53.8	4.41	12.8	NA	3.14	87.0
October	NA	4.34	19.32	97.4	11.29	58.4	4.55	12.9	NA	3.19	87.7
November	NA	4.76	15.07	97.4	10.75	64.5	5.33	13.3	NA	4.04	88.1
December	NA	5.10	14.09	97.4	10.95	69.1	6.37	13.7	NA	5.28	88.7
Average	NA	4.85	15.34	97.1	10.97	64.6	5.23	13.4	NA	4.02	87.3
2026 January	NA	6.74	13.96	97.4	11.23	70.7	7.20	13.9	NA	10.50	87.2
February	NA	6.55	15.06	97.2	12.46	69.7	R 8.43	R 14.1	NA	6.57	87.2
March	NA	4.81	16.25	97.1	12.34	67.0	5.27	13.5	NA	3.22	88.2
April	NA	4.33	18.17	96.9	12.36	62.9	4.90	13.2	NA	2.87	87.9
4-Month Average	NA	6.01	15.29	97.2	12.00	68.4	6.51	13.7	NA	6.00	87.6
2025 4-Month Average	NA	4.81	13.55	96.9	10.52	68.7	5.75	13.9	NA	4.95	87.6
2024 4-Month Average	NA	4.33	12.99	96.9	9.83	68.5	4.43	13.9	NA	3.25	95.9

^a Prices are not adjusted for inflation. See "Nominal Dollars" in Glossary.

^b See Note 8, "Natural Gas Prices," at end of section.

^c Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^d Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^e The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 2001, data are for electric utilities only; beginning in 2002, data also include independent power producers.

^f See "Natural Gas Wellhead Price" in Glossary.

^g See "Citygate" in Glossary.

^h Includes taxes.

ⁱ The percentage of the sector's consumption in Table 4.3 for which price data are available. For details on how the percentages are derived, see Table 9.10 sources at end of section.

^j Much of the natural gas delivered for vehicle fuel represents deliveries to fueling stations that are used primarily or exclusively by fleet vehicles. Thus, the prices are often those associated with the cost of gas in the operation of fleet vehicles.

^k Percentages exceed 100% when reported natural gas receipts are greater than reported natural gas consumption—this can occur when combined-heat-and-power plants report fuel receipts related to non-electric generating activities.

R=Revised. NA=Not available. E=Estimate.

Notes: • Prices are for natural gas, plus a small amount of supplemental gaseous fuels. • Prices are intended to include all taxes. See Note 8, "Natural Gas Prices," at end of section. • Wellhead annual and year-to-date prices are simple averages of the monthly prices; all other annual and year-to-date prices are volume-weighted averages of the monthly prices. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#prices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1976.

Sources: See end of section.

Note 1. Crude Oil Refinery Acquisition Costs. Beginning with January 1981, refiner acquisition costs of crude oil are from data collected on U.S. Energy Information Administration (EIA) Form EIA-14, "Refiners' Monthly Cost Report." Those costs were previously published from data collected on Economic Regulatory Administration (ERA) Form ERA-49, "Domestic Crude Oil Entitlements Program Refiners Monthly Report." Form ERA-49 was discontinued with the decontrol of crude oil on January 28, 1981. Crude oil purchases and costs are defined for Form EIA-14 in accordance with conventions used for Form ERA-49. The respondents for the two forms are also essentially the same. However, due to possible different interpretations of the filing requirements and a different method for handling prior period adjustments, care must be taken when comparing the data collected on the two forms.

The refiner acquisition cost of crude oil is the average price paid by refiners for crude oil booked into their refineries in accordance with accounting procedures generally accepted and consistently and historically applied by the refiners concerned. Domestic crude oil is that oil produced in the United States or from the outer continental shelf as defined in 43 USC Section 1331. Imported crude oil is either that oil reported on Form ERA-51, "Transfer Pricing Report," or any crude oil that is not domestic oil. The composite cost is the weighted average of domestic and imported crude oil costs.

Crude oil costs and volumes reported on Form ERA-49 excluded unfinished oils but included the Strategic Petroleum Reserve (SPR). Crude oil costs and volumes reported on Federal Energy Administration (FEA) Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report," included unfinished oils but excluded SPR. Imported averages derived from Form ERA-49 exclude oil purchased for SPR, whereas the composite averages derived from Form ERA-49 include SPR. None of the prices derived from Form EIA-14 include either unfinished oils or SPR.

Note 2. Crude Oil Domestic First Purchase Prices. The average domestic first purchase price represents the average price at which all domestic crude oil is purchased. Crude oil domestic first purchase prices were derived as follows: for 1949–1973, weighted average domestic first purchase values as reported by state agencies and calculated by the Bureau of Mines; for 1974 and 1975, weighted averages of a sample survey of major first purchasers' purchases; for 1976 forward, weighted averages of all first purchasers' purchases. The data series was previously called "Actual Domestic Wellhead Price."

Note 3. Crude Oil F.O.B. Costs. F.O.B. literally means "Free on Board." It denotes a transaction whereby the seller makes the product available with an agreement on a given port at a given price; it is the responsibility of the buyer to arrange for the transportation and insurance.

Note 4. Crude Oil Landed Costs. The landed cost of imported crude oil from selected countries does not represent the total cost of all imported crude. Prior to April 1975, imported crude costs to U.S. company-owned refineries in the Caribbean were not included in the landed cost, and costs of crude oil from countries that export only small amounts to the United States were also excluded. Beginning in April 1975, however, coverage was expanded to include U.S. company-owned refineries in the Caribbean. Landed costs do not include supplemental fees.

Note 5. Motor Gasoline Prices. Several different series of motor gasoline prices are published in this section. U.S. city average retail prices of motor gasoline by grade are calculated monthly by the Bureau of Labor Statistics during the development of the Consumer Price Index (CPI). These prices include all federal, state, and local taxes paid at the time of sale. Prior to 1977, prices were collected in 56 urban areas. From 1978 forward, prices are collected from a new sample of service stations in 85 urban areas selected to represent all urban consumers—about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-serve).

Regular motor gasoline prices by area type are determined by EIA in a weekly survey of retail motor gasoline outlets (Form EIA-878, "Motor Gasoline Price Survey"). Prices include all federal, state, and local taxes paid at the time of sale. A representative sample of outlets by geographic area and size is randomly selected from a sampling frame of approximately 115,000 retail motor gasoline outlets. Monthly and annual prices are simple averages of weighted

weekly estimates from "Weekly U.S. Retail Gasoline Prices, Regular Grade." For more information on the survey methodology, see EIA, *Weekly Petroleum Status Report*, Appendix B, "Weekly Petroleum Price Surveys" section.

Refiner prices of finished motor gasoline for resale and to end users are determined by EIA in a monthly survey of refiners and gas plant operators (Form EIA-782A). The prices do not include any federal, state, or local taxes paid at the time of sale. Estimates of prices prior to January 1983 are based on Form FEA-P302-M-1/EIA-460, "Petroleum Industry Monthly Report for Product Prices," and also exclude all federal, state, or local taxes paid at the time of sale. Sales for resale are those made to purchasers who are other-than-ultimate consumers. Sales to end users are sales made directly to the consumer of the product, including bulk consumers (such as agriculture, industry, and utilities) and residential and commercial consumers.

Note 6. Historical Petroleum Prices. Starting in January 1983, Form EIA-782, "Monthly Petroleum Product Sales Report," replaced 10 previous surveys. Every attempt was made to continue the most important price series. However, prices published through December 1982 and those published since January 1983 do not necessarily form continuous data series due to changes in survey forms, definitions, instructions, populations, samples, processing systems, and statistical procedures. To provide historical data, continuous series were generated for annual data 1978–1982 and for monthly data 1981 and 1982 by estimating the prices that would have been published had Form EIA-782 survey and system been in operation at that time. This form of estimation was performed after detailed adjustment was made for product and sales type matching and for discontinuity due to other factors. An important difference between the previous and present prices is the distinction between wholesale and resale and between retail and end user. The resale category continues to include sales among resellers. However, sales to bulk consumers, such as utility, industrial, and commercial accounts previously included in the wholesale category, are now counted as made to end users. The end-user category continues to include retail sales through company-owned and operated outlets but also includes sales to the bulk consumers such as agriculture, industry, and electric utilities. Additional information may be found in "Estimated Historic Time Series for the EIA-782," a feature article by Paula Weir, printed in the December 1983 [3] *Petroleum Marketing Monthly*, published by EIA.

Note 7. Electricity Prices to Ultimate Customers. Average annual prices of electricity to ultimate customers have the following plant coverage: Through 1979, annual data are for Classes A and B privately owned electric utilities only. For 1980–1982, annual data are for selected Class A utilities whose electric operating revenues were \$100 million or more during the previous year. For 1983, annual data are for a selected sample of electric utilities. Beginning in 1984, data are for a census of electric utilities. Beginning in 1996, annual data also include energy service providers selling to retail customers.

Average monthly prices of electricity to ultimate customers have the following plant coverage: Through 1985, monthly data are derived from selected privately owned electric utilities and, therefore, are not national averages. Beginning in 1986, monthly data are based on a sample of publicly and privately owned electric utilities. Beginning in 1996, monthly data also include energy service providers selling to retail customers.

Preliminary monthly data are from Form EIA-861M (formerly Form EIA-826), "Monthly Electric Power Industry Report," which is a monthly collection of data from approximately 450 of the largest publicly and privately owned electric utilities as well as a census of energy service providers with retail sales in deregulated states; a model is then applied to the collected data to estimate for the entire universe of U.S. electric utilities. Preliminary annual data are the sum of the monthly revenues divided by the sum of the monthly sales. When final annual data become available each year from Form EIA-861, "Annual Electric Power Industry Report," their ratios to the preliminary Form EIA-861M values are used to derive adjusted final monthly values.

Note 8. Natural Gas Prices. Natural gas prices are intended to include all taxes. Instructions on the data collection forms specifically direct that all federal, state, and local taxes, surcharges, and/or adjustments billed to consumers are to be included. However, sales and other taxes itemized on more than 3,000 consumers' bills are sometimes excluded by the reporting utilities. Delivered-to-consumers prices for 1987 forward represent natural gas delivered and sold to residential, commercial, industrial, vehicle fuel, and electric power consumers. They do not include the price of natural

gas delivered on behalf of third parties to residential, commercial, industrial, and vehicle fuel customers except for certain states in the residential and commercial sectors for 2002 forward. Volumes of natural gas delivered on behalf of third parties are included in the consumption data shown in Table 4.3. Additional information is available in EIA, *Natural Gas Monthly*, Appendix C.

Table 9.1 Sources

Domestic First Purchase Price

1949–1976: U.S. Department of the Interior (DOI), Bureau of Mines (BOM), *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter.

1977: Federal Energy Administration, based on Form FEA-P124, "Domestic Crude Oil Purchaser's Monthly Report."

1978–2009: U.S. Energy Information Administration (EIA), *Petroleum Marketing Annual* 2009, Table 1.

2010 forward: EIA, *Petroleum Marketing Monthly*, July 2026, Table 1, and EIA, Petroleum Data Tables.

F.O.B. and Landed Cost of Imports

October 1973–September 1977: Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."

October–December 1977: EIA, Form FEA-F701-M-0, "Transfer Pricing Report."

1978–2009: EIA, *Petroleum Marketing Annual* 2009, Table 1.

2010 forward: EIA, *Petroleum Marketing Monthly*, July 2026 Table 1, and EIA, Petroleum Data Tables.

Refiner Acquisition Cost

1968–1973: EIA estimates. The cost of domestic crude oil was derived by adding estimated transportation costs to the reported average domestic first purchase price. The cost of imported crude oil was derived by adding an estimated ocean transport cost based on the published "Average Freight Rate Assessment" to the average "Free Alongside Ship" value published by the U.S. Census Bureau.

1974–1976: DOI, BOM, *Minerals Yearbook*, "Crude Petroleum and Petroleum Products" chapter.

1977: January–September, FEA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report."

1977: October–December, EIA, based on Form FEA-P110-M-1, "Refiners' Monthly Cost Allocation Report."

1978–2009: EIA, *Petroleum Marketing Annual* 2009, Table 1.

2010 forward: EIA, *Petroleum Marketing Monthly*, July 2026, Table 1, and EIA, Petroleum Data Tables.

Table 9.2 Sources

October 1973–September 1977: Federal Energy Administration, Form FEA-F701-M-0, "Transfer Pricing Report."

October 1977–December 1977: U.S. Energy Information Administration (EIA), Form FEA-F701-M-0, "Transfer Pricing Report."

1978–2009: EIA, *Petroleum Marketing Annual* 2009, Table 21.

2010 forward: EIA, *Petroleum Marketing Monthly*, July 2026, Table 21, and EIA, Petroleum Data Tables

Table 9.9 Sources

1973–September 1977: Federal Power Commission, Form FPC-423, "Monthly Report of Cost and Quality of Fuels for

Electric Utility Plants." October 1977–December 1977: Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants."

1978 and 1979: U.S. Energy Information Administration (EIA), Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants."

1980–1989: EIA, *Electric Power Monthly*, August issues.

1990–2000: EIA, *Electric Power Monthly*, June 2003, Table 26.

2001–2007: EIA, *Electric Power Monthly*, October 2008, Table 4.1; Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants"; and EIA, Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report."

2008 forward: EIA, *Electric Power Monthly*, June 2026, Table 4.1; and Form EIA-923, "Power Plant Operations Report."

Table 9.10 Sources

All Prices Except Vehicle Fuel and Electric Power

1949–2015: U.S. Energy Information Administration (EIA), *Natural Gas Annual* (NGA), annual reports and unpublished revisions.

2016 forward: EIA, *Natural Gas Monthly* (NGM), June 2026, Table 3.

Vehicle Fuel Price

1989–2013: EIA, NGA, annual reports.

Electric Power Sector Price

1967–1972: EIA, NGA, annual reports.

1973–1998: EIA, NGA 2000, Table 96.

1999–2002: EIA, NGM, November 2004, Table 4.

2003–2007: Federal Energy Regulatory Commission, Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants," and EIA, Form EIA-423 "Monthly Cost and Quality of Fuels for Electric Plants Report."

2008 forward: Form EIA-923, "Power Plant Operations Report."

Percentage of Residential Sector

1989–2013: EIA, Form EIA-176, "Annual Report of Natural and Supplemental Gas Supply and Disposition." Calculated as the total amount of natural gas delivered to residential consumers minus the amount delivered for the account of others, and then divided by the total amount delivered to residential consumers.

2014 forward: EIA, Form EIA-857, "Monthly Report of Natural Gas Purchases and Deliveries to Consumers."

Percentage of Commercial Sector

1987–2015: EIA, NGA, annual reports. Calculated as the total amount of natural gas delivered to commercial consumers minus the amount delivered for the account of others, and then divided by the total amount delivered to commercial consumers.

2016 forward: EIA, NGM, June 2026, Table 3.

Percentage of Industrial Sector

1982–2015: EIA, NGA, annual reports. Calculated as the total amount of natural gas delivered to industrial consumers minus the amount delivered for the account of others, and then divided by the total amount delivered to industrial consumers.

2016 forward: EIA, NGM, June 2026, Table 3.

Percentage of Electric Power Sector

1973–2001: Calculated by EIA as the quantity of natural gas receipts by electric utilities reported on Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants" (and predecessor forms) divided by the quantity of natural gas consumed by the electric power sector (for 1973 –1988, see *Monthly Energy Review (MER)*, Table 7.3b; for 1989–2001, see MER, Table 7.4b).

2002–2007: Calculated by EIA as the quantity of natural gas receipts by electric utilities and independent power producers reported on Form FERC-423, "Monthly Report of Cost and Quality of Fuels for Electric Utility Plants," and EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report," divided by the quantity of natural gas consumed by the electric power sector (see MER, Table 7.4b).

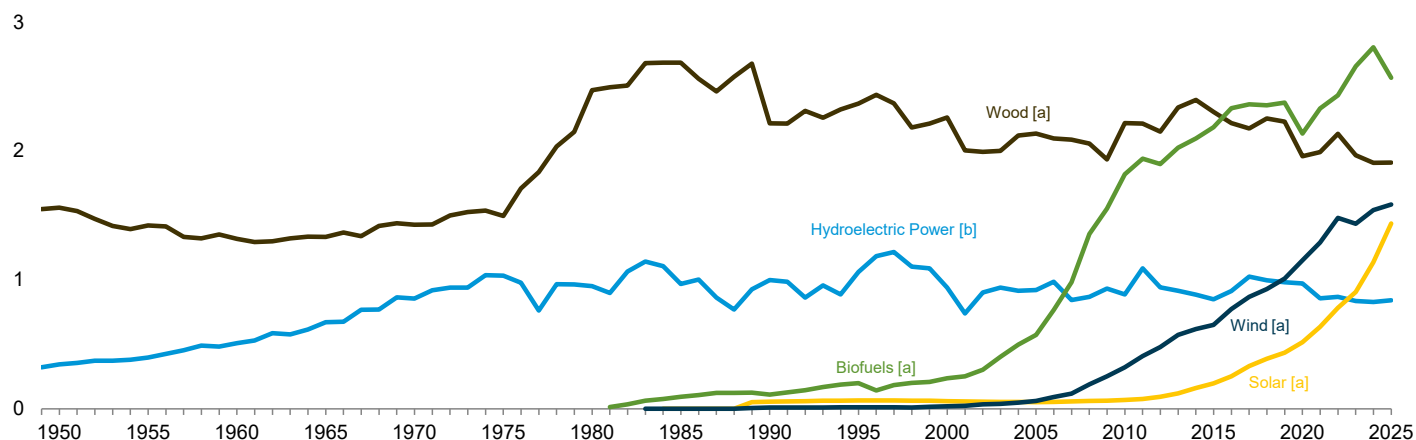
2008 forward: Calculated by EIA as the quantity of natural gas receipts by electric utilities and independent power producers reported on Form EIA-923, "Power Plant Operations Report," divided by the quantity of natural gas consumed by the electric power sector (see MER, Table 7.4b).

10. Renewable Energy

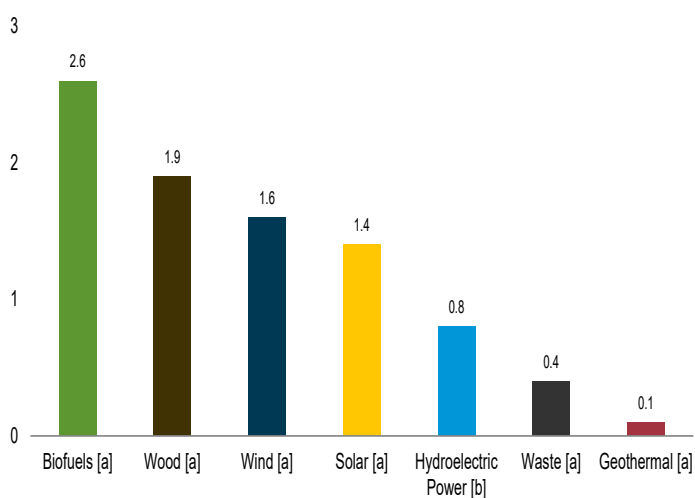
Figure 10.1 Renewable Energy Consumption

(Quadrillion Btu)

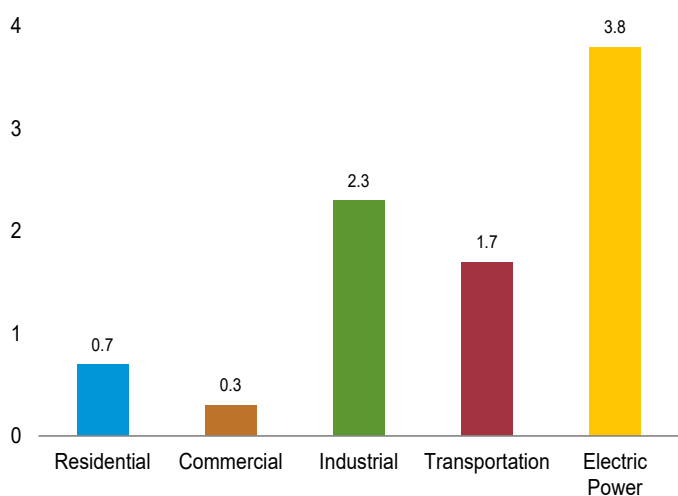
Major Sources, 1949–2025



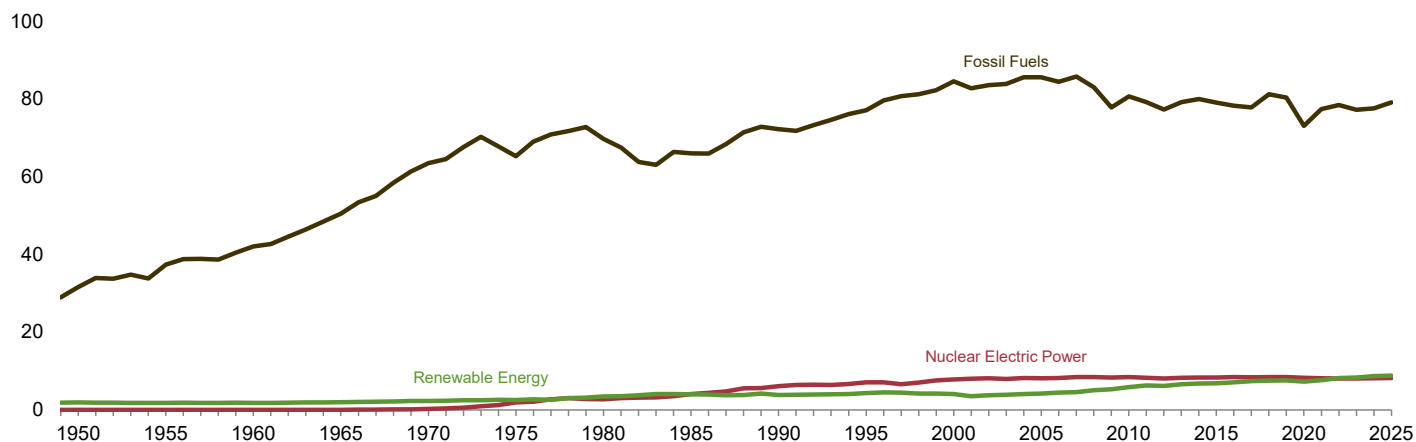
By Source, 2025



By Sector, 2025



Compared With Other Resources, 1949–2025



[a] See Table 10.1 for definition.

[b] Conventional hydroelectric power.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#renewable>.

Sources: Tables 1.3 and 10.1–10.2c.

Table 10.1 Renewable Energy Production and Consumption by Source
(Trillion Btu)

	Production ^a				Consumption								
	Biomass			Total Renewable Energy ^e	Hydroelectric Power ^f	Geothermal ^g	Solar ^h	Wind ⁱ	Biomass				Total Renewable Energy
	Wood ^b	Bio-fuels ^c	Total ^d						Wood ^j	Waste ^k	Bio-fuels ^l	Total	
1950 Total	1,562	NA	1,562	1,907	344	NA	NA	NA	1,562	NA	NA	1,562	1,907
1955 Total	1,424	NA	1,424	1,821	397	NA	NA	NA	1,424	NA	NA	1,424	1,821
1960 Total	1,320	NA	1,320	1,830	510	(s)	NA	NA	1,320	NA	NA	1,320	1,830
1965 Total	1,335	NA	1,335	2,008	672	1	NA	NA	1,335	NA	NA	1,335	2,008
1970 Total	1,429	NA	1,431	2,289	856	2	NA	NA	1,429	2	NA	1,431	2,289
1975 Total	1,497	NA	1,499	2,544	1,034	11	NA	NA	1,497	2	NA	1,499	2,544
1980 Total	2,474	NA	2,475	3,445	953	17	NA	NA	2,474	2	NA	2,475	3,445
1985 Total	2,687	93	3,016	4,018	970	32	(s)	(s)	2,687	236	93	3,016	4,018
1990 Total	2,216	111	2,735	3,863	999	63	56	10	2,216	408	111	2,735	3,863
1995 Total	2,370	198	3,099	4,295	1,061	60	64	11	2,370	531	200	3,101	4,297
2000 Total	2,262	233	3,006	4,093	940	69	59	19	2,262	511	236	3,008	4,096
2005 Total	2,137	561	3,101	4,220	922	84	52	61	2,137	403	574	3,114	4,233
2010 Total	2,217	1,868	4,553	5,943	888	111	68	323	2,217	468	1,821	4,506	5,896
2011 Total	2,213	2,037	4,712	6,404	1,090	116	76	410	2,213	462	1,941	4,616	6,308
2012 Total	2,151	1,936	4,554	6,187	943	117	94	480	2,151	467	1,899	4,517	6,151
2013 Total	2,338	2,000	4,835	6,561	916	117	120	573	2,338	496	2,026	4,861	6,587
2014 Total	2,398	2,135	5,049	6,833	885	118	161	620	2,398	516	2,099	5,013	6,796
2015 Total	2,305	2,201	5,025	6,840	850	118	197	651	2,305	518	2,185	5,008	6,823
2016 Total	2,290	2,329	5,122	7,180	914	117	252	774	2,217	503	2,333	5,053	7,112
2017 Total	2,254	2,407	5,156	7,498	1,025	118	331	868	2,176	495	2,364	5,035	7,377
2018 Total	2,348	2,471	5,306	7,740	998	118	388	930	2,254	487	2,355	5,096	7,530
2019 Total	2,333	2,432	5,207	7,750	982	116	435	1,010	2,229	442	2,376	5,048	7,591
2020 Total	2,066	2,194	4,700	7,460	973	118	516	1,153	1,960	440	2,136	4,535	7,296
2021 Total	2,111	2,374	4,916	7,819	858	118	636	1,290	1,992	430	2,331	4,753	7,656
2022 Total	2,273	2,511	5,196	8,450	869	118	784	1,482	2,135	412	2,433	4,980	8,233
2023 Total	2,103	2,705	5,202	8,501	836	119	907	1,437	1,968	394	2,659	5,021	8,320
2024 January	173	226	434	691	74	10	55	119	165	35	212	411	668
February	166	227	425	713	71	9	67	140	154	32	223	410	698
March	174	241	448	779	80	10	88	154	161	33	232	427	758
April	166	223	420	764	71	10	102	161	155	31	222	408	752
May	170	232	435	778	84	10	116	134	158	33	242	433	776
June	169	238	437	778	76	9	123	132	157	30	235	422	763
July	173	252	457	760	73	10	124	97	162	32	252	446	749
August	176	250	458	759	70	10	122	100	163	32	242	437	738
September	169	236	435	703	54	9	105	100	157	31	231	418	686
October	164	245	441	737	52	10	99	135	153	32	243	428	724
November	169	251	452	727	57	10	72	137	157	32	235	425	701
December	178	255	465	743	67	10	66	135	166	33	236	435	713
Total	2,046	2,875	5,308	8,933	829	116	1,138	1,542	1,909	387	2,806	5,101	8,726
2025 January	177	233	443	753	73	10	78	149	165	33	208	406	716
February	160	212	402	695	67	9	83	134	148	30	199	377	670
March	176	232	441	816	77	10	116	173	163	33	214	410	785
April	162	218	411	787	78	10	132	157	151	31	212	393	769
May	170	234	434	797	83	10	144	126	158	31	212	401	764
June	170	235	435	794	76	10	153	122	158	30	209	397	757
July	180	243	453	799	68	10	159	109	166	30	220	416	762
August	177	237	445	768	69	10	151	93	165	30	218	413	736
September	172	233	434	717	52	10	134	88	160	29	211	400	683
October	171	248	450	769	56	10	119	135	158	31	226	416	736
November	169	243	443	746	63	10	91	140	156	31	212	400	703
December	175	249	457	787	82	10	78	161	163	32	228	423	753
Total	2,058	2,817	5,247	9,229	843	117	1,438	1,585	1,912	372	2,569	4,853	8,835
2026 January	172	232	436	781	95	10	88	152	159	31	199	390	735
February	154	220	403	726	77	9	101	135	145	29	194	368	690
March	166	248	446	865	92	10	139	178	155	32	225	412	831
April	152	233	415	818	77	9	150	168	140	30	216	386	790
4-Month Total	644	933	1,700	3,190	340	39	478	633	598	123	835	1,556	3,046
2025 4-Month Total	675	895	1,697	3,051	294	39	408	612	627	126	833	1,586	2,940
2024 4-Month Total	679	917	1,728	2,947	296	39	311	573	636	131	889	1,656	2,875

^a For hydroelectric power, geothermal, solar, wind, and biomass waste, production equals consumption.

^b Wood and wood-derived fuels. Through 2015, wood production equals consumption. Beginning in 2016, wood production equals consumption plus densified biomass exports.

^c Total biomass inputs to the production of fuel ethanol and biodiesel. Beginning in 2011, also includes production of renewable diesel fuel. Beginning in 2014, also includes production of other biofuels.

^d Includes biomass waste.

^e Hydroelectric power, geothermal, solar, wind, and biomass.

^f Conventional hydroelectricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^g Geothermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6), and geothermal heat pump and direct use energy.

^h Solar photovoltaic (PV) and solar thermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6), and solar thermal direct use energy.

ⁱ Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^j Wood and wood-derived fuels.

^k Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^l Fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels consumption; plus losses and co-products from the production of fuel ethanol and biodiesel.

NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Production data are estimates. Consumption data are estimates, except for hydroelectric power in 1949–1978 and 1989 forward, and wind. • See Note, "Renewable Energy Production and Consumption," at end of section.

• Totals may not equal sum of components due to independent rounding.

• Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Production:** Tables 10.2a–10.4c and U.S. Energy Information Administration, Form EIA-63C, "Densified Biomass Fuel Report."

• **Consumption:** Tables 10.2a–10.2c.

Table 10.2a Renewable Energy Consumption: Residential and Commercial Sectors
(Trillion Btu)

	Residential Sector				Commercial Sector ^a								
	Geo- thermal ^b	Solar ^c	Biomass	Total	Hydro- electric Power ^e	Geo- thermal ^f	Solar ^g	Wind ^h	Biomass				Total
			Wood ^d						Wood ^d	Waste ⁱ	Fuel Ethanol ^{j,k}	Total	
1950 Total	NA	NA	1,006	1,006	NA	NA	NA	NA	19	NA	NA	19	19
1955 Total	NA	NA	775	775	NA	NA	NA	NA	15	NA	NA	15	15
1960 Total	NA	NA	627	627	NA	NA	NA	NA	12	NA	NA	12	12
1965 Total	NA	NA	468	468	NA	NA	NA	NA	9	NA	NA	9	9
1970 Total	NA	NA	401	401	NA	NA	NA	NA	8	NA	NA	8	8
1975 Total	NA	NA	425	425	NA	NA	NA	NA	8	NA	NA	8	8
1980 Total	NA	NA	850	850	NA	NA	NA	NA	21	NA	NA	21	21
1985 Total	NA	NA	1,010	1,010	NA	NA	NA	NA	24	NA	(s)	24	24
1990 Total	6	55	580	640	(s)	3	(s)	—	66	28	(s)	94	97
1995 Total	7	63	520	589	(s)	5	(s)	—	72	40	(s)	113	118
2000 Total	9	57	420	486	(s)	8	(s)	—	71	47	(s)	119	127
2005 Total	16	49	430	495	(s)	14	1	—	70	34	1	105	120
2010 Total	37	59	541	636	(s)	19	4	(s)	72	36	3	111	134
2011 Total	40	62	524	626	(s)	20	7	(s)	69	43	3	115	141
2012 Total	40	66	438	544	(s)	20	11	(s)	61	45	3	108	139
2013 Total	40	72	572	683	(s)	20	15	(s)	70	47	3	120	155
2014 Total	40	80	579	698	(s)	20	19	(s)	73	47	4	124	163
2015 Total	40	87	513	640	(s)	20	21	(s)	73	47	^k 26	146	187
2016 Total	40	101	445	586	1	20	23	(s)	74	48	26	148	191
2017 Total	40	115	430	585	1	20	28	(s)	74	48	25	146	195
2018 Total	40	127	526	693	1	20	35	1	74	47	25	146	203
2019 Total	40	141	547	728	1	21	40	1	74	39	26	139	201
2020 Total	40	156	345	541	1	21	46	1	73	38	26	137	205
2021 Total	40	178	356	574	1	21	54	1	73	39	27	139	215
2022 Total	40	219	449	708	1	20	63	1	73	75	32	180	263
2023 Total	40	260	381	681	1	20	69	(s)	72	72	28	172	263
2024 January	3	17	29	50	(s)	2	4	(s)	6	6	2	14	20
February	3	19	28	50	(s)	2	5	(s)	6	6	2	13	20
March	3	25	29	58	(s)	2	6	(s)	6	6	2	14	22
April	3	28	28	60	(s)	2	7	(s)	6	6	2	13	22
May	3	30	29	63	(s)	2	8	(s)	6	6	2	14	24
June	3	30	28	62	(s)	2	8	(s)	6	6	2	14	23
July	3	31	29	64	(s)	2	8	(s)	6	6	2	14	24
August	3	30	29	63	(s)	2	8	(s)	6	6	2	14	24
September	3	27	28	58	(s)	2	7	(s)	6	6	2	14	22
October	3	24	29	57	(s)	2	6	(s)	6	6	2	14	22
November	3	19	28	51	(s)	2	5	(s)	6	6	2	14	20
December	3	18	29	51	(s)	2	4	(s)	6	6	2	14	20
Total	40	298	347	685	1	20	76	(s)	72	72	23	167	264
2025 January	3	19	32	54	(s)	2	5	(s)	6	6	2	14	21
February	3	20	29	52	NM	2	5	(s)	6	5	2	13	20
March	3	28	32	63	NM	2	7	(s)	6	6	2	14	23
April	3	31	31	65	(s)	2	8	(s)	6	6	2	13	23
May	3	32	32	67	(s)	2	9	(s)	6	5	2	13	24
June	3	33	31	67	(s)	2	9	(s)	6	5	2	14	24
July	3	35	32	70	NM	2	9	(s)	6	6	2	14	25
August	3	33	32	67	(s)	2	9	(s)	6	6	2	14	25
September	3	28	31	62	(s)	2	8	(s)	6	6	2	13	23
October	3	27	32	62	(s)	2	7	(s)	6	6	2	14	22
November	3	21	31	55	(s)	2	5	(s)	6	6	2	13	21
December	3	20	32	55	NM	2	5	(s)	6	6	2	14	21
Total	40	327	372	738	1	20	87	(s)	72	67	23	163	271
2026 January	3	20	29	53	NM	2	6	(s)	6	5	2	13	21
February	3	22	26	51	NM	2	6	(s)	6	5	2	12	20
March	3	30	29	62	NM	2	8	(s)	6	6	2	14	24
April	3	33	28	64	(s)	2	9	(s)	6	5	2	13	24
4-Month Total	13	105	113	231	1	6	29	(s)	24	21	7	52	89
2025 4-Month Total	13	98	122	234	(s)	6	26	(s)	24	23	7	54	86
2024 4-Month Total	13	89	115	217	(s)	7	22	(s)	23	24	7	55	84

^a Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^b Geothermal heat pump and direct use energy.

^c Small-scale solar photovoltaic (PV) electricity generation in the residential sector (converted to Btu by multiplying by the heat content of electricity in Table A6) and small-scale solar thermal energy in the residential, commercial, and industrial sectors. See Table 10.5.

^d Wood and wood-derived fuels.

^e Conventional hydroelectricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^f Geothermal heat pump and direct use energy. Beginning in December 2018, also includes geothermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^g Solar photovoltaic (PV) electricity net generation in the commercial sector (converted to Btu by multiplying by the heat content of electricity in Table A6), both utility-scale and small-scale. See Table 10.5.

^h Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

ⁱ Municipal solid waste from biogenic sources, landfill gas, sludge waste,

agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^j The fuel ethanol (minus denaturant) portion of motor fuels, such as E10, consumed by the commercial sector.

^k There is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors. Beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

NA=Not available. NM=Not meaningful. —=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Residential sector data are estimates. Commercial sector data are estimates, except for hydroelectric power, wind, and biomass waste. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 10.2b Renewable Energy Consumption: Industrial Sector
(Trillion Btu)

	Industrial Sector ^a									
	Hydro- electric Power ^b	Geo- thermal ^c	Solar ^d	Wind ^e	Biomass					Total
					Wood ^f	Waste ^g	Fuel Ethanol ^{h,i}	Losses and Co- products ^j	Total	
1950 Total	17	NA	NA	NA	532	NA	NA	NA	532	549
1955 Total	11	NA	NA	NA	631	NA	NA	NA	631	642
1960 Total	12	NA	NA	NA	680	NA	NA	NA	680	692
1965 Total	11	NA	NA	NA	855	NA	NA	NA	855	866
1970 Total	11	NA	NA	NA	1,019	NA	NA	NA	1,019	1,030
1975 Total	11	NA	NA	NA	1,063	NA	NA	NA	1,063	1,074
1980 Total	11	NA	NA	NA	1,600	NA	NA	NA	1,600	1,611
1985 Total	11	NA	NA	NA	1,645	230	1	42	1,918	1,928
1990 Total	10	2	(s)	—	1,442	192	1	49	1,684	1,696
1995 Total	18	3	(s)	—	1,652	195	2	86	1,934	1,955
2000 Total	14	4	(s)	—	1,636	145	1	99	1,881	1,900
2005 Total	11	4	(s)	—	1,452	148	7	227	1,834	1,849
2010 Total	6	4	1	—	1,409	168	17	727	2,320	2,331
2011 Total	6	4	1	(s)	1,438	165	17	756	2,375	2,387
2012 Total	8	4	2	(s)	1,462	159	17	711	2,349	2,363
2013 Total	12	4	3	(s)	1,489	187	18	714	2,407	2,427
2014 Total	4	4	4	(s)	1,495	190	14	766	2,466	2,478
2015 Total	5	4	5	(s)	1,476	190	18	791	2,474	2,489
2016 Total	4	4	7	(s)	1,474	174	18	821	2,487	2,503
2017 Total	5	4	8	(s)	1,442	168	18	847	2,475	2,493
2018 Total	4	4	9	(s)	1,432	165	19	855	2,471	2,489
2019 Total	4	4	11	(s)	1,407	156	19	835	2,416	2,435
2020 Total	3	4	12	(s)	1,356	160	19	735	2,270	2,290
2021 Total	3	4	14	(s)	1,366	161	19	789	2,336	2,357
2022 Total	3	4	15	(s)	1,415	161	20	808	2,404	2,426
2023 Total	3	4	16	(s)	1,341	153	20	819	2,334	2,357
2024 January	(s)	(s)	1	(s)	113	14	1	68	196	198
February	(s)	(s)	1	(s)	107	13	2	69	190	192
March	(s)	(s)	2	(s)	112	14	2	73	201	203
April	(s)	(s)	2	(s)	110	13	1	65	190	192
May	(s)	(s)	2	(s)	110	14	2	70	196	198
June	(s)	(s)	2	(s)	109	12	2	69	191	194
July	(s)	(s)	2	(s)	111	12	2	75	200	202
August	(s)	(s)	2	(s)	112	12	2	74	200	203
September	(s)	(s)	2	(s)	110	12	2	69	192	195
October	(s)	(s)	1	(s)	107	13	2	72	194	196
November	(s)	(s)	1	(s)	111	13	2	74	200	201
December	(s)	(s)	1	(s)	116	14	2	76	206	208
Total	3	4	18	(s)	1,328	156	19	854	2,358	2,383
2025 January	(s)	(s)	1	(s)	112	14	2	72	199	201
February	(s)	(s)	1	(s)	101	12	1	65	180	181
March	(s)	(s)	2	(s)	112	14	2	70	197	200
April	(s)	(s)	2	(s)	104	13	2	66	185	187
May	(s)	(s)	2	(s)	108	13	2	69	192	195
June	(s)	(s)	2	(s)	107	12	2	69	190	193
July	(s)	(s)	2	(s)	113	12	2	72	198	201
August	(s)	(s)	2	(s)	112	12	2	72	198	201
September	(s)	(s)	2	(s)	108	12	2	68	189	192
October	(s)	(s)	2	(s)	108	14	2	73	197	199
November	(s)	(s)	2	(s)	106	13	2	72	193	195
December	(s)	(s)	1	(s)	109	14	2	75	199	201
Total	3	4	22	1	1,300	154	19	843	2,317	2,346
2026 January	(s)	(s)	2	(s)	108	14	1	72	195	197
February	(s)	(s)	2	(s)	97	12	1	67	178	181
March	(s)	(s)	2	(s)	105	13	2	73	193	197
April	(s)	(s)	2	(s)	95	13	2	66	176	179
4-Month Total	1	1	8	(s)	406	52	6	279	743	754
2025 4-Month Total	1	1	6	(s)	429	53	6	273	761	769
2024 4-Month Total	1	1	5	(s)	442	54	6	275	777	786

^a Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^b Conventional hydroelectricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^c Geothermal heat pump and direct use energy.

^d Solar photovoltaic (PV) electricity net generation in the industrial sector (converted to Btu by multiplying by the heat content of electricity in Table A6), both utility-scale and small-scale. See Table 10.5.

^e Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^f Wood and wood-derived fuels.

^g Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

^h The fuel ethanol (minus denaturant) portion of motor fuels, such as E10, consumed by the industrial sector.

ⁱ There is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors. Beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

^j Losses and co-products from the production of fuel ethanol and biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol and biodiesel—these are included in the industrial sector consumption statistics for the appropriate energy source.

NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Industrial sector data are estimates, except for hydroelectric power in 1949–1978 and 1989 forward, and wind. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 10.2c Renewable Energy Consumption: Transportation and Electric Power Sectors
(Trillion Btu)

	Transportation Sector					Electric Power Sector ^a							
	Biomass					Hydro-electric Power ^g	Geo-thermal ^h	Solar ⁱ	Wind ^j	Biomass			Total
	Fuel Ethanol ^{b,c}	Bio-diesel ^d	Renewable Diesel Fuel ^e	Other Biofuels ^f	Total					Wood ^k	Waste ^l	Total	
1950 Total	NA	NA	NA	NA	NA	327	NA	NA	NA	5	NA	5	333
1955 Total	NA	NA	NA	NA	NA	385	NA	NA	NA	3	NA	3	389
1960 Total	NA	NA	NA	NA	NA	498	(s)	NA	NA	2	NA	2	499
1965 Total	NA	NA	NA	NA	NA	661	1	NA	NA	3	NA	3	665
1970 Total	NA	NA	NA	NA	NA	845	2	NA	NA	1	2	4	851
1975 Total	NA	NA	NA	NA	NA	1,024	11	NA	NA	(s)	2	2	1,037
1980 Total	NA	NA	NA	NA	NA	942	17	NA	NA	3	2	4	964
1985 Total	50	NA	NA	NA	50	959	32	(s)	(s)	8	7	14	1,006
1990 Total	60	NA	NA	NA	60	989	53	1	10	129	188	317	1,369
1995 Total	112	NA	NA	NA	112	1,042	46	2	11	125	296	422	1,522
2000 Total	135	NA	NA	NA	135	926	48	2	19	134	318	453	1,447
2005 Total	327	12	NA	NA	339	911	50	2	61	185	221	406	1,430
2010 Total	1,041	33	NA	NA	1,075	882	52	4	323	196	264	459	1,720
2011 Total	1,045	113	8	NA	1,166	1,083	52	6	410	182	255	437	1,988
2012 Total	1,045	115	10	NA	1,169	934	53	14	480	190	262	453	1,935
2013 Total	1,072	182	39	NA	1,292	904	54	30	572	207	262	470	2,030
2014 Total	1,093	181	38	2	1,314	880	54	59	619	251	279	530	2,143
2015 Total	^c 1,110	191	48	2	1,351	845	54	83	650	244	281	525	2,158
2016 Total	1,143	266	57	2	1,469	909	54	121	774	224	281	505	2,363
2017 Total	1,156	253	62	3	1,474	1,019	54	180	867	229	280	510	2,630
2018 Total	1,152	243	57	3	1,456	993	54	216	929	221	275	496	2,689
2019 Total	1,162	231	99	4	1,497	978	51	243	1,009	201	248	448	2,729
2020 Total	1,004	239	107	4	1,355	969	53	302	1,152	185	242	428	2,904
2021 Total	1,110	218	158	10	1,496	854	53	391	1,289	197	229	426	3,014
2022 Total	1,111	212	225	25	1,573	865	55	487	1,481	198	176	374	3,263
2023 Total	1,132	246	376	38	1,792	832	56	562	1,436	174	168	342	3,228
2024 January	87	20	30	3	141	73	5	33	119	16	14	31	260
February	89	22	37	3	151	71	4	43	140	14	13	27	285
March	96	20	36	3	155	79	5	54	154	14	14	27	319
April	88	22	39	4	153	71	4	65	161	11	12	24	325
May	103	21	42	2	168	83	4	76	134	12	13	26	323
June	95	22	42	3	162	76	4	83	132	14	13	27	322
July	101	20	50	3	174	73	4	83	97	15	13	28	285
August	99	19	43	3	164	70	4	83	100	15	14	29	285
September	93	19	42	4	158	54	4	70	100	13	13	26	253
October	101	21	41	5	168	52	4	67	135	10	13	23	282
November	94	18	40	6	158	57	4	47	137	12	13	25	270
December	94	20	38	4	157	66	5	43	135	15	13	28	277
Total	1,139	246	480	44	1,909	825	53	746	1,541	162	158	320	3,485
2025 January	92	12	25	4	133	73	5	52	149	15	13	29	307
February	86	11	28	6	130	66	4	56	134	13	12	25	286
March	94	13	29	5	140	76	5	79	173	14	13	27	359
April	96	13	28	5	142	78	4	91	156	10	12	22	351
May	95	13	26	6	139	83	4	101	126	13	12	25	339
June	98	12	19	7	136	75	4	108	122	15	13	27	337
July	100	11	28	6	144	68	4	113	108	15	13	28	322
August	99	10	29	5	142	68	5	108	93	15	12	28	301
September	94	13	26	7	140	52	4	95	88	15	12	27	266
October	101	11	31	6	149	56	4	83	135	13	12	25	303
November	91	11	24	10	137	63	4	63	140	13	13	26	295
December	100	11	30	8	150	81	5	52	160	16	13	29	327
Total	1,145	141	322	74	1,683	839	53	1,001	1,583	167	151	318	3,795
2026 January	88	12	18	5	124	95	5	61	152	16	12	28	340
February	82	13	24	5	124	76	4	72	135	15	12	27	315
March	99	14	30	6	148	91	5	98	178	14	13	28	400
April	94	16	31	6	147	76	4	105	168	10	12	22	376
4-Month Total	363	55	103	22	542	339	18	336	632	56	50	106	1,431
2025 4-Month Total	367	49	109	20	546	293	18	278	612	52	51	103	1,304
2024 4-Month Total	360	85	142	13	600	294	18	195	573	55	53	109	1,188

^a Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

^b The fuel ethanol (minus denaturant) portion of motor fuels, such as E10 and E85, consumed by the transportation sector.

^c There is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors. Beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

^d "Biodiesel" is primarily fatty acid methyl esters (FAME). See "Biodiesel" in Glossary. Although there is use of biodiesel in other sectors, all consumption is assigned to the transportation sector.

^e "Renewable diesel fuel," which is commonly called "non-ester renewable diesel" and "green diesel," is chemically similar to petroleum diesel fuel. Although there is use of renewable diesel fuel in other sectors, all consumption is assigned to the transportation sector.

^f Renewable heating oil, renewable jet fuel (sustainable aviation fuel), renewable naphtha and gasoline, biobutanol, and other biofuels and biointermediates. Although there is use of these biofuels in other sectors, all consumption is assigned to the transportation sector.

^g Conventional hydroelectricity net generation (converted to Btu by multiplying

by the heat content of electricity in Table A6).

^h Geothermal electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

ⁱ Solar photovoltaic (PV) and solar thermal electricity net generation in the electric power sector (converted to Btu by multiplying by the heat content of electricity in Table A6). See Table 10.5.

^j Wind electricity net generation (converted to Btu by multiplying by the heat content of electricity in Table A6).

^k Wood and wood-derived fuels.

^l Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and tire-derived fuels).

NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Transportation sector data are estimates, except for biodiesel beginning in 2012, and renewable diesel fuel and other biofuels beginning in 2021.

• Totals may not equal sum of components due to independent rounding.

• Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: See end of section.

Table 10.3 Fuel Ethanol Overview

	Feed-stock ^b	Losses and Co-products ^c	Denaturant ^d	Production ^a			Trade ^a	Stocks ^{a,f}	Stock Change ^{a,g}	Consumption ^a			Consumption Minus Denaturant ^h
							Net Imports ^e						
	TBtu	TBtu	Mbbl	Mbbl	MMgal	TBtu	Mbbl	Mbbl	Mbbl	Mbbl	MMgal	TBtu	TBtu
1981 Total	13	6	40	1,978	83	7	NA	NA	NA	1,978	83	7	7
1985 Total	93	42	294	14,693	617	52	NA	NA	NA	14,693	617	52	51
1990 Total	111	49	356	17,802	748	63	NA	NA	NA	17,802	748	63	62
1995 Total	198	86	647	32,325	1,358	115	387	2,186	-207	32,919	1,383	117	114
2000 Total	233	99	773	38,627	1,622	138	116	3,400	-624	39,367	1,653	140	137
2005 Total	550	227	1,859	92,961	3,904	331	3,234	5,563	-439	96,634	4,059	344	335
2010 Total	1,823	726	6,506	316,617	13,298	1,128	-9,115	17,941	1,347	306,155	12,858	1,091	1,061
2011 Total	1,904	754	6,649	331,646	13,929	1,181	-24,365	18,238	297	306,984	12,893	1,093	1,065
2012 Total	1,801	709	6,264	314,714	13,218	1,120	-5,891	20,350	2,112	306,711	12,882	1,092	1,064
2013 Total	1,809	711	6,181	316,493	13,293	1,127	-5,761	16,424	-3,926	314,658	13,216	1,120	1,092
2014 Total	1,947	764	6,476	340,781	14,313	1,213	-18,371	18,739	2,315	320,095	13,444	1,139	1,111
2015 Total	2,013	788	6,636	352,553	14,807	1,254	-17,632	21,596	2,857	332,064	13,947	1,181	1,153
2016 Total	2,092	818	6,920	366,981	15,413	1,306	-27,002	19,758	-1,838	341,817	14,356	1,216	1,187
2017 Total	2,164	844	6,657	379,435	15,936	1,349	-31,268	23,043	3,285	344,882	14,485	1,226	1,199
2018 Total	2,187	852	5,819	383,127	16,091	1,361	-39,410	23,418	375	343,342	14,420	1,220	1,197
2019 Total	2,140	832	6,089	375,678	15,778	1,336	-30,276	22,352	-1,066	346,468	14,552	1,232	1,206
2020 Total	1,886	732	5,892	331,928	13,941	1,181	-27,692	24,663	2,311	301,925	12,681	1,074	1,050
2021 Total	2,030	786	6,094	357,517	15,016	1,271	-28,135	22,036	-2,627	332,010	13,944	1,180	1,155
2022 Total	2,079	805	5,869	365,731	15,361	1,299	-29,631	24,245	2,209	333,891	14,023	1,186	1,163
2023 Total	2,107	816	6,211	370,957	15,580	1,318	-32,895	23,498	-747	338,808	14,230	1,204	1,179
2024 January	175	68	508	30,843	1,295	110	-3,564	24,781	1,283	25,997	1,092	92	90
February	177	69	524	31,149	1,308	111	-3,273	26,027	1,246	26,629	1,118	95	93
March	188	73	503	33,129	1,391	118	-3,986	26,741	714	28,430	1,194	101	99
April	168	65	437	29,466	1,238	105	-4,468	25,466	-1,274	26,272	1,103	93	92
May	181	70	471	31,783	1,335	113	-4,002	22,750	-2,717	30,499	1,281	108	106
June	178	69	499	31,304	1,315	111	-3,194	22,655	-95	28,205	1,185	100	98
July	192	74	541	33,810	1,420	120	-3,067	23,328	673	30,070	1,263	107	105
August	191	74	526	33,506	1,407	119	-3,644	23,782	454	29,408	1,235	104	102
September	178	69	476	31,220	1,311	111	-3,905	23,462	-319	27,634	1,161	98	96
October	185	72	518	32,539	1,367	116	-3,891	22,124	-1,339	29,986	1,259	107	104
November	190	74	519	33,383	1,402	119	-4,549	22,973	849	27,985	1,175	99	97
December	194	75	544	34,184	1,436	121	-4,680	24,418	1,445	28,059	1,178	100	98
Total	2,197	851	6,067	386,316	16,225	1,373	-46,223	24,418	920	339,173	14,245	1,205	1,181
2025 January	189	72	576	33,596	1,411	119	-4,724	25,774	ⁱ 1,416	27,455	1,153	98	95
February	171	65	479	30,354	1,275	108	-3,313	27,339	1,565	25,476	1,070	91	89
March	184	70	525	32,683	1,373	116	-4,671	27,378	39	27,973	1,175	99	97
April	172	66	500	30,649	1,287	109	-4,110	25,376	-2,003	28,541	1,199	101	99
May	180	69	538	32,098	1,348	114	-4,410	24,708	-668	28,356	1,191	101	99
June	182	69	523	32,317	1,357	115	-4,143	23,605	-1,102	29,276	1,230	104	102
July	188	72	551	33,461	1,405	119	-3,922	23,397	-208	29,748	1,249	106	104
August	188	72	550	33,494	1,407	119	-4,504	22,836	-561	29,551	1,241	105	103
September	177	67	551	31,505	1,323	112	-3,542	22,740	-96	28,059	1,178	100	98
October	192	73	595	34,112	1,433	121	-4,414	22,423	-318	30,015	1,261	107	104
November	188	72	575	33,522	1,408	119	-5,041	23,765	1,342	27,139	1,140	96	94
December	196	75	663	34,934	1,467	124	-5,256	23,530	-234	29,913	1,256	106	104
Total	2,207	841	6,624	392,724	16,494	1,396	-52,050	23,530	ⁱ -827	341,502	14,343	1,214	1,188
2026 January	189	72	647	33,738	1,417	120	-5,056	25,851	2,321	26,362	1,107	94	92
February	176	67	587	31,399	1,319	112	-5,007	27,698	1,847	24,545	1,031	87	85
March	192	73	603	34,174	1,435	121	-5,194	27,168	-530	29,510	1,239	105	103
April	174	66	518	30,925	1,299	110	-4,100	26,082	-1,086	27,911	1,172	99	97
4-Month Total ...	731	279	2,355	130,236	5,470	463	-19,356	26,082	2,552	108,328	4,550	385	376
2025 4-Month Total ...	716	273	2,079	127,281	5,346	452	-16,817	25,376	1,018	109,445	4,597	389	381
2024 4-Month Total ...	708	274	1,972	124,588	5,233	443	-15,292	25,466	1,968	107,328	4,508	381	374

^a Includes denaturant.

^b Total corn and other biomass inputs to the production of undenatured ethanol used for fuel ethanol.

^c Losses and co-products from the production of fuel ethanol. Does not include natural gas, electricity, and other non-biomass energy used in the production of fuel ethanol—these are included in the industrial sector consumption statistics for the appropriate energy source.

^d The amount of denaturant in fuel ethanol produced.

^e Through 2009, data are for fuel ethanol imports only; data for fuel ethanol exports are not available. Beginning in 2010, data are for fuel ethanol imports minus fuel ethanol (including industrial alcohol) exports.

^f Stocks are at end of period.

^g A negative value indicates a decrease in stocks and a positive value indicates an increase.

^h Consumption of fuel ethanol minus denaturant. Data for fuel ethanol minus denaturant are used to develop data for "Renewable Energy/Biomass" in Tables 10.1–10.2b, as well as in Sections 1 and 2.

ⁱ Derived from the preliminary 2024 stocks value (24,358 thousand barrels), not the final 2024 value (24,418 thousand barrels) that is shown under "Stocks." NA=Not available.

Notes: • Mbbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Fuel ethanol data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by the approximate heat content of fuel ethanol—see Table A3. • Through 1980, data are not available. For 1981–1992, data are estimates. For 1993–2008, only data for feedstock, losses and co-products, and denaturant are estimates. Beginning in 2009, only data for feedstock, and losses and co-products, are estimates. • See "Denaturant," "Ethanol," "Fuel Ethanol," and "Fuel Ethanol Minus Denaturant" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 1981.

Sources: See end of section.

Table 10.4a Biodiesel Overview

	Feed-stock ^b	Losses and Co-products ^c	Production ^a			Trade ^a			Stocks ^{a,e}	Stock Change ^{a,f}	Consumption ^{a,g}		
						Imports	Exports	Net Imports ^d					
	TBtu	TBtu	Mbbl	MMgal	TBtu	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	MMgal	TBtu
2001 Total	1	(s)	204	9	1	81	41	40	NA	NA	244	10	1
2005 Total	12	(s)	2,162	91	12	214	213	1	NA	NA	2,163	91	12
2010 Total	44	1	8,177	343	44	564	2,588	-2,024	672	-39	6,192	260	33
2011 Total	125	2	23,035	967	123	890	1,799	-908	2,005	^h 1,028	21,099	886	113
2012 Total	128	2	23,588	991	126	853	3,056	-2,203	1,984	-20	21,406	899	115
2013 Total	176	2	32,368	1,359	173	8,152	4,675	3,477	3,810	1,825	34,020	1,429	182
2014 Total	165	2	30,452	1,279	163	4,578	1,974	2,604	3,131	-679	33,735	1,417	181
2015 Total	163	2	30,080	1,263	161	8,399	2,091	6,308	3,943	813	35,575	1,494	191
2016 Total	203	3	37,327	1,568	200	16,879	2,098	14,781	6,398	2,454	49,653	2,085	266
2017 Total	206	3	37,993	1,596	204	9,374	2,228	7,146	4,268	-2,130	47,269	1,985	253
2018 Total	240	3	44,222	1,857	237	3,969	2,470	1,499	4,662	394	45,326	1,904	243
2019 Total	223	3	41,060	1,725	220	4,078	2,730	1,348	3,907	-756	43,163	1,813	231
2020 Total	235	3	43,207	1,815	232	4,684	3,458	1,226	3,665	-241	44,675	1,876	239
2021 Total	221	3	40,686	1,709	218	5,005	4,452	553	4,187	522	40,717	1,710	218
2022 Total	210	3	38,620	1,622	207	5,950	5,671	279	3,608	-580	39,478	1,658	212
2023 Total	219	3	40,401	1,697	217	11,929	6,169	5,760	3,813	206	45,955	1,930	246
2024 January	16	(s)	3,026	127	16	1,251	105	1,146	4,179	365	3,806	160	20
February	16	(s)	2,987	125	16	1,714	213	1,501	4,553	374	4,114	173	22
March	18	(s)	3,232	136	17	729	316	413	4,392	-161	3,806	160	20
April	17	(s)	3,178	133	17	1,454	428	1,026	4,440	48	4,155	175	22
May	19	(s)	3,407	143	18	789	504	285	4,177	-263	3,955	166	21
June	18	(s)	3,370	142	18	721	480	241	3,720	-457	4,069	171	22
July	19	(s)	3,477	146	19	599	627	-28	3,445	-274	3,724	156	20
August	19	(s)	3,482	146	19	551	581	-30	3,267	-178	3,630	152	19
September	18	(s)	3,361	141	18	604	483	121	3,164	-103	3,585	151	19
October	19	(s)	3,449	145	18	505	136	369	3,007	-157	3,975	167	21
November	19	(s)	3,446	145	18	537	293	244	3,309	302	3,389	142	18
December	18	(s)	3,381	142	18	777	137	640	3,555	247	3,775	159	20
Total	216	3	39,795	1,671	213	10,231	4,303	5,928	3,555	-258	45,982	1,931	246
2025 January	10	(s)	1,862	78	10	78	195	-117	3,058	ⁱ -495	2,240	94	12
February	11	(s)	1,936	81	10	165	56	109	3,014	-44	2,089	88	11
March	13	(s)	2,355	99	13	111	107	4	3,028	14	2,346	99	13
April	13	(s)	2,479	104	13	32	153	-121	2,914	-113	2,471	104	13
May	13	(s)	2,384	100	13	14	221	-207	2,708	-207	2,383	100	13
June	13	(s)	2,351	99	13	14	254	-240	2,647	-61	2,172	91	12
July	14	(s)	2,492	105	13	-	306	-306	2,762	115	2,071	87	11
August	14	(s)	2,582	108	14	-	253	-253	3,242	480	1,849	78	10
September	13	(s)	2,468	104	13	1	176	-175	3,125	-118	2,411	101	13
October	13	(s)	2,371	100	13	176	88	88	3,454	330	2,129	89	11
November	11	(s)	2,085	88	11	135	72	63	3,476	21	2,126	89	11
December	11	(s)	2,022	85	11	95	69	26	3,417	-59	2,107	89	11
Total	149	2	27,387	1,150	147	821	1,949	-1,128	3,417	ⁱ -136	26,395	1,109	141
2026 January	12	(s)	2,157	91	12	27	27	(s)	3,334	-83	2,239	94	12
February	13	(s)	2,342	98	13	2	51	-49	3,265	-69	2,361	99	13
March	15	(s)	2,726	114	15	6	201	-195	3,192	-72	2,603	109	14
April	16	(s)	2,861	120	15	-	141	-141	2,875	-317	3,038	128	16
4-Month Total	55	1	10,086	424	54	35	420	-385	2,875	-541	10,242	430	55
2025 4-Month Total	47	1	8,632	363	46	386	510	-124	2,914	-638	9,146	384	49
2024 4-Month Total	67	1	12,422	522	67	5,148	1,063	4,085	4,440	626	15,881	667	85

^a Data are for "biodiesel," which is primarily fatty acid methyl esters (FAME). See "Biodiesel" in Glossary.

^b Total vegetable oil and other biomass inputs to the production of biodiesel. See "Biodiesel Feedstock" entry in the "Thermal Conversion Factor Source Documentation" at the end of Appendix A.

^c Losses and co-products from the production of biodiesel. Does not include natural gas, electricity, and other non-biomass energy used in the production of biodiesel—these are included in the industrial sector consumption statistics for the appropriate energy source.

^d Net imports equal imports minus exports.

^e Stocks are at end of period. Includes biodiesel stocks at (or in) refineries, pipelines, and bulk terminals. Beginning in 2011, also includes stocks at biodiesel production plants.

^f A negative value indicates a decrease in stocks and a positive value indicates an increase.

^g In 2009, because of incomplete data coverage and differing data sources, a "Balancing Item" amount of 733 thousand barrels (653 thousand barrels in January 2009; 80 thousand barrels in February 2009) is used to balance biodiesel supply

and disposition.

^h Derived from the final 2010 stocks value for bulk terminals and biodiesel production plants (977 thousand barrels), not the final 2010 value for bulk terminals only (672 thousand barrels) that is shown under "Stocks."

ⁱ Derived from the preliminary 2024 stocks value (3,552 thousand barrels), not the final 2024 value (3,555 thousand barrels) that is shown under "Stocks."

NA=Not available. - =No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Mbbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Biodiesel data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by 5.359 million Btu per barrel (the approximate heat content of biodiesel—see Table A1). • Through 2000, data are not available. Beginning in 2001, data not from EIA surveys are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 2001.

Sources: See end of section.

Table 10.4b Renewable Diesel Fuel Overview

	Feed-stock ^b	Losses and Co-products ^c	Production ^{a,d}			Trade ^a			Stocks ^{a,f}	Stock Change ^{a,g}	Consumption ^{a,h}		
						Imports	Exports	Net Imports ^e					
	TBtu	TBtu	Mbbl	MMgal	TBtu	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	MMgal	TBtu
2011 Total	NA	NA	1,477	62	8	—	NA	—	7	7	1,470	62	8
2012 Total	NA	NA	1,248	52	7	605	NA	605	94	87	1,766	74	10
2013 Total	NA	NA	2,697	113	15	4,921	NA	4,921	691	597	7,021	295	39
2014 Total	NA	NA	3,789	159	21	2,873	NA	2,873	350	-341	7,003	294	38
2015 Total	NA	NA	4,211	177	23	4,874	NA	4,874	634	284	8,801	370	48
2016 Total	NA	NA	5,750	241	32	5,304	NA	5,304	1,315	681	10,373	436	57
2017 Total	NA	NA	6,151	258	34	4,509	NA	4,509	753	-562	11,222	471	62
2018 Total	NA	NA	7,273	305	40	4,124	NA	4,124	1,727	974	10,423	438	57
2019 Total	NA	NA	11,715	492	64	6,143	NA	6,143	1,491	-236	18,094	760	99
2020 Total	NA	NA	12,702	533	70	6,658	NA	6,658	1,287	-204	19,564	822	107
2021 Total	NA	NA	^d 20,503	^d 861	^d 113	9,340	NA	9,340	2,353	1,066	28,777	1,209	158
2022 Total	NA	NA	35,692	1,499	196	6,254	NA	6,254	3,405	1,053	40,893	1,718	225
2023 Total	NA	NA	61,895	2,600	340	8,622	NA	8,622	5,478	2,072	68,445	2,875	376
2024 January	NA	NA	5,707	240	31	860	NA	860	6,572	1,095	5,472	230	30
February	NA	NA	5,624	236	31	1,002	NA	1,002	6,517	-55	6,681	281	37
March	NA	NA	5,688	239	31	1,053	NA	1,053	6,670	152	6,588	277	36
April	NA	NA	6,222	261	34	1,030	NA	1,030	6,908	238	7,014	295	39
May	NA	NA	5,468	230	30	1,209	NA	1,209	5,957	-951	7,628	320	42
June	NA	NA	7,020	295	39	1,459	NA	1,459	6,720	762	7,717	324	42
July	NA	NA	6,835	287	38	1,600	NA	1,600	6,136	-584	9,019	379	50
August	NA	NA	6,648	279	37	1,359	NA	1,359	6,343	207	7,800	328	43
September	NA	NA	6,385	268	35	1,015	NA	1,015	6,104	-239	7,639	321	42
October	NA	NA	6,770	284	37	701	NA	701	6,108	4	7,467	314	41
November	NA	NA	6,797	285	37	145	NA	145	5,686	-422	7,364	309	40
December	NA	NA	6,889	289	38	961	NA	961	6,531	845	7,005	294	38
Total	NA	NA	76,054	3,194	418	12,394	NA	12,394	6,531	1,053	87,395	3,671	480
2025 January	NA	NA	5,189	218	29	1	163	-162	6,903	ⁱ 504	^h 4,523	^h 190	^h 25
February	NA	NA	4,416	185	24	442	543	-101	6,113	-789	5,104	214	28
March	NA	NA	5,413	227	30	177	641	-464	5,860	-253	5,202	218	29
April	NA	NA	5,082	213	28	33	1,264	-1,231	4,627	-1,233	5,085	214	28
May	NA	NA	6,233	262	34	154	1,009	-855	5,310	683	4,695	197	26
June	NA	NA	6,242	262	34	81	1,524	-1,443	6,591	1,282	3,518	148	19
July	NA	NA	6,224	261	34	230	1,594	-1,364	6,407	-185	5,045	212	28
August	NA	NA	5,670	238	31	441	1,339	-898	5,945	-461	5,233	220	29
September	NA	NA	6,464	271	36	347	1,543	-1,196	6,463	517	4,751	200	26
October	NA	NA	6,420	270	35	900	1,770	-870	6,388	-75	5,624	236	31
November	NA	NA	6,059	254	33	112	1,568	-1,456	6,598	210	4,393	185	24
December	NA	NA	6,076	255	33	475	1,223	-748	6,412	-186	5,514	232	30
Total	NA	NA	69,487	2,918	382	3,393	14,181	-10,788	6,412	ⁱ 13	58,687	2,465	322
2026 January	NA	NA	4,682	197	26	—	566	-566	7,163	751	3,365	141	18
February	NA	NA	4,703	198	26	225	1,410	-1,185	6,382	-781	4,299	181	24
March	NA	NA	6,413	269	35	250	1,017	-767	6,618	236	5,411	227	30
April	NA	NA	6,803	286	37	—	1,078	-1,078	6,708	90	5,635	237	31
4-Month Total	NA	NA	22,602	949	124	475	4,071	-3,596	6,708	296	18,710	786	103
2025 4-Month Total	NA	NA	20,100	844	110	653	2,611	-1,958	4,627	-1,772	19,914	836	109
2024 4-Month Total	NA	NA	23,241	976	128	3,945	NA	3,945	6,908	1,430	25,756	1,082	142

^a Data are for "renewable diesel fuel," which is commonly called "non-ester renewable diesel" and "green diesel," and which is chemically similar to petroleum diesel fuel. Beginning in 2025, exports data also include renewable jet fuel (sustainable aviation fuel).

^b Total vegetable oil and other biomass inputs to the production of renewable diesel fuel.

^c Losses and co-products from the production of renewable diesel fuel. Does not include natural gas, electricity, and other non-biomass energy used in the production of renewable diesel fuel—these are included in the industrial sector consumption statistics for the appropriate energy source.

^d Through 2020, production data are from U.S. Environmental Protection Agency. Beginning in 2021, production data are from EIA. See sources at end of section.

^e Net imports equal imports minus exports.

^f Stocks are at end of period. Includes renewable diesel fuel stocks at refineries and bulk terminals. Beginning in 2021, also includes renewable diesel fuel stocks at renewable fuel production plants.

^g A negative value indicates a decrease in stocks and a positive value indicates an increase.

^h Through 2024, consumption, which is calculated as production plus imports minus stock change, also includes amounts of exports that cannot be differentiated from consumption. Beginning in 2025, consumption is calculated as production plus net imports minus stock change.

ⁱ Derived from the preliminary 2024 stocks value (6,399 thousand barrels), not the final 2024 value (6,531 thousand barrels) that is shown under "Stocks."

NA=Not available. —=No data reported.

Notes: • Mbbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Renewable diesel fuel data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by 5.494 million Btu per barrel (the approximate heat content of renewable diesel fuel—see Table A1). • Through 2010, data are not available, or there is incomplete data coverage. Beginning in 2011, data not from EIA surveys are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 2011.

Sources: See end of section.

Table 10.4c Other Biofuels Overview

	Feed-stock ^b	Losses and Co-products ^c	Production ^{a,d}			Trade ^a			Stocks ^{a,f}	Stock Change ^{a,g}	Consumption ^{a,h}		
						Imports	Exports	Net Imports ^e					
	TBtu	TBtu	Mbbl	MMgal	TBtu	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	Mbbl	MMgal	TBtu
2014 Total	NA	NA	290	12	2	—	NA	—	7	2	288	12	2
2015 Total	NA	NA	393	17	2	—	NA	—	4	-3	396	17	2
2016 Total	NA	NA	503	21	3	—	NA	—	43	39	464	20	2
2017 Total	NA	NA	570	24	3	—	NA	—	28	-15	585	25	3
2018 Total	NA	NA	611	26	3	—	NA	—	54	26	585	25	3
2019 Total	NA	NA	791	33	4	—	NA	—	50	-4	795	33	4
2020 Total	NA	NA	761	32	4	—	NA	—	27	-23	784	33	4
2021 Total ⁱ	NA	NA	^d 1,914	^d 80	^d 10	27	NA	27	83	56	1,885	79	10
2022 Total	NA	NA	4,841	203	26	114	NA	114	282	200	4,756	200	25
2023 Total	NA	NA	7,058	296	38	100	NA	100	314	32	7,126	299	38
2024 January	NA	NA	623	26	3	—	NA	—	400	85	538	23	3
February	NA	NA	620	26	3	—	NA	—	412	12	607	26	3
March	NA	NA	692	29	4	—	NA	—	496	84	609	26	3
April	NA	NA	651	27	3	—	NA	—	414	-82	733	31	4
May	NA	NA	512	21	3	—	NA	—	478	64	447	19	2
June	NA	NA	651	27	3	—	NA	—	538	60	592	25	3
July	NA	NA	580	24	3	—	NA	—	467	-71	652	27	3
August	NA	NA	700	29	4	—	NA	—	612	145	555	23	3
September	NA	NA	874	37	5	—	NA	—	740	129	746	31	4
October	NA	NA	742	31	4	—	NA	—	631	-110	851	36	5
November	NA	NA	856	36	5	—	NA	—	451	-179	1,035	43	6
December	NA	NA	792	33	4	—	NA	—	489	37	754	32	4
Total	NA	NA	8,293	348	44	—	NA	—	489	174	8,118	341	44
2025 January	NA	NA	1,032	43	6	—	(s)	(s)	725	ⁱ 269	^h 764	^h 32	^h 4
February	NA	NA	1,238	52	7	—	45	-45	884	159	1,033	43	6
March	NA	NA	1,013	43	5	—	1	-1	938	54	958	40	5
April	NA	NA	877	37	5	—	(s)	(s)	850	-88	965	41	5
May	NA	NA	1,107	47	6	—	1	-1	880	29	1,077	45	6
June	NA	NA	1,142	48	6	—	120	-120	629	-251	1,273	53	7
July	NA	NA	1,290	54	7	—	(s)	(s)	877	248	1,041	44	6
August	NA	NA	740	31	4	—	52	-52	718	-159	847	36	5
September	NA	NA	1,342	56	7	—	(s)	(s)	842	123	1,218	51	7
October	NA	NA	1,498	63	8	—	—	—	1,130	289	1,209	51	6
November	NA	NA	1,801	76	10	—	97	-97	879	-251	1,955	82	10
December	NA	NA	1,667	70	9	—	75	-75	1,006	127	1,464	62	8
Total	NA	NA	14,747	619	79	—	392	-392	1,006	ⁱ 551	13,805	580	74
2026 January	NA	NA	1,029	43	6	—	—	—	1,107	100	928	39	5
February	NA	NA	991	42	5	—	—	—	1,143	37	954	40	5
March	NA	NA	1,126	47	6	—	99	-99	1,086	-57	1,085	46	6
April	NA	NA	1,090	46	6	—	111	-111	1,011	-75	1,054	44	6
4-Month Total	NA	NA	4,236	178	23	—	210	-210	1,011	4	4,021	169	22
2025 4-Month Total	NA	NA	4,161	175	22	—	47	-47	850	395	3,719	156	20
2024 4-Month Total	NA	NA	2,586	109	14	—	NA	—	414	100	2,487	104	13

^a Data are for renewable heating oil, renewable jet fuel (sustainable aviation fuel), renewable naphtha and gasoline, biobutanol, and other biofuels and biointermediates. Beginning in 2025, exports data for renewable jet fuel (sustainable aviation fuel) are included with renewable diesel fuel exports on Table 10.4b.

^b Total vegetable oil and other biomass inputs to the production of other biofuels.

^c Losses and co-products from the production of other biofuels. Does not include natural gas, electricity, and other non-biomass energy used in the production of other biofuels—these are included in the industrial sector consumption statistics for the appropriate energy source.

^d Through 2020, production data are from U.S. Environmental Protection Agency. Beginning in 2021, production data are from EIA. See sources at end of section.

^e Net imports equal imports minus exports.

^f Stocks are at end of period. Includes other biofuels stocks at refineries and bulk terminals. Beginning in 2021, also includes other biofuels stocks at renewable fuel production plants.

^g A negative value indicates a decrease in stocks and a positive value indicates an increase.

^h Through 2024, consumption, which is calculated as production plus imports minus stock change, also includes amounts of exports that cannot be differentiated

from consumption. Beginning in 2025, consumption is calculated as production plus net imports minus stock change.

ⁱ There is a discontinuity in the time series between 2020 and 2021. Beginning in 2021, there is expanded coverage of other biofuels due to the incorporation of data from EIA, Form EIA-819, "Monthly Report of Biofuels, Fuels from Non-Biogenic Wastes, Fuel Oxygenates, Isooctane, and Isooctene."

^j Derived from the preliminary 2024 stocks value (456 thousand barrels), not the final 2024 value (489 thousand barrels) that is shown under "Stocks."

NA=Not available. —=No data reported. (s)=Less than 500 barrels and greater than -500 barrels.

Notes: • Mbbl = thousand barrels. MMgal = million U.S. gallons. TBtu = trillion Btu. • Other biofuels data in thousand barrels are converted to million gallons by multiplying by 0.042, and are converted to Btu by multiplying by 5.359 million Btu per barrel (the approximate heat content of other biofuels—see Table A1). • Through 2013, data are not available, or there is incomplete data coverage. Beginning in 2014, data not from EIA surveys are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 2014.

Sources: See end of section.

Table 10.5 Solar Energy Consumption
(Trillion Btu)

	Small-Scale ^a Solar Energy ^b						Utility-Scale ^c Solar Energy ^b					Total ^k
	Heat ^f	Electricity ^d				Total ^g	Electricity ^e					
		Residential Sector	Commercial Sector	Industrial Sector	Total		Commercial Sector ^h	Industrial Sector ⁱ	Electric Power Sector ^j	Total		
1985 Total	NA	NA	NA	NA	NA	NA	NA	NA	(s)	(s)	(s)	
1990 Total	55	(s)	(s)	(s)	(s)	55	—	—	1	1	56	
1995 Total	63	(s)	(s)	(s)	(s)	63	—	—	2	2	64	
2000 Total	57	(s)	(s)	(s)	(s)	58	—	—	2	2	59	
2005 Total	49	(s)	1	(s)	1	50	—	—	2	2	52	
2010 Total	56	3	4	1	8	64	(s)	(s)	4	4	68	
2011 Total	58	5	6	1	12	70	(s)	(s)	6	6	76	
2012 Total	59	7	10	2	20	79	1	(s)	14	15	94	
2013 Total	61	11	14	3	28	89	1	(s)	30	31	120	
2014 Total	63	17	18	4	38	101	1	(s)	59	60	161	
2015 Total	63	24	19	5	48	112	1	(s)	83	85	197	
2016 Total	65	36	21	7	64	129	2	(s)	121	123	252	
2017 Total	68	48	26	8	82	150	2	(s)	180	182	331	
2018 Total	69	58	33	9	101	170	2	(s)	216	218	388	
2019 Total	70	71	38	10	119	189	2	(s)	243	245	435	
2020 Total	70	86	44	12	142	212	2	(s)	302	304	516	
2021 Total	75	103	52	13	168	243	2	(s)	391	393	636	
2022 Total	84	135	60	14	209	293	2	1	487	491	784	
2023 Total	92	168	67	15	250	342	2	1	562	565	907	
2024 January	6	11	4	1	16	22	(s)	(s)	33	33	55	
February	6	12	5	1	18	25	(s)	(s)	43	43	67	
March	9	17	6	1	24	33	(s)	(s)	54	55	88	
April	9	18	7	2	27	36	(s)	(s)	65	66	102	
May	10	20	8	2	29	39	(s)	(s)	76	76	116	
June	10	20	8	2	29	40	(s)	(s)	83	83	123	
July	11	20	8	2	30	41	(s)	(s)	83	84	124	
August	10	20	8	2	29	39	(s)	(s)	83	83	122	
September	9	17	7	1	26	35	(s)	(s)	70	70	105	
October	8	16	6	1	23	31	(s)	(s)	67	68	99	
November	7	13	5	1	18	25	(s)	(s)	47	47	72	
December	6	12	4	1	17	23	(s)	(s)	43	43	66	
Total	102	196	74	16	286	388	2	2	746	750	1,138	
2025 January	6	13	5	1	18	25	(s)	(s)	52	53	78	
February	7	14	5	1	20	27	(s)	(s)	56	56	83	
March	9	19	7	1	27	37	(s)	(s)	79	79	116	
April	10	20	8	2	30	40	(s)	(s)	91	91	132	
May	11	21	9	2	32	43	(s)	(s)	101	101	144	
June	11	22	9	2	32	43	(s)	1	108	109	153	
July	12	23	9	2	34	45	(s)	1	113	114	159	
August	11	21	9	2	32	43	(s)	1	108	109	151	
September	10	19	8	2	28	38	(s)	1	95	96	134	
October	9	18	7	1	26	35	(s)	1	83	84	119	
November	7	14	5	1	20	28	(s)	(s)	63	63	91	
December	7	13	5	1	19	26	(s)	(s)	52	53	78	
Total	111	216	85	17	318	429	2	5	1,001	1,009	1,438	
2026 January	6	14	5	1	21	27	(s)	1	61	61	88	
February	7	15	6	1	22	29	(s)	1	72	73	101	
March	9	21	8	2	31	40	(s)	1	98	99	139	
April	10	23	9	2	33	44	(s)	1	105	106	150	
4-Month Total	32	72	29	6	107	139	1	3	336	339	478	
2025 4-Month Total	33	65	25	5	95	129	1	1	278	280	408	
2024 4-Month Total	30	59	22	5	85	116	1	1	195	196	311	

^a Data are estimates for small-scale facilities (combined generator nameplate capacity less than 1 megawatt).

^b See "Photovoltaic Energy" and "Solar Thermal Energy" in Glossary.

^c Data are for utility-scale facilities (combined generator nameplate capacity of 1 megawatt or more).

^d Solar photovoltaic (PV) electricity generation at small-scale facilities connected to the electric power grid (converted to Btu by multiplying by the heat content of electricity in Table A6).

^e Solar photovoltaic (PV) and solar thermal electricity net generation at utility-scale facilities (converted to Btu by multiplying by the heat content of electricity in Table A6).

^f Solar thermal direct use energy in the residential, commercial, and industrial sectors for all end uses, such as pool heating, hot water heating, and space heating.

^g Data are the sum of "Small-Scale Solar Energy Heat" and "Small-Scale Solar Energy Electricity."

^h Commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at

end of Section 7.

ⁱ Industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^j Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

^k Data are the sum of "Small-Scale Solar Energy Total" and "Utility-Scale Solar Energy Total."

NA=Not available. —=No data reported. (s)=Less than 0.5 trillion Btu.

Notes: • Small-scale solar energy data for all years, and utility-scale solar energy data for the current two years, are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 1984.

Sources: See end of section.

Table 10.6 Solar Electricity Net Generation
(Million Kilowatthours)

	Small-Scale ^a Solar Generation ^b				Utility-Scale ^c Solar Generation ^b				Total
	Residential Sector	Commercial Sector	Industrial Sector	Total	Commercial Sector ^d	Industrial Sector ^e	Electric Power Sector ^f	Total	
1985 Total	NA	NA	NA	NA	NA	NA	11	11	11
1990 Total	12	16	4	32	—	—	367	367	399
1995 Total	20	28	6	54	—	—	497	497	551
2000 Total	39	53	12	104	—	—	493	493	598
2005 Total	121	166	37	324	—	—	550	550	875
2010 Total	899	1,130	250	2,280	5	2	1,206	1,212	3,492
2011 Total	1,358	1,845	409	3,612	84	7	1,727	1,818	5,429
2012 Total	2,058	3,061	678	5,797	148	14	4,164	4,327	10,123
2013 Total	3,217	4,106	909	8,232	294	17	8,724	9,036	17,268
2014 Total	4,947	5,146	1,139	11,233	371	16	17,304	17,691	28,924
2015 Total	6,999	5,689	1,451	14,139	416	21	24,456	24,893	39,032
2016 Total	10,595	6,158	2,060	18,812	529	27	35,497	36,054	54,866
2017 Total	13,942	7,685	2,364	23,990	521	42	52,724	53,287	77,277
2018 Total	17,105	9,798	2,636	29,539	525	47	63,253	63,825	93,365
2019 Total	20,914	11,002	3,041	34,957	587	85	71,265	71,937	106,894
2020 Total	25,179	12,859	3,484	41,522	586	101	88,511	89,199	130,721
2021 Total	30,182	15,124	3,858	49,164	598	137	114,523	115,258	164,422
2022 Total	39,510	17,724	4,048	61,282	669	276	142,847	143,792	205,074
2023 Total	49,273	19,751	4,382	73,406	615	326	164,590	165,530	238,937
2024 January	3,240	1,218	268	4,726	23	23	9,537	9,583	14,309
February	3,659	1,386	296	5,342	34	32	12,474	12,540	17,882
March	4,885	1,821	406	7,113	48	43	15,928	16,019	23,132
April	5,385	2,007	440	7,832	56	52	19,133	19,241	27,073
May	5,845	2,216	478	8,539	64	62	22,245	22,371	30,910
June	5,863	2,213	476	8,553	67	62	24,330	24,459	33,012
July	5,991	2,297	490	8,778	63	61	24,359	24,484	33,262
August	5,735	2,204	473	8,412	61	59	24,209	24,328	32,741
September	5,108	1,969	433	7,511	48	52	20,438	20,538	28,049
October	4,638	1,709	390	6,736	46	44	19,738	19,828	26,564
November	3,754	1,336	303	5,393	31	31	13,780	13,841	19,234
December	3,442	1,276	267	4,984	25	25	12,551	12,601	17,585
Total	57,547	21,652	4,719	83,918	566	546	218,722	219,834	303,752
2025 January	3,703	1,408	285	5,397	38	36	15,379	15,454	20,851
February	3,967	1,534	305	5,805	39	38	16,371	16,448	22,253
March	5,456	2,073	433	7,961	60	52	23,126	23,238	31,199
April	5,967	2,322	469	8,758	66	60	26,654	26,781	35,538
May	6,268	2,522	515	9,306	69	66	29,610	29,746	39,051
June	6,379	2,530	514	9,423	76	184	31,774	32,034	41,458
July	6,689	2,636	532	9,857	80	197	33,147	33,424	43,281
August	6,273	2,531	515	9,319	76	184	31,549	31,809	41,128
September	5,434	2,277	466	8,176	67	211	27,870	28,149	36,325
October	5,199	1,968	421	7,589	57	184	24,365	24,605	32,195
November	4,128	1,533	326	5,987	47	139	18,407	18,592	24,580
December	3,812	1,460	297	5,569	34	113	15,245	15,392	20,962
Total	63,274	24,795	5,080	93,148	709	1,464	293,499	295,671	388,820
2026 January	4,138	1,599	314	6,051	40	151	17,795	17,985	24,036
February	4,370	1,731	332	6,433	46	165	21,094	21,305	27,739
March	6,065	2,413	474	8,953	63	215	28,722	29,000	37,953
April	6,619	2,674	514	9,808	79	211	30,814	31,104	40,912
4-Month Total	21,193	8,418	1,634	31,245	227	742	98,425	99,394	130,639
2025 4-Month Total	19,092	7,337	1,492	27,921	203	186	81,530	81,920	109,841
2024 4-Month Total	17,171	6,432	1,409	25,012	161	150	57,072	57,383	82,395

^a Data are estimates for solar photovoltaic (PV) electricity generation at small-scale facilities (combined generator nameplate capacity less than 1 megawatt) connected to the electric power grid.

^b See "Photovoltaic Energy" and "Solar Thermal Energy" in Glossary.

^c Solar photovoltaic (PV) and solar thermal electricity net generation at utility-scale facilities (combined generator nameplate capacity of 1 megawatt or more).

^d Commercial combined-heat-and-power (CHP) and commercial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^e Industrial combined-heat-and-power (CHP) and industrial electricity-only plants. See Note 2, "Classification of Power Plants Into Energy-Use Sectors," at end of Section 7.

^f Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

NA=Not available. —=No data reported.

Notes: • Small-scale solar generation data for all years, and utility-scale solar

energy data for the current two years, are estimates. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#renewable> (Excel and CSV files) for all available annual and monthly data beginning in 1984.

Sources: • **Small-Scale Solar Generation: 1989–2013**—Calculated as small-scale solar energy consumption (see Table 10.5) divided by the heat content of electricity (see Table A6). **2014 forward**—U.S. Energy Information Administration (EIA), *Electric Power Monthly*, monthly reports, Tables 1.1, 1.2.C, 1.2.D, and 1.2.E. • **Utility-Scale Solar Generation: 1984–1988**—EIA, Form EIA-759, "Monthly Power Plant Report." **1989–1997**: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-867, "Annual Nonutility Power Producer Report." **1998–2000**: EIA, Form EIA-759, "Monthly Power Plant Report," and Form EIA-860B, "Annual Electric Generator Report—Nonutility." **2001–2003**: EIA, Form EIA-906, "Power Plant Report." **2004–2007**: EIA, Form EIA-906, "Power Plant Report," and Form EIA-920, "Combined Heat and Power Plant Report." **2008 forward**: EIA, Form EIA-923, "Power Plant Operations Report." • **Total**: Calculated as small-scale solar generation plus utility-scale solar generation.

Note. Renewable Energy Production and Consumption. In Tables 1.1, 1.3, and 10.1, renewable energy consumption consists of: conventional hydroelectricity net generation (converted to Btu by multiplying by the electricity heat content factor in Table A6); geothermal electricity net generation (converted to Btu by multiplying by the electricity heat content factor in Table A6), and geothermal heat pump and geothermal direct use energy; solar thermal and photovoltaic electricity net generation (converted to Btu by multiplying by the electricity heat content factor in Table A6), and solar thermal direct use energy; wind electricity net generation (converted to Btu by multiplying by the electricity heat content factor in Table A6); wood and wood-derived fuels consumption; biomass waste (municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass) consumption; fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels consumption; and losses and co-products from the production of fuel ethanol and biodiesel. In Tables 1.1, 1.2, and 10.1, renewable energy production is assumed to equal consumption for all renewable energy sources except wood and biofuels; plus wood production (which is the sum of wood consumption and densified biomass exports); plus biofuels production (which comprises fuel ethanol feedstock, biodiesel feedstock, renewable diesel fuel production, and other biofuels production).

Table 10.2a Sources

Residential Sector, Geothermal

1989–2011: Annual estimates by the U.S. Energy Information Administration (EIA) based on data from Oregon Institute of Technology, Geo-Heat Center.

2012 forward: Annual estimates assumed by EIA to be equal to that of 2011.

(For 1989 forward, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

Residential Sector, Solar

1989 forward: Residential sector solar consumption is the sum of the values for "Small-Scale Solar Energy Consumption: Heat" (which includes solar thermal direct use energy in the residential, commercial, and industrial sectors) from Table 10.5 and "Small-Scale Solar Energy Consumption: Electricity, Residential Sector" from Table 10.5.

Residential Sector, Wood

1949–1979: Annual estimates are from EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980–2008: Annual estimates are based on EIA, Form EIA-457, "Residential Energy Consumption Survey"; and National Oceanic and Atmospheric Administration regional heating degree-day data.

2009 forward: Annual estimates based on EIA, Form EIA-457, "Residential Energy Consumption Survey"; and residential wood consumption growth rates from EIA's *Annual Energy Outlook* data system.

(For 1973 forward, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

Residential Sector, Total Renewable Energy

1949–1988: Residential sector total renewable energy consumption is equal to residential sector wood consumption.

1989 forward: Residential sector total renewable energy consumption is the sum of the residential sector consumption values for geothermal, solar, and wood.

Commercial Sector, Hydroelectric Power

1989 forward: Commercial sector conventional hydroelectricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," and predecessor forms, are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Commercial Sector, Geothermal Heat Pump and Direct Use Energy

1989–2011: Annual estimates by EIA based on data from Oregon Institute of Technology, Geo-Heat Center.

2012 forward: Annual estimates assumed by EIA to be equal to that of 2011.

(For 1989 forward, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

Commercial Sector, Geothermal Electricity Net Generation

December 2018 forward: Commercial sector geothermal electricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Commercial Sector, Geothermal Total

1989–November 2018: Commercial sector geothermal total consumption is equal to commercial sector heat pump and direct use energy.

December 2018 forward: Commercial sector geothermal total consumption is the sum of the commercial sector values for geothermal heat pump and direct use energy, and geothermal electricity net generation.

Commercial Sector, Solar

1989 forward: Commercial sector solar consumption is the sum of the values for "Small-Scale Solar Energy Consumption: Electricity, Commercial Sector" from Table 10.5 and "Utility-Scale Solar Energy Consumption: Electricity, Commercial Sector" from Table 10.5.

Commercial Sector, Wind

2009 forward: Commercial sector wind electricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Commercial Sector, Wood

1949–1979: Annual estimates are from EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980–1983: Annual estimates are from EIA, *Estimates of U.S. Wood Energy Consumption 1980–1983*, Table ES1.

1984: Annual estimate assumed by EIA to be equal to that of 1983.

1985–1988: Annual estimates interpolated by EIA.

(For 1973–1988, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

1989 forward: Monthly/annual commercial sector combined-heat-and-power (CHP) wood consumption data are from EIA, Form EIA-923, "Power Plant Operations Report," and predecessor forms. For 1989–2013, annual estimates for commercial sector non-CHP wood consumption are based on EIA, Form EIA-871, "Commercial Buildings Energy Consumption Survey"; U.S. heating degree days (see MER Table 1.11); and estimates of growth in commercial floor space. For 2014 forward, annual estimates for commercial sector non-CHP wood consumption are assumed by EIA to be equal to that of 2013. For 1989 forward, monthly estimates for commercial sector non-CHP wood consumption are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. Commercial sector total wood consumption is the sum of commercial sector CHP and non-CHP wood consumption.

Commercial Sector, Biomass Waste

1989 forward: Table 7.4c.

Commercial Sector, Fuel Ethanol (Minus Denaturant)

1981 forward: The commercial sector share of motor gasoline consumption is equal to commercial sector motor gasoline consumption from Table 3.7a divided by motor gasoline product supplied from Table 3.5. Commercial sector fuel ethanol (minus denaturant) consumption is equal to fuel ethanol (minus denaturant) consumption from Table 10.3

multiplied by the commercial sector share of motor gasoline consumption. Note that there is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors; beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

Commercial Sector, Total Biomass

1949–1980: Commercial sector total biomass consumption is equal to commercial sector wood consumption.

1981–1988: Commercial sector total biomass consumption is the sum of the commercial sector consumption values for wood and fuel ethanol (minus denaturant).

1989 forward: Commercial sector total biomass consumption is the sum of the commercial sector consumption values for wood, waste, and fuel ethanol (minus denaturant).

Commercial Sector, Total Renewable Energy

1949–1988: Commercial sector total renewable energy consumption is equal to commercial sector total biomass consumption.

1989–2007: Commercial sector total renewable energy consumption is the sum of the commercial sector consumption values for conventional hydroelectric power, geothermal, and total biomass.

2008: Commercial sector total renewable energy consumption is the sum of the commercial sector consumption values for conventional hydroelectric power, geothermal, solar, and total biomass.

2009 forward: Commercial sector total renewable energy is the sum of the commercial sector consumption values for conventional hydroelectric power, geothermal, solar, wind, and total biomass.

Table 10.2b Sources

Industrial Sector, Hydroelectric Power

1949 forward: Industrial sector conventional hydroelectricity net generation data from Table 7.2c are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Industrial Sector, Geothermal

1989–2009: Annual estimates by the U.S. Energy Information Administration (EIA) based on data from Oregon Institute of Technology, Geo-Heat Center.

2010 forward: Annual estimates assumed by EIA to be equal to that of 2009.

(For 1989 forward, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

Industrial Sector, Solar

1989 forward: Industrial sector solar consumption is the sum of the values for "Small-Scale Solar Energy Consumption: Electricity, Industrial Sector" from Table 10.5 and "Utility-Scale Solar Energy Consumption: Electricity, Industrial Sector" from Table 10.6.

Industrial Sector, Wind

2011 forward: Industrial sector wind electricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Industrial Sector, Wood

1949–1979: Annual estimates are from EIA, *Estimates of U.S. Wood Energy Consumption from 1949 to 1981*, Table A2.

1980–1983: Annual estimates are from EIA, *Estimates of U.S. Wood Energy Consumption 1980–1983*, Table ES1.

1984: Annual estimate is from EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 1.

1985 and 1986: Annual estimates interpolated by EIA.

1987: Annual estimate is from EIA, *Estimates of Biofuels Consumption in the United States During 1987*, Table 2.

1988: Annual estimate interpolated by EIA.

(For 1973–1988, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

1989 forward: Monthly/annual industrial sector combined-heat-and-power (CHP) wood consumption data are from EIA, Form EIA-923, "Power Plant Operations Report," and predecessor forms. Annual estimates for industrial sector non-CHP wood consumption are based on EIA, Form EIA-846, "Manufacturing Energy Consumption Survey" (for 2023 forward, the annual estimates are assumed by EIA to be equal to that of 2022). For 1989 forward, monthly estimates for industrial sector non-CHP wood consumption are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. Industrial sector total wood consumption is the sum of industrial sector CHP and non-CHP wood consumption.

Industrial Sector, Biomass Waste

1981: Annual estimate is calculated as total waste consumption (from EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8) minus electric power sector waste consumption (from MER, Table 10.2c).

1982 and 1983: Annual estimates are calculated as total waste consumption (based on *Estimates of U.S. Biofuels Consumption 1990*, Table 8) minus electric power sector waste consumption (from MER, Table 10.2c).

1984: Annual estimate is calculated as total waste consumption (from EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8) minus electric power sector waste consumption (from MER, Table 10.2c).

1985 and 1986: Annual estimates interpolated by EIA.

1987: Annual estimate is calculated as total waste consumption (from EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 8) minus electric power sector waste consumption (from MER, Table 10.2c).

1988: Annual estimate interpolated by EIA.

(For 1973–1988, monthly estimates are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month.)

1989 forward: Monthly/annual industrial sector combined-heat-and-power (CHP) consumption data are from Table 7.4c. Annual estimates for industrial sector non-CHP waste consumption are based on information presented in Government Advisory Associates, *Resource Recovery Yearbook* and *Methane Recovery Yearbook*, and information provided by the U.S. Environmental Protection Agency, Landfill Methane Outreach Program (for 2014 forward, the annual estimates are assumed by EIA to be equal to that of 2013). For 1989 forward, monthly estimates for industrial sector non-CHP waste consumption are created by dividing the annual estimates by the number of days in the year and then multiplying by the number of days in the month. Industrial sector total waste consumption is the sum of industrial sector CHP and non-CHP waste consumption.

Industrial Sector, Fuel Ethanol (Minus Denaturant)

1981 forward: The industrial sector share of motor gasoline consumption is equal to industrial sector motor gasoline consumption from Table 3.7b divided by motor gasoline product supplied from Table 3.5. Industrial sector fuel ethanol (minus denaturant) consumption is equal to fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the industrial sector share of motor gasoline consumption. Note that there is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors; beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

Industrial Sector, Biomass Losses and Co-products

1981 forward: Calculated as fuel ethanol losses and co-products from Table 10.3 plus biodiesel losses and co-products from Table 10.4a.

Industrial Sector, Total Biomass

1949–1980: Industrial sector total biomass consumption is equal to industrial sector wood consumption.

1981 forward: Industrial sector total biomass consumption is the sum of the industrial sector consumption values for wood, waste, fuel ethanol (minus denaturant), and biomass losses and co-products.

Industrial Sector, Total Renewable Energy

1949–1988: Industrial sector total renewable energy consumption is the sum of the industrial sector consumption values for conventional hydroelectric power and total biomass.

1989–2009: Industrial sector total renewable energy consumption is the sum of the industrial sector consumption values for conventional hydroelectric power, geothermal, and total biomass.

2010: Industrial sector total renewable energy consumption is the sum of the industrial sector consumption values for conventional hydroelectric power, geothermal, solar, and total biomass.

2011 forward: Industrial sector total renewable energy consumption is the sum of the industrial sector consumption values for conventional hydroelectric power, geothermal, solar, wind, and total biomass.

Table 10.2c Sources

Transportation Sector, Fuel Ethanol (Minus Denaturant)

1981 forward: The transportation sector share of motor gasoline consumption is equal to transportation sector motor gasoline consumption from Table 3.7c divided by motor gasoline product supplied from Table 3.5. Transportation sector fuel ethanol (minus denaturant) consumption is equal to fuel ethanol (minus denaturant) consumption from Table 10.3 multiplied by the transportation sector share of motor gasoline consumption. Note that there is a discontinuity in this time series between 2014 and 2015 due to a change in the method for allocating motor gasoline consumption to the end-use sectors; beginning in 2015, the commercial and industrial sector shares of fuel ethanol consumption are larger than in 2014, while the transportation sector share is smaller.

Transportation Sector, Biodiesel

2001 forward: Transportation sector biodiesel consumption is assumed to equal total biodiesel consumption from Table 10.4a.

Transportation Sector, Renewable Diesel Fuel

2011 forward: Transportation sector renewable diesel fuel consumption is assumed to equal total renewable diesel fuel consumption from Table 10.4b.

Transportation Sector, Other Biofuels

2014 forward: Transportation sector other biofuels consumption is assumed to equal total other biofuels consumption from Table 10.4c.

Transportation Sector, Total Renewable Energy

1981–2000: Transportation sector total renewable energy consumption is equal to transportation sector fuel ethanol (minus denaturant) consumption.

2001–2010: Transportation sector total renewable energy consumption is the sum of the transportation sector consumption values for fuel ethanol (minus denaturant) and biodiesel.

2011–2013: Transportation sector total renewable energy consumption is the sum of the transportation sector consumption values for fuel ethanol (minus denaturant), biodiesel, and renewable diesel fuel.

2014 forward: Transportation sector total renewable energy consumption is the sum of the transportation sector consumption values for fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels.

Electric Power Sector, Hydroelectric Power

1949 forward: Electric power sector conventional hydroelectricity net generation data from Table 7.2b are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Electric Power Sector, Geothermal

1960 forward: Electric power sector geothermal electricity net generation data from Table 7.2b are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Electric Power Sector, Solar

1984 forward: Electric power sector solar electricity net generation data from Table 7.2b are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Electric Power Sector, Wind

1983 forward: Electric power sector wind electricity net generation data from Table 7.2b are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Electric Power Sector, Wood

1949 forward: Table 7.4b.

Electric Power Sector, Biomass Waste

1970 forward: Table 7.4b.

Electric Power Sector, Total Biomass

1949–1969: Electric power sector total biomass consumption is equal to electric power sector wood consumption.

1970 forward: Electric power sector total biomass consumption is the sum of the electric power sector consumption values for wood and biomass waste.

Electric Power Sector, Total Renewable Energy

1949–1959: Electric power sector total renewable energy consumption is the sum of the electric power sector consumption values for hydroelectric power and total biomass.

1960–1982: Electric power sector total renewable energy consumption is the sum of the electric power sector consumption values for hydroelectric power, geothermal, and total biomass.

1983: Electric power sector total renewable energy consumption is the sum of the electric power sector consumption values for hydroelectric power, geothermal, wind, and total biomass.

1984 forward: Electric power sector total renewable energy consumption is the sum of the electric power sector consumption values for hydroelectric power, geothermal, solar, wind, and total biomass.

Table 10.3 Sources

Feedstock

1981 forward: Calculated as fuel ethanol production (in thousand barrels) minus denaturant, and then multiplied by the fuel ethanol feedstock factor—see Table A3.

Losses and Co-products

1981 forward: Calculated as fuel ethanol feedstock plus denaturant minus fuel ethanol production.

Denaturant

1981–2008: Data in thousand barrels for petroleum denaturant in fuel ethanol produced are estimated as 2% of fuel ethanol production; these data are converted to Btu by multiplying by 4.661 million Btu per barrel (the estimated quantity-weighted factor of natural gasoline and conventional motor gasoline used as denaturant).

2009–2020: U.S. Energy Information Administration (EIA), *Petroleum Supply Annual* (PSA), annual reports, Table 1. Data in thousand barrels for net production of natural gasoline at “renewable fuels and oxygenate plants” are multiplied by -1; these data are converted to Btu by multiplying by 4.638 million Btu per barrel (the approximate heat content of natural gasoline). Data in thousand barrels for net production of conventional motor gasoline and motor gasoline blending components at “renewable fuels and oxygenate plants” are multiplied by -1; these data are converted to Btu by multiplying by 5.222 million Btu per barrel (the approximate heat content of motor gasoline blending components). Total denaturant is the sum of the values for natural gasoline, conventional motor gasoline, and motor gasoline blending components.

2021–2024: EIA, PSA, annual reports. Data in thousand barrels for net production of natural gasoline at biofuels plants are multiplied by -1; these data are converted to Btu by multiplying by 4.638 million Btu per barrel (the approximate heat content of natural gasoline). Data in thousand barrels for net production of conventional motor gasoline and motor gasoline blending components at biofuels plants are multiplied by -1; these data are converted to Btu by multiplying by 5.222 million Btu per barrel (the approximate heat content of motor gasoline blending components). Total denaturant is the sum of the values for natural gasoline, conventional motor gasoline, and motor gasoline blending components.

2025 and 2026: EIA, *Petroleum Supply Monthly* (PSM), monthly reports. Data in thousand barrels for net production of natural gasoline at biofuels plants are multiplied by -1; these data are converted to Btu by multiplying by 4.638 million Btu per barrel (the approximate heat content of natural gasoline). Data in thousand barrels for net production of conventional motor gasoline and motor gasoline blending components at biofuels plants are multiplied by -1; these data are converted to Btu by multiplying by 5.222 million Btu per barrel (the approximate heat content of motor gasoline blending components). Total denaturant is the sum of the values for natural gasoline, conventional motor gasoline, and motor gasoline blending components.

Production

1981–1992: Fuel ethanol production is assumed to equal fuel ethanol consumption—see sources for “Consumption.”

1993–2004: Calculated as fuel ethanol consumption plus fuel ethanol stock change minus fuel ethanol net imports. These data differ slightly from the original production data from EIA, Form EIA-819, “Monthly Oxygenate Report,” and predecessor form, which were not reconciled and updated to be consistent with the final balance.

2005–2008: EIA, Form EIA-819, “Monthly Oxygenate Report.”

2009–2020: EIA, PSA, annual reports, Table 1, data for net production of fuel ethanol at “renewable fuels and oxygenate plants.”

2021–2024: EIA, PSA, annual reports, data for net production of fuel ethanol at biofuels plants.

2025 and 2026: EIA, PSM, monthly reports, data for net production of fuel ethanol at biofuels plants.

Trade, Stocks, and Stock Change

1992–2024: EIA, PSA, annual reports.

2025 and 2026: EIA, PSM, monthly reports.

Consumption

1981–1989: EIA, *Estimates of U.S. Biofuels Consumption 1990*, Table 10; and interpolated values for 1982, 1983, 1985, 1986, and 1988.

1990–1992: EIA, *Estimates of U.S. Biomass Energy Consumption 1992*, Table D2; and interpolated value for 1991.

1993–2004: EIA, PSA, annual reports, Tables 2 and 16. Calculated as 10% of oxygenated finished motor gasoline field production (Table 2), plus fuel ethanol refinery input (Table 16).

2005–2008: EIA, PSA, annual reports, Tables 1 and 15. Calculated as motor gasoline blending components adjustments (Table 1), plus finished motor gasoline adjustments (Table 1), plus fuel ethanol refinery and blender net inputs (Table 15).

2009–2024: EIA, PSA, annual reports. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments.

2025 and 2026: EIA, PSM, monthly reports. Calculated as fuel ethanol refinery and blender net inputs minus fuel ethanol adjustments.

Consumption Minus Denaturant

1981 forward: Calculated as fuel ethanol consumption minus the amount of denaturant in fuel ethanol consumed. Denaturant in fuel ethanol consumed is estimated by multiplying denaturant in fuel ethanol produced by the fuel ethanol consumption-to-production ratio.

Table 10.4a Sources

Biodiesel Feedstock

2001 forward: Calculated as biodiesel production in thousand barrels multiplied by 5.433 million Btu per barrel (the biodiesel feedstock factor—see "Biodiesel Feedstock" entry in the "Thermal Conversion Factor Source Documentation" at the end of Appendix A).

Biodiesel Losses and Co-products

2001 forward: Calculated as biodiesel feedstock minus biodiesel production.

Biodiesel Production

2001–2005: U.S. Department of Agriculture, Commodity Credit Corporation, Bioenergy Program records. Annual data are derived from quarterly data. Monthly data are estimated by dividing the annual data by the number of days in the year and then multiplying by the number of days in the month.

2006: U.S. Department of Commerce, U.S. Census Bureau, "M311K—Fats and Oils: Production, Consumption, and Stocks," data for soybean oil consumed in methyl esters (biodiesel). In addition, the U.S. Energy Information Administration (EIA) estimates that 14.4 million gallons of yellow grease were consumed in methyl esters (biodiesel).

2007: U.S. Department of Commerce, U.S. Census Bureau, "M311K—Fats and Oils: Production, Consumption, and Stocks," data for all fats and oils consumed in methyl esters (biodiesel).

2008: EIA, *Monthly Biodiesel Production Report*, December 2009 (release date October 2010), Table 11. Monthly data for 2008 are estimated based on U.S. Department of Commerce, U.S. Census Bureau, M311K data, multiplied by the EIA 2008 annual value's share of the M311K 2008 annual value.

2009 and 2010: EIA, *Monthly Biodiesel Production Report*, monthly reports, Table 1.

2011–2020: EIA, *Petroleum Supply Annual* (PSA), annual reports, Table 1, data for "renewable fuels except fuel ethanol."

2021–2024: EIA, PSA, annual reports, data for biodiesel.

2025 and 2026: EIA, *Petroleum Supply Monthly* (PSM), monthly reports, data for biodiesel.

Biodiesel Trade

2001–2011: For imports, U.S. Department of Agriculture, data for the following Harmonized Tariff Schedule codes: 3824.90.40.20, "Fatty Esters Animal/Vegetable Mixture" (data through June 2010); and 3824.90.40.30, "Biodiesel/Mixes" (data for July 2010–2011). For exports, U.S. Department of Agriculture, data for the following Schedule B codes: 3824.90.40.00, "Fatty Substances Animal/Vegetable/Mixture" (data through 2010); and 3824.90.40.30, "Biodiesel <70%" (data for 2011). (The data above are converted from pounds to gallons by dividing by 7.4.) Although these categories include products other than biodiesel (such as biodiesel coprocessed with petroleum feedstocks; and products destined for soaps, cosmetics, and other items), biodiesel is the largest component. In the absence of other reliable data for biodiesel trade, EIA sees these data as good substitutes.

2012–2018: EIA, PSA, annual reports, Tables 25 and 31, data for "biomass-based diesel fuel."

2019–2020: EIA, PSA, annual reports, Tables 25 and 31, data for biodiesel.

2021–2024: EIA, PSA, annual reports, data for biodiesel.

2025 and 2026: EIA, PSM, monthly reports, data for biodiesel.

Biodiesel Stocks and Stock Change

2009–2018: EIA, Form EIA-22M, "Monthly Biodiesel Production Survey," data for biodiesel; and Form EIA-810, "Monthly Refinery Report," Form EIA-812, "Monthly Product Pipeline Report," and Form EIA-815, "Monthly Bulk Terminal and Blender Report," data for "biomass-based diesel fuel."

2019–September 2020: EIA, Form EIA-22M, "Monthly Biodiesel Production Survey," Form EIA-810, "Monthly Refinery Report," and Form EIA-815, "Monthly Bulk Terminal and Blender Report," data for biodiesel.

October 2020–December 2020: EIA, Form EIA-810, "Monthly Refinery Report," Form EIA-815, "Monthly Bulk Terminal and Blender Report," and Form EIA-819, "Monthly Report of Biofuels, Fuels from Non-Biogenic Wastes, Fuel Oxygenates, Isooctane, and Isooctene," data for biodiesel.

2021–2024: EIA, PSA, annual reports, data for biodiesel.

2025 and 2026: EIA, PSM, monthly reports, data for biodiesel.

Biodiesel Consumption

2001–2008: Calculated as biodiesel production plus biodiesel net imports.

January and February 2009: EIA, PSA, Table 1, data for refinery and blender net inputs of "renewable fuels except fuel ethanol."

March 2009 forward: Calculated as biodiesel production plus biodiesel net imports minus biodiesel stock change.

Table 10.4b Sources

Renewable Diesel Fuel Production

2011–2020: U.S. Environmental Protection Agency, "RINs Generated Transactions—Generation Summary Report," updated on September 10, 2021. Data are for volumes (in gallons); for "domestic" producer type; for fuel "non-ester renewable diesel."

2021–2024: EIA, PSA, annual reports, data for renewable diesel fuel.

2025 and 2026: EIA, PSM, monthly reports, data for renewable diesel fuel.

Renewable Diesel Fuel Trade

2012–2020: EIA, PSA, annual reports, Table 25, data for "other renewable diesel fuel."

2021–2024: EIA, PSA, annual reports, data for renewable diesel fuel.

2025 and 2026: EIA, PSM, monthly reports, data for renewable diesel fuel.

Renewable Diesel Fuel Stocks and Stock Change

2011–2020: EIA, Form EIA-810, "Monthly Refinery Report," and Form EIA-815, "Monthly Bulk Terminal and Blender Report," data for "other renewable diesel fuel."

2021–2024: EIA, PSA, annual reports, data for renewable diesel fuel.

2025 and 2026: EIA, PSM, monthly reports, data for renewable diesel fuel.

Renewable Diesel Fuel Consumption

2011–2024: Calculated as renewable diesel fuel production plus renewable diesel fuel imports minus renewable diesel fuel stock change.

2025 and 2026: Calculated as renewable diesel fuel production plus renewable diesel fuel net imports minus renewable diesel fuel stock change.

Table 10.4c Sources

Other Biofuels Production

2014–2020: U.S. Environmental Protection Agency, “RINs Generated Transactions—Generation Summary Report,” updated on September 10, 2021. Data are for volumes (in gallons); for “domestic” producer type; for fuels “renewable heating oil,” “renewable jet fuel,” “naphtha,” “LPG,” “butanol,” “cellulosic diesel,” and “cellulosic renewable gasoline blendstock.”

2021–2024: EIA, PSA, annual reports, data for other biofuels.

2025 and 2026: EIA, PSM, monthly reports, data for other biofuels.

Other Biofuels Trade

2014–2020: EIA, PSA, annual reports, Table 25, data for “other renewable fuels.”

2021–2024: EIA, PSA, annual reports, data for other biofuels.

2025 and 2026: EIA, PSM, monthly reports, data for other biofuels.

Other Biofuels Stocks and Stock Change

2014–2020: EIA, Form EIA-810, “Monthly Refinery Report,” and Form EIA-815, “Monthly Bulk Terminal and Blender Report,” data for “other renewable fuels.”

2021–2024: EIA, PSA, annual reports, data for other biofuels.

2025 and 2026: EIA, PSM, monthly reports, data for other biofuels.

Other Biofuels Consumption

2014–2024: Calculated as other biofuels production plus other biofuels imports minus other biofuels stock change.

2025 and 2026: Calculated as other biofuels production plus other biofuels net imports minus other biofuels stock change.

Table 10.5 Sources

Small-Scale Solar Energy Consumption: Heat

Annual Data

1989–2009: Annual estimates by the U.S. Energy Information Administration (EIA) based on EIA, Form EIA-63A, “Annual Solar Thermal Collector/Reflector Shipments Report.” Solar energy consumption by solar thermal non-electric applications (mainly in the residential sector, but with some in the commercial and industrial sectors) is based on assumptions about the stock of equipment in place and other factors.

2010 forward: Annual estimates based on residential solar hot water heating and commercial solar thermal growth rates from EIA’s *Annual Energy Outlook* (AEO) data system.

Monthly Data

1989–2013: Monthly estimates for each year are obtained by allocating a given year’s annual value to the months in that year. Each month’s allocator is the average of that month’s “Small-Scale Solar Energy Consumption: Electricity, Total” values in 2014 and 2015. The allocators, when rounded, are as follows: January—5%; February—6%; March—8%; April—9%; May—10%; June—10%; July—10%; August—10%; September—9%; October—9%; November—7%; and December—7%.

2014 forward: Once all 12 months of "Small-Scale Solar Energy Consumption: Electricity, Total" data are available for a given year, they are used as allocators and applied to the annual estimate in order to derive monthly estimates for that year. Initial monthly estimates for the current year use the previous year's allocators.

Small-Scale Solar Energy Consumption: Electricity, Residential Sector

Beginning in 2014, monthly and annual data for residential sector small-scale solar photovoltaic generation are from EIA, *Electric Power Monthly*, Table 1.2.E. Those data are converted to consumption data in Btu by multiplying by the electricity heat content factor in MER Table A6.

Backcasts for earlier periods are developed as follows:

Annual Data

1989–2003: Annual growth rates are calculated based on small-scale solar electricity consumption in all sectors. Consumption is estimated using information on shipments of solar panels from EIA, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report," and assumptions about the stock of equipment in place and other factors. The growth rates are applied to more recent data to create historical annual estimates.

2004–2008: Annual growth rates based on commercial sector solar photovoltaic growth rates from EIA's *Annual Energy Outlook* (AEO) data system are applied to more recent data to create historical annual estimates.

2009–2013: Annual growth rates based on residential sector solar photovoltaic growth rates from EIA's *Annual Energy Outlook* (AEO) data system are applied to more recent data to create historical annual estimates.

Monthly Data

1989–2013: See "Small-Scale Solar Energy Consumption: Heat, Monthly Data."

Small-Scale Solar Energy Consumption: Electricity, Commercial Sector

Beginning in 2014, monthly and annual data for commercial sector small-scale solar photovoltaic generation are from EIA, *Electric Power Monthly*, Table 1.2.C. Those data are converted to consumption data in Btu by multiplying by the electricity heat content factor in MER Table A6.

Backcasts for earlier periods are developed as follows:

Annual Data

1989–2003: Annual growth rates based on EIA, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report," are applied to more recent data to create historical annual estimates. (See "Small-Scale Solar Energy Consumption: Electricity, Residential Sector" sources above for details.)

2004–2013: Annual growth rates based on commercial sector solar photovoltaic growth rates from EIA's *Annual Energy Outlook* (AEO) data system are applied to more recent data to create historical annual estimates.

Monthly Data

1989–2013: See "Small-Scale Solar Energy Consumption: Heat, Monthly Data."

Small-Scale Solar Energy Consumption: Electricity, Industrial Sector

Beginning in 2014, monthly and annual data for industrial sector small-scale solar photovoltaic generation are from EIA, *Electric Power Monthly*, Table 1.2.D. Those data are converted to consumption data in Btu by multiplying by the electricity heat content factor in MER Table A6.

Backcasts for earlier periods are developed as follows:

Annual Data

1989–2003: Annual growth rates based on EIA, Form EIA-63B, "Annual Photovoltaic Cell/Module Shipments Report," are applied to more recent data to create historical annual estimates. (See "Small-Scale Solar Energy Consumption: Electricity, Residential Sector" sources above for details.)

2004–2013: Annual growth rates based on commercial sector solar photovoltaic growth rates from EIA's *Annual Energy Outlook* (AEO) data system are applied to more recent data to create historical annual estimates.

Monthly Data

1989–2013: See "Small-Scale Solar Energy Consumption: Heat, Monthly Data."

Small-Scale Solar Energy Consumption: Electricity, Total

1989 forward: Small-scale solar energy consumption for total electricity is the sum of the small-scale solar energy consumption (for electricity) values for the residential, commercial, and industrial sectors.

Small-Scale Solar Energy Consumption: Total

1989 forward: Small-scale solar energy consumption total is the sum of small-scale solar energy consumption values for heat and total electricity.

Utility-Scale Solar Energy Consumption: Electricity, Commercial Sector

2008 forward: Commercial sector solar photovoltaic and solar thermal electricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Utility-Scale Solar Energy Consumption: Electricity, Industrial Sector

2010 forward: Industrial sector solar photovoltaic and solar thermal electricity net generation data from EIA, Form EIA-923, "Power Plant Operations Report," are converted to Btu by multiplying by the electricity heat content factor in Table A6.

Utility-Scale Solar Energy Consumption: Electricity, Electric Power Sector

1984 forward: Electric power sector solar photovoltaic and solar thermal electricity net generation data from Table 7.2b are converted to Btu by multiplying the electricity heat content factor in Table A6.

Utility-Scale Solar Energy Consumption: Electricity, Total

1984 forward: Utility-scale solar energy consumption for total electricity is the sum of the utility-scale solar energy consumption (for electricity) values for the commercial, industrial, and electric power sectors.

Solar Energy Consumption: Total

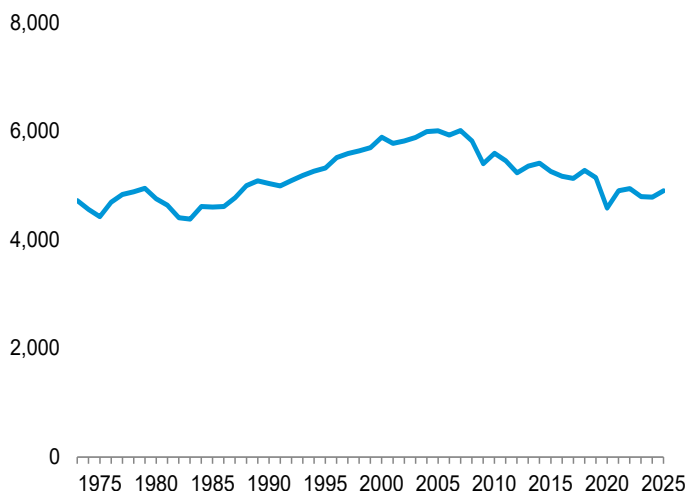
1984 forward: Total solar energy consumption is the sum of the values for total small-scale solar energy consumption and total utility-scale solar energy consumption.

11. Environment

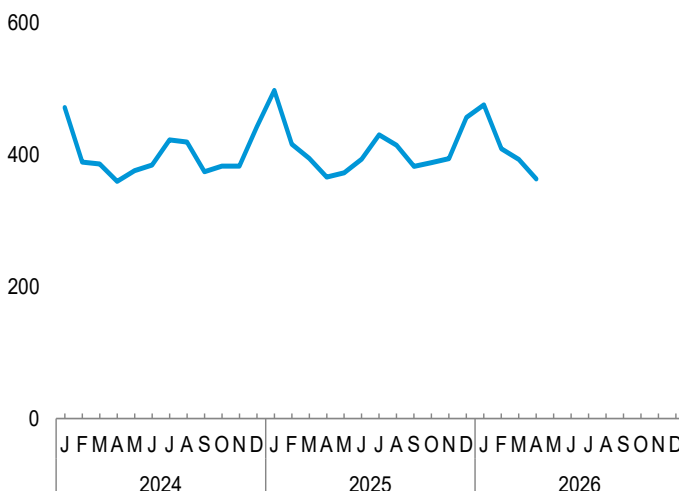
Figure 11.1 Carbon Dioxide Emissions From Energy Consumption by Source

(Million Metric Tons of Carbon Dioxide)

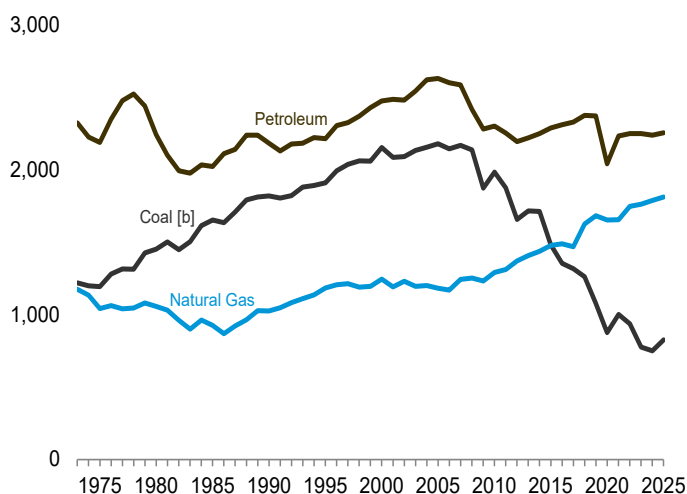
Total [a], 1973–2025



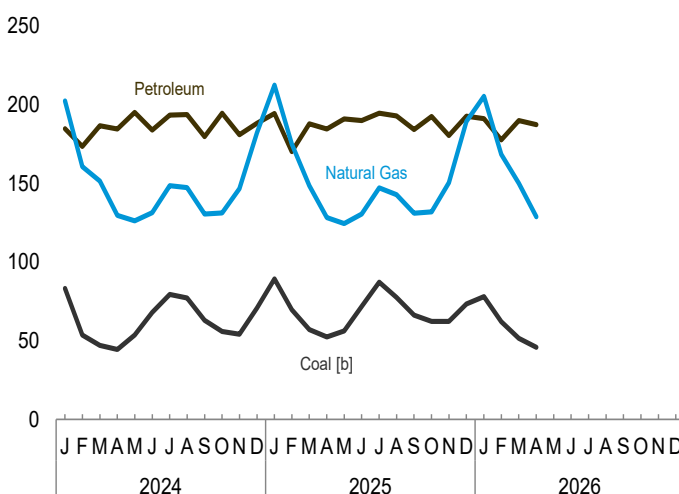
Total [a], Monthly



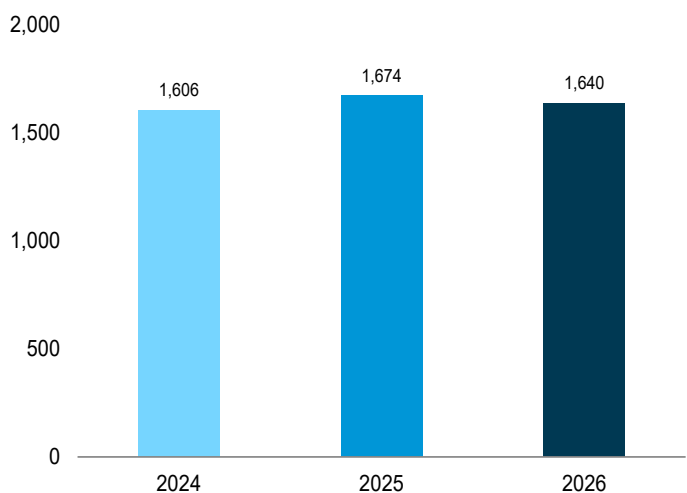
By Major Source, 1973–2025



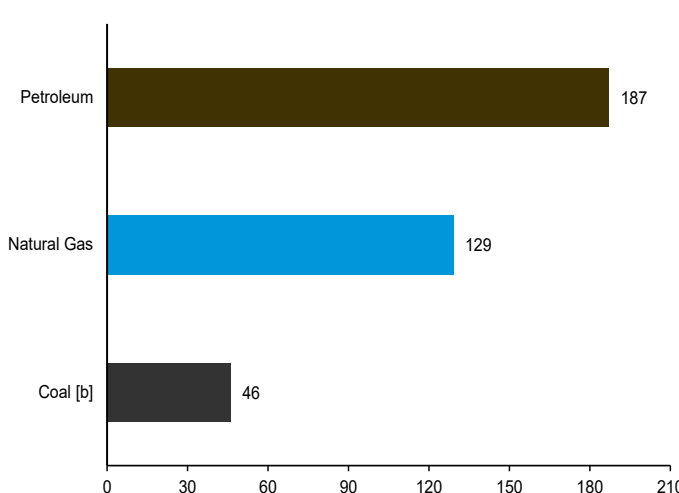
By Major Source, Monthly



Total [a], January–April



By Major Source, April 2026



[a] Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from “other biofuels.”

[b] Includes coal coke net imports.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#environment>.
Source: Table 11.1.

Table 11.1 Carbon Dioxide Emissions From Energy Consumption by Source
(Million Metric Tons of Carbon Dioxide^a)

	Coal ^b	Natural Gas ^c	Petroleum										Total	Total ^{h,i}
			Aviation Gasoline	Distillate Fuel Oil ^d	HGL ^e	Jet Fuel	Kero-sene	Lubri-cants	Motor Gasoline ^f	Petroleum Coke	Residual Fuel Oil	Other ^g		
1973 Total	1,221	1,175	6	485	80	154	33	13	911	55	486	102	2,325	4,721
1975 Total	1,195	1,043	5	447	73	146	24	11	911	52	424	97	2,190	4,428
1980 Total	1,454	1,058	4	451	78	156	24	13	901	50	433	134	2,244	4,757
1985 Total	1,655	927	3	450	82	178	17	12	933	56	207	86	2,024	4,606
1990 Total	1,820	1,027	3	475	75	223	6	13	988	72	212	119	2,185	5,038
1995 Total	1,912	1,186	3	504	90	222	8	13	1,042	78	147	111	2,217	5,325
2000 Total	2,155	1,246	3	592	106	259	10	14	1,141	85	157	111	2,477	5,889
2005 Total	2,180	1,183	2	653	92	251	11	12	1,205	110	159	140	2,633	6,008
2010 Total	1,986	1,292	2	591	84	214	3	11	1,107	81	92	119	2,304	5,594
2011 Total	1,876	1,312	2	600	79	213	2	10	1,074	78	79	118	2,255	5,455
2012 Total	1,658	1,372	2	577	76	210	1	9	1,066	78	64	114	2,195	5,236
2013 Total	1,718	1,408	2	581	85	214	1	10	1,077	77	55	120	2,221	5,359
2014 Total	1,713	1,438	2	614	86	220	1	10	1,085	77	44	112	2,252	5,414
2015 Total	1,482	1,479	1	606	86	231	1	11	1,114	77	45	116	2,290	5,262
2016 Total	1,355	1,490	1	583	83	242	1	11	1,134	77	56	124	2,312	5,169
2017 Total	1,318	1,471	1	591	86	251	1	10	1,131	71	59	130	2,332	5,131
2018 Total	1,263	1,627	2	626	98	255	1	10	1,131	73	55	127	2,377	5,278
2019 Total	1,078	1,685	2	621	107	261	1	9	1,128	67	47	131	2,374	5,147
2020 Total	876	1,655	1	572	105	161	1	8	977	58	36	123	2,044	4,585
2021 Total	1,003	1,656	1	611	111	205	1	9	1,067	60	54	116	2,235	4,906
2022 Total	938	1,748	2	619	97	233	1	9	1,065	58	57	111	2,251	4,945
2023 Total	776	1,764	1	602	96	247	2	7	1,081	57	47	110	2,251	4,799
2024 January	83	203	(s)	50	12	19	(s)	1	85	4	4	9	185	472
February	54	161	(s)	48	9	18	(s)	(s)	83	3	4	8	174	389
March	47	152	(s)	48	9	21	(s)	1	92	3	4	9	187	386
April	44	130	(s)	48	7	21	(s)	1	88	6	5	9	185	359
May	54	126	(s)	49	7	22	(s)	1	96	6	4	10	195	376
June	68	131	(s)	46	6	22	(s)	1	92	4	4	9	184	384
July	79	149	(s)	48	6	23	(s)	1	96	6	4	9	194	422
August	77	147	(s)	51	7	23	(s)	1	95	4	4	10	194	419
September	63	131	(s)	47	7	21	(s)	1	89	4	3	9	180	374
October	56	131	(s)	54	8	22	(s)	1	93	4	5	9	195	383
November	54	147	(s)	47	9	21	(s)	(s)	88	4	4	9	181	383
December	71	182	(s)	49	11	22	(s)	(s)	90	3	4	9	188	442
Total	751	1,790	2	585	98	253	1	6	1,088	51	51	107	2,241	4,789
2025 January	89	213	(s)	53	13	21	(s)	(s)	87	6	5	9	195	497
February	70	175	(s)	47	10	18	(s)	(s)	80	2	4	8	170	416
March	57	149	(s)	51	9	21	(s)	(s)	90	3	4	9	188	394
April	52	128	(s)	49	7	22	(s)	1	88	5	4	8	185	366
May	56	125	(s)	50	7	22	(s)	1	93	6	3	9	191	373
June	72	131	(s)	50	6	23	(s)	1	92	5	4	9	190	393
July	87	147	(s)	50	7	23	(s)	1	94	5	5	10	195	430
August	78	143	(s)	49	7	23	(s)	1	95	4	4	10	193	414
September	66	131	(s)	49	7	20	(s)	1	89	3	5	9	184	382
October	62	132	(s)	53	8	23	(s)	1	91	4	5	9	193	388
November	62	151	(s)	48	9	21	(s)	1	86	2	5	8	181	394
December	73	190	(s)	50	11	22	(s)	1	90	4	6	9	193	456
Total	826	1,814	2	601	101	258	2	7	1,075	51	54	107	2,257	4,904
2026 January	78	205	(s)	53	13	21	(s)	1	85	5	4	9	191	R 476
February	62	169	(s)	50	10	19	(s)	1	80	5	5	8	178	R 409
March	52	150	(s)	51	8	21	(s)	1	91	5	4	9	190	393
April	46	129	(s)	49	7	22	(s)	1	91	3	5	9	187	363
4-Month Total	238	653	(s)	203	38	83	1	3	346	18	19	35	747	1,640
2025 4-Month Total	269	665	(s)	201	39	81	1	2	346	17	18	34	738	1,674
2024 4-Month Total	229	645	(s)	194	37	79	1	2	349	16	17	34	730	1,606

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Includes coal coke net imports.

^c Natural gas, excluding supplemental gaseous fuels.

^d Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^e Hydrocarbon gas liquids.

^f Finished motor gasoline, excluding fuel ethanol.

^g Aviation gasoline blending components, crude oil, motor gasoline blending components, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.

^h Includes electric power sector use of geothermal energy and non-biomass waste. See Table 11.6.

ⁱ Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

R=Revised. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, plus the relatively small amount of emissions from the non-combustion use of fossil fuels. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

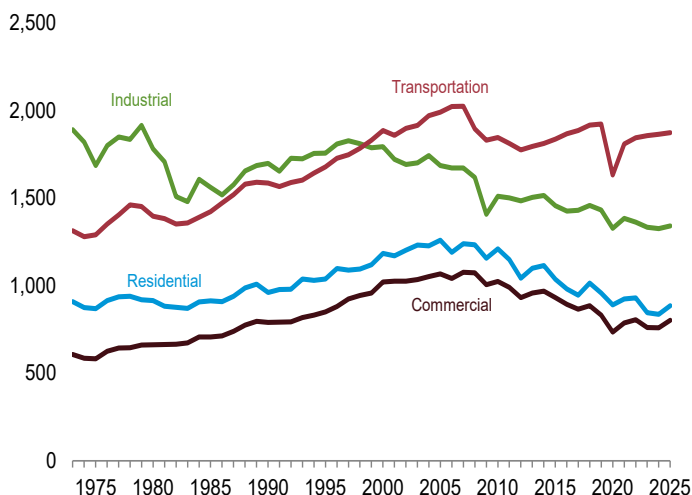
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

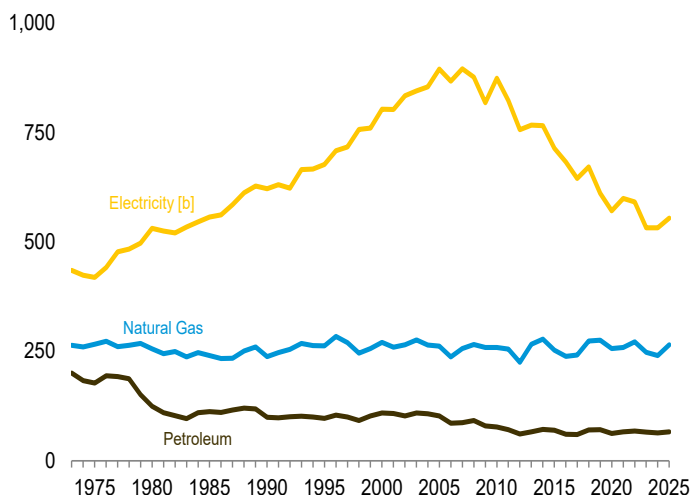
Figure 11.2 Carbon Dioxide Emissions From Energy Consumption by Sector

(Million Metric Tons of Carbon Dioxide)

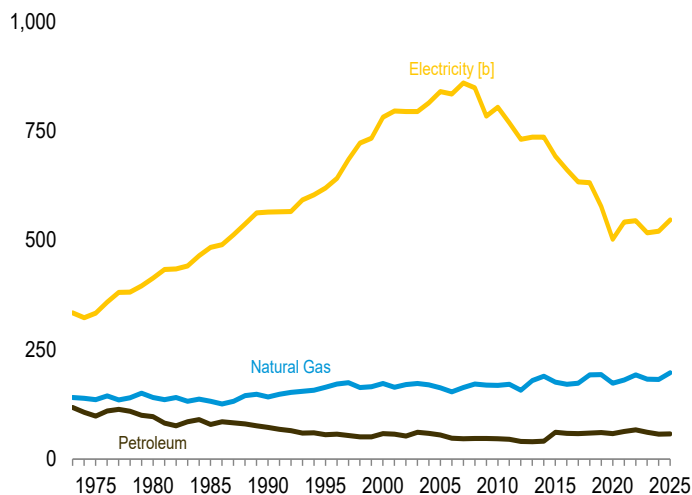
Total [a] by End-Use Sector [b], 1973–2025



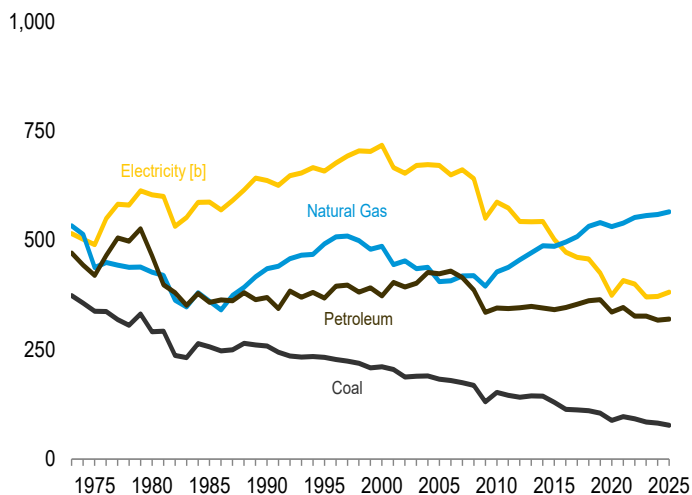
Residential Sector by Major Source, 1973–2025



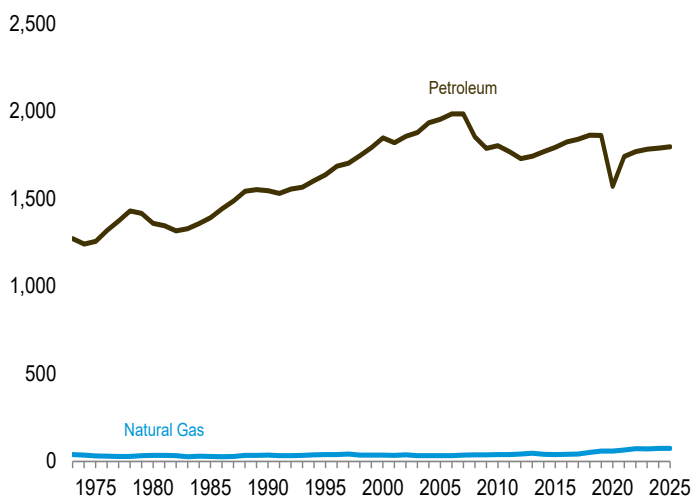
Commercial Sector by Major Source, 1973–2025



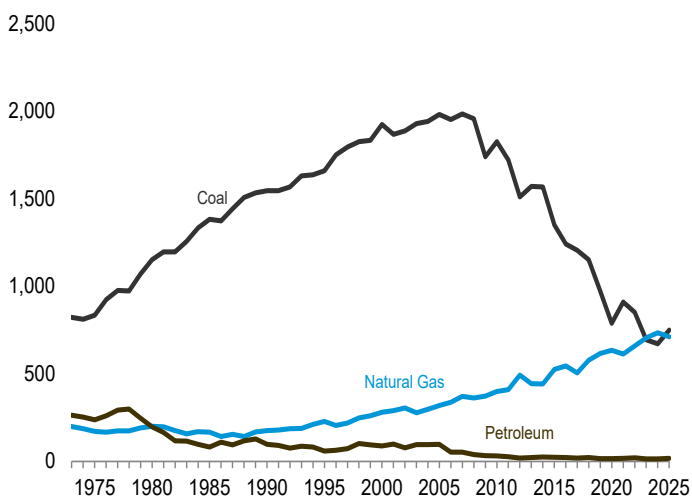
Industrial Sector by Major Source, 1973–2025



Transportation Sector by Major Source, 1973–2025



Electric Power Sector by Major Source, 1973–2025



[a] Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from “other biofuels.”

[b] Emissions from energy consumption in the electric power sector are

allocated to the end-use sectors in proportion to each sector’s share of total electricity sales to ultimate customers.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#environment>.

Sources: Tables 11.2–11.6.

Table 11.2 Carbon Dioxide Emissions From Energy Consumption: Residential Sector
(Million Metric Tons of Carbon Dioxide^a)

	Coal	Natural Gas ^b	Petroleum				Electricity ^e	Total ^f
			Distillate Fuel Oil ^c	HGL ^d	Kerosene	Total		
1973 Total	9	264	148	36	17	201	435	908
1975 Total	6	266	134	32	12	178	419	869
1980 Total	3	256	97	20	8	125	531	915
1985 Total	4	240	81	20	12	112	557	914
1990 Total	3	238	72	22	5	99	622	962
1995 Total	2	263	67	25	5	97	677	1,039
2000 Total	1	271	68	35	7	109	804	1,185
2005 Total	1	262	64	32	6	102	895	1,261
2010 Total	NA	259	42	33	2	77	874	1,210
2011 Total	NA	255	39	31	1	71	823	1,149
2012 Total	NA	225	36	25	1	61	757	1,043
2013 Total	NA	266	36	29	1	66	767	1,100
2014 Total	NA	278	40	31	1	71	766	1,115
2015 Total	NA	253	41	28	1	70	714	1,037
2016 Total	NA	238	32	27	1	60	683	981
2017 Total	NA	242	32	27	1	60	645	946
2018 Total	NA	274	38	32	1	70	672	1,016
2019 Total	NA	276	35	35	1	71	611	958
2020 Total	NA	256	30	31	1	62	571	890
2021 Total	NA	259	35	30	1	66	600	925
2022 Total	NA	272	36	32	1	68	591	931
2023 Total	NA	248	35	30	1	65	532	845
2024 January	NA	51	5	5	(s)	10	58	119
February	NA	35	5	4	(s)	9	37	82
March	NA	28	4	3	(s)	7	32	67
April	NA	17	2	2	(s)	5	29	51
May	NA	9	2	1	(s)	4	36	49
June	NA	7	2	1	(s)	3	51	61
July	NA	6	1	1	(s)	2	66	74
August	NA	6	1	1	(s)	2	62	70
September	NA	6	2	1	(s)	3	46	55
October	NA	11	2	2	(s)	4	37	52
November	NA	23	3	3	(s)	6	34	63
December	NA	42	4	4	(s)	8	47	97
Total	NA	240	34	29	1	63	532	836
2025 January	NA	57	5	6	(s)	11	62	129
February	NA	44	5	4	(s)	10	46	100
March	NA	29	4	3	(s)	7	35	71
April	NA	18	3	2	(s)	5	31	53
May	NA	10	2	2	(s)	4	35	49
June	NA	7	2	1	(s)	3	51	61
July	NA	6	1	1	(s)	2	68	76
August	NA	6	1	1	(s)	2	59	67
September	NA	6	2	1	(s)	3	47	56
October	NA	12	3	2	(s)	5	38	55
November	NA	26	3	3	(s)	6	37	69
December	NA	45	4	5	(s)	9	49	102
Total	NA	265	34	31	1	66	555	886
2026 January	NA	53	5	5	(s)	10	55	119
February	NA	40	5	4	(s)	10	44	93
March	NA	26	4	3	(s)	7	34	67
April	NA	15	3	2	(s)	5	30	50
4-Month Total	NA	135	17	14	1	31	163	329
2025 4-Month Total	NA	147	17	15	1	33	173	353
2024 4-Month Total	NA	132	16	14	(s)	31	156	319

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Natural gas, excluding supplemental gaseous fuels.

^c Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^d Hydrocarbon gas liquids.

^e Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity sales to ultimate customers. See Tables 7.6 and 11.6.

^f Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 11.3 Carbon Dioxide Emissions From Energy Consumption: Commercial Sector
(Million Metric Tons of Carbon Dioxide^a)

	Coal	Natural Gas ^b	Petroleum							Electricity ^f	Total ^g
			Distillate Fuel Oil ^c	HGL ^d	Kerosene	Motor Gasoline ^e	Petroleum Coke	Residual Fuel Oil	Total		
1973 Total	15	140	48	9	5	6	NA	50	118	334	607
1975 Total	14	136	43	8	4	6	NA	37	98	334	582
1980 Total	11	141	38	6	3	8	NA	42	97	414	662
1985 Total	13	132	47	6	2	7	NA	17	79	484	708
1990 Total	12	142	40	6	1	8	0	17	72	564	790
1995 Total	11	164	35	7	2	1	(s)	11	56	619	850
2000 Total	9	173	37	9	2	3	(s)	7	58	781	1,021
2005 Total	9	163	33	8	2	3	(s)	9	55	840	1,067
2010 Total	7	168	29	9	(s)	3	(s)	5	46	804	1,025
2011 Total	6	171	29	9	(s)	3	(s)	4	45	768	990
2012 Total	4	157	26	9	(s)	3	(s)	2	40	731	932
2013 Total	4	179	25	10	(s)	3	(s)	2	40	736	958
2014 Total	4	189	26	10	(s)	4	(s)	1	41	736	970
2015 Total	3	175	27	9	(s)	25	(s)	(s)	61	692	932
2016 Total	2	171	24	9	(s)	25	(s)	(s)	59	661	893
2017 Total	2	173	24	10	(s)	24	(s)	(s)	58	633	866
2018 Total	2	193	24	11	(s)	24	(s)	(s)	59	632	886
2019 Total	2	193	24	11	(s)	24	(s)	(s)	60	578	832
2020 Total	1	173	20	13	(s)	24	(s)	(s)	58	502	735
2021 Total	1	180	24	14	(s)	25	(s)	(s)	63	542	787
2022 Total	1	192	25	13	(s)	29	(s)	(s)	67	545	805
2023 Total	1	182	24	12	(s)	25	(s)	(s)	61	517	762
2024 January	(s)	30	3	2	(s)	2	(s)	(s)	7	48	85
February	(s)	23	4	1	(s)	2	(s)	(s)	7	35	65
March	(s)	19	3	1	(s)	2	0	(s)	6	34	59
April	(s)	14	2	1	(s)	2	0	(s)	4	33	52
May	(s)	10	1	1	(s)	2	(s)	(s)	4	40	54
June	(s)	8	1	1	(s)	2	(s)	(s)	4	47	59
July	(s)	8	1	1	(s)	2	0	(s)	3	55	67
August	(s)	8	1	1	(s)	2	0	(s)	3	55	66
September	(s)	8	1	1	(s)	2	0	(s)	4	46	58
October	(s)	11	2	1	(s)	2	0	(s)	4	42	58
November	(s)	17	2	1	(s)	2	0	(s)	5	39	61
December	(s)	25	3	2	(s)	2	(s)	(s)	6	44	75
Total	1	182	23	12	(s)	21	(s)	(s)	57	521	760
2025 January	(s)	33	3	2	(s)	2	(s)	(s)	7	51	91
February	(s)	27	4	1	(s)	2	(s)	(s)	7	41	75
March	(s)	20	3	1	(s)	2	0	(s)	6	36	62
April	(s)	14	2	1	(s)	2	0	(s)	4	36	54
May	(s)	10	2	1	(s)	2	0	(s)	4	40	55
June	(s)	8	1	1	(s)	2	0	(s)	4	49	61
July	(s)	8	1	1	(s)	2	0	(s)	3	58	70
August	(s)	8	1	1	(s)	2	0	(s)	3	54	66
September	(s)	8	1	1	(s)	2	0	(s)	4	48	60
October	(s)	12	2	1	(s)	2	0	(s)	4	44	61
November	(s)	19	2	1	(s)	2	0	(s)	5	42	66
December	(s)	28	3	2	(s)	2	(s)	(s)	6	46	80
Total	1	198	24	12	(s)	21	(s)	(s)	58	547	803
2026 January	(s)	32	3	2	(s)	2	(s)	(s)	7	48	87
February	(s)	24	4	1	(s)	2	(s)	(s)	7	40	71
March	(s)	19	3	1	(s)	2	(s)	(s)	6	37	62
April	(s)	13	2	1	(s)	2	0	(s)	4	36	53
4-Month Total	(s)	89	11	5	(s)	7	(s)	(s)	24	160	273
2025 4-Month Total	(s)	95	12	5	(s)	7	(s)	(s)	24	163	282
2024 4-Month Total	(s)	85	11	5	(s)	7	(s)	(s)	23	152	261

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Natural gas, excluding supplemental gaseous fuels.

^c Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^d Hydrocarbon gas liquids.

^e Finished motor gasoline, excluding fuel ethanol.

^f Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity sales to ultimate customers. See Tables 7.6 and 11.6.

^g Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 11.4 Carbon Dioxide Emissions From Energy Consumption: Industrial Sector
(Million Metric Tons of Carbon Dioxide^a)

	Coal	Coal Coke Net Imports	Natural Gas ^b	Petroleum									Elec- tricity ^g	Total ^h
				Distillate Fuel Oil ^c	HGL ^d	Kero- sene	Lubri- cants	Motor Gasoline ^e	Petroleum Coke	Residual Fuel Oil	Other ^f	Total		
1973 Total	373	-1	533	107	31	11	7	18	54	139	102	471	515	1,891
1975 Total	338	2	438	98	30	9	6	16	52	113	97	420	490	1,687
1980 Total	291	-4	427	97	52	13	7	11	50	101	134	465	604	1,782
1985 Total	257	-2	361	82	54	3	6	16	55	56	86	358	587	1,561
1990 Total	258	1	435	85	45	1	7	13	69	31	119	369	636	1,699
1995 Total	233	7	492	83	57	1	7	14	69	25	111	368	658	1,757
2000 Total	211	7	486	89	61	1	7	11	75	18	111	373	717	1,795
2005 Total	182	5	405	94	49	3	6	25	86	21	140	423	671	1,687
2010 Total	152	-1	428	85	42	1	5	17	67	9	119	345	587	1,512
2011 Total	146	1	438	91	39	(s)	5	17	64	10	118	344	574	1,503
2012 Total	142	(s)	455	94	42	(s)	4	17	69	5	114	346	543	1,486
2013 Total	145	-2	472	94	46	(s)	5	17	64	4	120	349	542	1,505
2014 Total	144	-2	487	101	45	(s)	5	14	65	3	112	345	543	1,516
2015 Total	129	-2	486	87	48	(s)	5	17	66	2	116	342	502	1,457
2016 Total	113	-2	496	86	46	(s)	5	17	65	4	124	347	472	1,426
2017 Total	112	-3	508	89	48	(s)	5	17	61	4	130	354	461	1,432
2018 Total	111	-3	532	93	54	(s)	5	18	62	3	127	362	458	1,459
2019 Total	105	-2	540	89	60	(s)	4	18	60	3	131	364	425	1,432
2020 Total	88	-1	531	79	60	(s)	4	18	49	2	123	336	374	1,328
2021 Total	97	-6	539	88	67	(s)	4	17	51	3	116	346	408	1,385
2022 Total	92	-6	552	89	52	(s)	4	18	49	3	111	327	400	1,364
2023 Total	85	-4	556	87	54	(s)	3	18	51	3	110	326	370	1,334
2024 January	7	(s)	51	8	5	(s)	(s)	1	4	(s)	9	28	34	120
February	7	(s)	46	7	4	(s)	(s)	1	2	(s)	8	23	25	102
March	7	(s)	48	6	4	(s)	(s)	2	3	(s)	9	24	26	105
April	7	-1	45	7	4	(s)	(s)	1	6	(s)	9	28	25	104
May	7	(s)	45	7	5	(s)	(s)	2	6	(s)	10	29	30	110
June	7	-1	43	5	5	(s)	(s)	1	3	(s)	9	25	33	107
July	7	(s)	45	6	5	(s)	(s)	2	6	(s)	9	28	37	117
August	7	(s)	46	8	5	(s)	(s)	2	4	(s)	10	28	37	117
September	7	(s)	44	6	5	(s)	(s)	1	4	(s)	9	26	32	108
October	7	(s)	46	10	5	(s)	(s)	2	3	(s)	9	30	31	112
November	7	(s)	47	6	5	(s)	(s)	1	4	(s)	9	25	29	108
December	7	(s)	51	7	5	(s)	(s)	1	2	(s)	9	25	32	114
Total	82	-4	559	84	57	(s)	3	18	46	3	107	318	371	1,326
2025 January	7	(s)	53	9	5	(s)	(s)	1	6	(s)	9	31	34	125
February	6	(s)	47	6	4	(s)	(s)	1	2	(s)	8	22	29	104
March	7	(s)	49	8	4	(s)	(s)	1	3	(s)	9	26	26	107
April	6	(s)	46	7	4	(s)	(s)	1	4	(s)	8	26	27	104
May	6	(s)	46	7	4	(s)	(s)	2	6	(s)	9	28	29	109
June	6	(s)	44	7	5	(s)	(s)	2	4	(s)	9	27	34	111
July	6	(s)	45	6	5	(s)	(s)	2	5	(s)	10	28	38	118
August	6	(s)	46	6	6	(s)	(s)	2	3	(s)	10	27	36	116
September	6	(s)	45	7	5	(s)	(s)	1	3	(s)	9	27	33	110
October	7	(s)	46	9	5	(s)	(s)	1	3	(s)	9	28	31	112
November	6	(s)	48	7	4	(s)	(s)	1	2	(s)	8	24	30	109
December	7	(s)	52	6	5	(s)	(s)	1	4	(s)	9	27	32	117
Total	77	-2	565	86	57	(s)	4	18	45	3	107	320	381	1,342
2026 January	6	(s)	52	R 8	6	(s)	(s)	1	5	(s)	9	30	32	120
February	6	(s)	46	R 7	5	(s)	(s)	1	5	(s)	8	27	27	R 106
March	6	(s)	49	8	4	(s)	(s)	1	4	(s)	9	27	26	108
April	6	(s)	46	7	4	(s)	(s)	1	3	(s)	9	25	26	102
4-Month Total	24	-1	193	31	19	(s)	1	6	16	1	35	109	111	437
2025 4-Month Total	26	-1	194	30	18	(s)	1	6	15	1	34	105	116	440
2024 4-Month Total	27	-1	191	29	17	(s)	1	6	15	1	34	103	110	431

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Natural gas, excluding supplemental gaseous fuels.

^c Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^d Hydrocarbon gas liquids.

^e Finished motor gasoline, excluding fuel ethanol.

^f Aviation gasoline blending components, crude oil, motor gasoline blending components, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.

^g Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity sales to ultimate customers. See Tables 7.6 and 11.6.

^h Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

R=Revised. (s)=Less than 0.5 million metric tons and greater than -0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, plus the relatively small amount of emissions from the non-combustion use of fossil fuels. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 11.5 Carbon Dioxide Emissions From Energy Consumption: Transportation Sector
(Million Metric Tons of Carbon Dioxide^a)

	Coal	Natural Gas ^b	Petroleum								Elec- tricity ^f	Total ^g
			Aviation Gasoline	Distillate Fuel Oil ^c	HGL ^d	Jet Fuel	Lubri- cants	Motor Gasoline ^e	Residual Fuel Oil	Total		
1973 Total	(s)	39	6	164	3	152	6	887	55	1,272	2	1,314
1975 Total	(s)	32	5	157	3	144	6	889	53	1,257	2	1,291
1980 Total	(h)	34	4	207	1	155	6	882	105	1,360	2	1,397
1985 Total	(h)	28	3	234	2	178	6	910	59	1,392	3	1,423
1990 Total	(h)	36	3	271	1	223	7	967	76	1,547	3	1,587
1995 Total	(h)	38	3	310	1	222	6	1,027	68	1,637	3	1,679
2000 Total	(h)	36	3	386	1	259	7	1,128	67	1,848	4	1,888
2005 Total	(h)	33	2	453	2	251	6	1,177	63	1,954	5	1,992
2010 Total	(h)	38	2	429	(s)	214	6	1,086	67	1,804	5	1,847
2011 Total	(h)	39	2	436	(s)	213	5	1,054	58	1,769	4	1,813
2012 Total	(h)	41	2	417	(s)	210	5	1,047	50	1,730	4	1,776
2013 Total	(h)	47	2	421	(s)	214	5	1,057	44	1,744	4	1,795
2014 Total	(h)	40	2	441	(s)	220	6	1,067	34	1,769	4	1,814
2015 Total	(h)	39	1	447	1	231	6	1,073	35	1,794	4	1,837
2016 Total	(h)	40	1	437	1	242	6	1,092	47	1,825	4	1,869
2017 Total	(h)	42	1	442	1	251	5	1,090	50	1,841	4	1,887
2018 Total	(h)	51	2	466	1	255	5	1,090	45	1,864	4	1,918
2019 Total	(h)	59	2	468	1	261	5	1,086	40	1,862	3	1,924
2020 Total	(h)	59	1	439	1	161	4	935	29	1,572	3	1,633
2021 Total	(h)	65	1	459	1	205	5	1,025	46	1,742	3	1,809
2022 Total	(h)	72	2	464	1	233	5	1,018	47	1,770	3	1,845
2023 Total	(h)	72	1	453	1	247	4	1,038	39	1,783	3	1,857
2024 January	(h)	8	(s)	33	(s)	19	(s)	82	3	139	(s)	147
February	(h)	7	(s)	31	(s)	18	(s)	80	3	134	(s)	140
March	(h)	6	(s)	35	(s)	21	(s)	89	4	149	(s)	155
April	(h)	5	(s)	36	(s)	21	(s)	85	4	147	(s)	152
May	(h)	5	(s)	38	(s)	22	(s)	93	4	157	(s)	163
June	(h)	5	(s)	38	(s)	22	(s)	88	4	152	(s)	157
July	(h)	6	(s)	40	(s)	23	(s)	92	4	159	(s)	165
August	(h)	6	(s)	41	(s)	23	(s)	92	4	159	(s)	166
September	(h)	5	(s)	37	(s)	21	(s)	86	3	147	(s)	152
October	(h)	5	(s)	40	(s)	22	(s)	90	4	155	(s)	161
November	(h)	6	(s)	35	(s)	21	(s)	85	4	144	(s)	150
December	(h)	8	(s)	35	(s)	22	(s)	87	4	148	(s)	156
Total	(h)	74	2	440	1	253	3	1,048	43	1,790	3	1,866
2025 January	(h)	9	(s)	35	(s)	21	(s)	84	4	144	(s)	152
February	(h)	7	(s)	31	(s)	18	(s)	78	3	130	(s)	138
March	(h)	6	(s)	37	(s)	21	(s)	87	4	148	(s)	155
April	(h)	5	(s)	37	(s)	22	(s)	85	4	148	(s)	154
May	(h)	5	(s)	39	(s)	22	(s)	90	2	154	(s)	160
June	(h)	5	(s)	40	(s)	23	(s)	89	3	155	(s)	160
July	(h)	6	(s)	41	(s)	23	(s)	90	4	160	(s)	166
August	(h)	6	(s)	41	(s)	23	(s)	91	3	159	(s)	165
September	(h)	5	(s)	38	(s)	20	(s)	86	5	150	(s)	156
October	(h)	5	(s)	40	(s)	23	(s)	88	4	155	(s)	160
November	(h)	6	(s)	36	(s)	21	(s)	83	4	145	(s)	151
December	(h)	8	(s)	36	(s)	22	(s)	87	4	149	(s)	157
Total	(h)	74	2	452	1	258	4	1,037	45	1,797	3	1,874
2026 January	(h)	8	(s)	34	(s)	21	(s)	82	3	140	(s)	149
February	(h)	7	(s)	32	(s)	19	(s)	77	4	132	(s)	139
March	(h)	6	(s)	37	(s)	21	(s)	87	4	150	(s)	156
April	(h)	5	(s)	37	(s)	22	(s)	87	5	152	(s)	158
4-Month Total	(h)	27	(s)	140	(s)	83	2	333	15	574	1	601
2025 4-Month Total	(h)	27	(s)	140	(s)	81	1	333	15	571	1	598
2024 4-Month Total	(h)	27	(s)	136	(s)	79	1	336	14	568	1	595

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Natural gas, excluding supplemental gaseous fuels.

^c Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^d Hydrocarbon gas liquids.

^e Finished motor gasoline, excluding fuel ethanol.

^f Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity sales to ultimate customers. See Tables 7.6 and 11.6.

^g Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

^h Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, plus the relatively small amount of emissions from the non-combustion use of fossil fuels. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 11.6 Carbon Dioxide Emissions From Energy Consumption: Electric Power Sector
(Million Metric Tons of Carbon Dioxide^a)

	Coal	Natural Gas ^b	Petroleum				Geo-thermal	Non-Biomass Waste ^d	Total ^e
			Distillate Fuel Oil ^c	Petroleum Coke	Residual Fuel Oil	Total			
1973 Total	824	199	20	2	242	264	NA	NA	1,286
1975 Total	836	172	17	(s)	221	237	NA	NA	1,245
1980 Total	1,153	200	12	1	185	198	NA	NA	1,551
1985 Total	1,383	166	6	1	75	82	NA	NA	1,631
1990 Total	1,547	175	7	3	87	98	(s)	6	1,826
1995 Total	1,660	228	8	8	43	59	(s)	10	1,957
2000 Total	1,926	281	13	10	65	89	(s)	10	2,306
2005 Total	1,983	319	9	24	66	98	(s)	11	2,412
2010 Total	1,828	400	6	14	12	31	(s)	11	2,270
2011 Total	1,723	409	5	14	7	26	(s)	11	2,170
2012 Total	1,512	493	4	9	6	18	(s)	11	2,035
2013 Total	1,571	444	4	13	6	22	(s)	11	2,049
2014 Total	1,568	443	6	12	7	25	(s)	11	2,048
2015 Total	1,351	525	5	11	7	24	(s)	11	1,912
2016 Total	1,242	545	4	12	5	21	(s)	11	1,820
2017 Total	1,207	506	4	10	5	19	(s)	11	1,743
2018 Total	1,153	578	6	10	6	22	(s)	11	1,765
2019 Total	974	617	4	8	4	16	(s)	11	1,618
2020 Total	788	635	3	9	4	16	(s)	11	1,450
2021 Total	910	613	4	9	4	18	(s)	12	1,553
2022 Total	851	659	6	9	6	21	(s)	7	1,539
2023 Total	694	705	4	6	5	15	(s)	7	1,422
2024 January	76	62	1	(s)	(s)	2	(s)	1	141
February	47	50	(s)	(s)	(s)	1	(s)	1	98
March	40	50	(s)	(s)	(s)	1	(s)	1	92
April	38	48	(s)	(s)	(s)	1	(s)	1	88
May	47	57	(s)	(s)	(s)	1	(s)	1	106
June	62	68	(s)	1	(s)	1	(s)	1	131
July	73	83	(s)	1	(s)	1	(s)	1	158
August	71	82	(s)	1	(s)	1	(s)	1	154
September	57	67	(s)	(s)	(s)	1	(s)	1	125
October	49	58	(s)	(s)	(s)	1	(s)	1	109
November	47	54	(s)	(s)	(s)	1	(s)	1	103
December	64	57	(s)	(s)	(s)	1	(s)	1	122
Total	672	735	4	5	5	14	(s)	6	1,427
2025 January	83	61	1	1	1	3	(s)	1	147
February	63	51	(s)	(s)	(s)	1	(s)	(s)	116
March	50	45	(s)	(s)	(s)	1	(s)	1	97
April	47	45	(s)	(s)	(s)	1	(s)	1	93
May	50	53	(s)	(s)	(s)	1	(s)	1	105
June	66	66	(s)	1	(s)	1	(s)	1	134
July	81	81	(s)	1	(s)	1	(s)	1	165
August	71	77	(s)	1	(s)	1	(s)	1	150
September	60	67	(s)	(s)	(s)	1	(s)	1	128
October	56	56	(s)	1	(s)	1	(s)	1	114
November	56	52	(s)	(s)	(s)	1	(s)	1	109
December	67	57	1	(s)	1	2	(s)	1	126
Total	750	712	5	6	5	17	(s)	6	1,485
2026 January	72	60	2	(s)	1	4	(s)	1	136
February	56	52	1	(s)	1	2	(s)	(s)	111
March	45	50	(s)	(s)	(s)	1	(s)	1	97
April	41	49	(s)	(s)	(s)	1	(s)	1	91
4-Month Total	214	210	4	2	3	9	(s)	2	435
2025 4-Month Total	243	203	2	2	2	6	(s)	2	454
2024 4-Month Total	202	210	1	1	1	4	(s)	2	419

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Natural gas, excluding supplemental gaseous fuels.

^c Distillate fuel oil, excluding biodiesel and renewable diesel fuel.

^d Municipal solid waste from non-biogenic sources, and tire-derived fuels. Through 1994, also includes blast furnace gas, and other manufactured and waste gases derived from fossil fuels.

^e Through 2011, excludes emissions from biomass energy consumption. Beginning in 2012, excludes emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.

NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy

consumption. See "Section 11 Methodology and Sources" at end of section.

• See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Through 2011, data exclude emissions from biomass energy consumption; beginning in 2012, data exclude emissions from biomass energy consumption except small amounts of emissions from "other biofuels." See "Biomass" and "Other Biofuels" in Glossary. See Table 11.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Table 11.7 Carbon Dioxide Emissions From Biomass Energy Consumption
(Million Metric Tons of Carbon Dioxide^a)

	By Source					By Sector					
	Wood ^b	Biomass Waste ^c	Fuel Ethanol ^d	Bio-diesel ^e	Total ^f	Residential	Commercial ^g	Industrial ^h	Transportation	Electric Power ⁱ	Total ^f
1973 Total	143	(s)	NA	NA	143	33	1	109	NA	(s)	143
1975 Total	140	(s)	NA	NA	141	40	1	100	NA	(s)	141
1980 Total	232	(s)	NA	NA	232	80	2	150	NA	(s)	232
1985 Total	252	14	3	NA	270	95	2	168	3	1	270
1990 Total	208	24	4	NA	237	54	8	147	4	23	237
1995 Total	222	30	8	NA	260	49	9	166	8	28	260
2000 Total	212	27	9	NA	248	39	9	161	9	29	248
2005 Total	200	37	23	1	261	40	10	150	23	37	261
2010 Total	208	42	73	2	325	51	10	149	74	42	325
2011 Total	208	42	73	8	331	49	11	151	80	40	331
2012 Total	202	42	73	8	325	41	10	153	80	42	325
2013 Total	219	45	75	13	353	54	11	158	87	43	353
2014 Total	225	47	76	13	361	54	11	158	88	49	361
2015 Total	216	47	79	14	356	48	13	157	90	48	356
2016 Total	208	46	81	20	354	42	13	155	98	47	354
2017 Total	204	45	82	19	350	40	13	152	98	47	350
2018 Total	211	44	82	18	355	49	13	151	97	46	355
2019 Total	209	40	83	17	349	51	12	147	97	41	349
2020 Total	184	40	72	18	313	32	12	143	86	39	313
2021 Total	187	39	79	16	321	33	12	144	92	39	321
2022 Total	200	37	80	16	333	42	16	149	92	35	333
2023 Total	185	36	81	18	319	36	15	141	96	32	319
2024 January	15	3	6	2	26	3	1	12	7	3	26
February	14	3	6	2	25	3	1	11	8	3	25
March	15	3	7	2	26	3	1	12	8	2	26
April	15	3	6	2	25	3	1	12	8	2	25
May	15	3	7	2	27	3	1	12	9	2	27
June	15	3	7	2	26	3	1	11	8	2	26
July	15	3	7	1	27	3	1	12	8	3	27
August	15	3	7	1	27	3	1	12	8	3	27
September	15	3	7	1	26	3	1	12	8	2	26
October	14	3	7	2	26	3	1	11	8	2	26
November	15	3	7	1	26	3	1	12	8	2	26
December	16	3	7	1	27	3	1	12	8	3	27
Total	179	35	81	18	313	33	15	140	96	30	313
2025 January	15	3	7	1	26	3	1	12	7	3	26
February	14	3	6	1	23	3	1	11	7	2	23
March	15	3	7	1	26	3	1	12	7	2	26
April	14	3	7	1	25	3	1	11	8	2	25
May	15	3	7	1	25	3	1	11	7	2	25
June	15	3	7	1	25	3	1	11	8	3	25
July	16	3	7	1	26	3	1	12	8	3	26
August	15	3	7	1	26	3	1	12	8	3	26
September	15	3	7	1	25	3	1	11	7	3	25
October	15	3	7	1	26	3	1	12	8	2	26
November	15	3	6	1	25	3	1	11	7	2	25
December	15	3	7	1	26	3	1	12	8	3	26
Total	179	34	81	10	305	35	14	137	89	29	305
2026 January	15	3	6	1	25	3	1	11	7	3	25
February	14	3	6	1	23	2	1	10	7	3	23
March	15	3	7	1	25	3	1	11	8	3	25
April	13	3	7	1	24	3	1	10	8	2	24
4-Month Total	56	11	26	4	97	11	5	43	29	10	97
2025 4-Month Total	59	11	26	4	100	11	5	45	29	10	100
2024 4-Month Total	60	12	26	6	103	11	5	47	31	10	103

^a Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

^b Wood and wood-derived fuels.

^c Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.

^d Fuel ethanol minus denaturant.

^e "Biodiesel" is primarily fatty acid methyl esters (FAME). See "Biodiesel" in Glossary.

^f Includes energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel; excludes emissions from renewable diesel fuel and "other biofuels." See "Renewable Diesel Fuel" and "Other Biofuels" in Glossary.

^g Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.

^h Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.

ⁱ The electric power sector comprises electricity-only and combined-heat-and-

power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Except for small amounts of emissions from "other biofuels" beginning in 2012, carbon dioxide emissions from biomass energy consumption are excluded from the energy-related carbon dioxide emissions reported in Tables 11.1–11.6. See "Biomass" and "Other Biofuels" in Glossary. See Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Data are estimates. See "Section 11 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#environment> (Excel and CSV files) for all available annual and monthly data beginning in 1973.

Sources: See end of section.

Note 1. Emissions of Carbon Dioxide and Other Greenhouse Gases. Greenhouse gases are those gases—such as water vapor, carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride—that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

The vast majority of U.S. CO₂ emissions come from fossil fuel combustion, with smaller amounts from the non-combustion use of fossil fuels, as well as from electricity generation using geothermal energy and non-biomass waste. Other sources of CO₂ emissions include industrial processes, such as cement and limestone production. Data in the U.S. Energy Information Administration's (EIA) *Monthly Energy Review* (MER) Tables 11.1–11.6 are estimates for U.S. CO₂ emissions from energy consumption, plus the non-combustion use of fossil fuels. (Except for small amounts of emissions from “other biofuels” beginning in 2012, carbon dioxide emissions from biomass energy consumption are excluded from the energy-related carbon dioxide emissions reported in Tables 11.1–11.6. See “Biomass” and “Other Biofuels” in Glossary. See Table 11.7 for energy-related carbon dioxide emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel.)

For annual U.S. estimates of CO₂ emissions from all sources, as well as emissions for other greenhouse gases, see the U.S. Environmental Protection Agency's *Inventory of U.S. Greenhouse Gas Emissions and Sinks* reports at <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.

Note 2. Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion. Except for small amounts of emissions from “other biofuels” beginning in 2012, carbon dioxide (CO₂) emissions from the combustion of biomass to produce energy are excluded from the energy-related CO₂ emissions reported in MER Tables 11.1–11.6; but CO₂ emissions from wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel appear in MER Table 11.7. According to current international convention (see the Intergovernmental Panel on Climate Change's “2006 IPCC Guidelines for National Greenhouse Gas Inventories”), carbon released through biomass combustion is excluded from reported energy-related emissions. The release of carbon from biomass combustion is assumed to be balanced by the uptake of carbon when the feedstock is grown, resulting in zero net emissions over some period of time. (This is not to say that biomass energy is carbon-neutral. Energy inputs are required in order to grow, fertilize, and harvest the feedstock and to produce and process the biomass into fuels.)

However, analysts have debated whether increased use of biomass energy may result in a decline in terrestrial carbon stocks, leading to a net positive release of carbon rather than the zero net release assumed by its exclusion from reported energy-related emissions. For example, the clearing of forests for biofuel crops could result in an initial release of carbon that is not fully recaptured in subsequent use of the land for agriculture.

To reflect the potential net emissions, the international convention for greenhouse gas inventories is to report biomass emissions in the category “agriculture, forestry, and other land use,” usually based on estimates of net changes in carbon stocks over time.

This indirect accounting of CO₂ emissions from biomass can potentially lead to confusion in accounting for and understanding the flow of CO₂ emissions within energy and non-energy systems. In recognition of this issue, reporting of CO₂ emissions from biomass combustion alongside other energy-related CO₂ emissions offers an alternative accounting treatment. It is important, however, to avoid misinterpreting emissions from fossil energy and biomass energy sources as necessarily additive. Instead, the combined total of direct CO₂ emissions from biomass and energy-related CO₂ emissions implicitly assumes that none of the carbon emitted was previously or subsequently reabsorbed in terrestrial sinks or that other emissions sources offset any such sequestration.

Section 11 Methodology and Sources

To estimate carbon dioxide emissions from energy consumption for the *Monthly Energy Review* (MER), Tables 11.1–11.7, the U.S. Energy Information Administration (EIA) uses the following methodology and sources:

Step 1. Determine Fuel Consumption

Coal—Coal sectoral (residential, commercial, coke plants, other industrial, transportation, electric power) consumption data in thousand short tons are from MER Table 6.2. Coal sectoral consumption data are converted to trillion Btu by multiplying by the coal heat content factors in MER Table A5.

Coal Coke Net Imports—Coal coke net imports data in trillion Btu are derived from coal coke imports and exports data in MER Tables 1.4a and 1.4b.

Natural Gas (excluding supplemental gaseous fuels)—Natural gas sectoral consumption data in trillion Btu are from MER Tables 2.2–2.6.

Petroleum—Total and sectoral consumption (product supplied) data in thousand barrels per day for asphalt and road oil, aviation gasoline, distillate fuel oil, hydrocarbon gas liquids (HGL), jet fuel, kerosene, lubricants, motor gasoline, petroleum coke, and residual fuel oil are from MER Tables 3.5 and 3.7a–3.7c. For the component products of HGL (ethane/ethylene, propane/propylene, normal butane/butylene, isobutane/isobutylene, and natural gasoline [through 2021]) and "other petroleum" (aviation gasoline blending components, crude oil, motor gasoline blending components, naphthas for petrochemical feedstock use, other oils for petrochemical feedstock use, special naphthas, still gas, unfinished oils [through 2021], waxes, and miscellaneous petroleum products), consumption (product supplied) data in thousand barrels per day are from EIA's *Petroleum Supply Annual* (PSA), *Petroleum Supply Monthly* (PSM), and earlier publications (see sources for MER Table 3.5). Petroleum consumption data by product are converted to trillion Btu by multiplying by the petroleum heat content factors in MER Tables A1 and A3.

Biomass—Sectoral consumption data in trillion Btu for wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel are from MER Tables 10.2a–10.2c.

Step 2. Remove Biofuels From Petroleum

Distillate Fuel Oil—Beginning in 2009, the distillate fuel oil data (for total and transportation sector) in Step 1 include biodiesel and renewable diesel fuel, which are non-fossil renewable fuels.

2009–2011: To remove the biodiesel portion from distillate fuel oil, data for biodiesel consumption (calculated using data from EIA, EIA-22M, "Monthly Biodiesel Production Survey") and biomass-based diesel fuel data (from EIA-810, "Monthly Refinery Report," EIA-812, "Monthly Product Pipeline Report," and EIA-815, "Monthly Bulk Terminal and Blender Report") are converted to trillion Btu by multiplying by the biodiesel heat content factor in MER Table A1, and then subtracted from the distillate fuel oil consumption values. To remove the renewable diesel fuel portion from distillate fuel oil, data for refinery and blender net inputs (from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report") are converted to trillion Btu by multiplying by the renewable diesel fuel heat content factor in MER Table A1, and then subtracted from the distillate fuel oil consumption values.

2012–2020: To remove the biodiesel portion from distillate fuel oil, data for biodiesel consumption (from MER Table 10.4) is subtracted from the distillate fuel oil consumption values. To remove the renewable diesel fuel portion from distillate fuel oil, data for refinery and blender net inputs (from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report") are converted to trillion Btu by multiplying by the renewable diesel fuel heat content factor in MER Table A1, and then subtracted from the distillate fuel oil consumption values.

2021 forward: To remove the biodiesel and renewable diesel fuel portions from distillate fuel oil, data for refinery and blender net inputs (from EIA-810, "Monthly Refinery Report," and EIA-815, "Monthly Bulk Terminal and Blender Report") are converted to trillion Btu by multiplying by the biodiesel and renewable diesel fuel heat content factors in MER Table A1, and then subtracted from the distillate fuel oil consumption values.

Motor Gasoline—Beginning in 1993, the motor gasoline data (for total, commercial sector, industrial sector, and transportation sector) in Step 1 include fuel ethanol, a non-fossil renewable fuel. To remove the fuel ethanol portion from motor gasoline, data in trillion Btu for fuel ethanol consumption (from MER Tables 10.2a, 10.2b, and 10.3) are subtracted from the motor gasoline consumption values. (Note that about 2% of fuel ethanol is fossil-based petroleum denaturant, to make the fuel ethanol undrinkable. For 1993–2008, petroleum denaturant is double counted in the PSA product supplied statistics, in both the original product category—e.g., natural gasoline—and also in the finished motor

gasoline category; for this time period for MER Section 11, petroleum denaturant is removed along with the fuel ethanol from motor gasoline, but left in the original product. Beginning in 2009, petroleum denaturant is counted only in the PSA/PSM product supplied statistics for motor gasoline; for this time period for MER Section 11, petroleum denaturant is left in motor gasoline.)

Step 3. Remove Carbon Sequestered by Non-Combustion Use

The following fuels have industrial non-combustion uses as chemical feedstocks and other products: coal, natural gas, asphalt and road oil, distillate fuel oil, hydrocarbon gas liquids (ethane/ethylene, propane/propylene, normal butane/butylene, isobutane/isobutylene, and natural gasoline), lubricants (which have industrial and transportation non-combustion uses), naphthas, other oils, petroleum coke, residual fuel oil, special naphthas, still gas, waxes, and miscellaneous petroleum products. See Tables 1.13a and 1.13b for estimates of fossil fuel non-combustion uses.

In the non-combustion use of these fuels, some of the carbon is stored (sequestered) in the final product, and EIA subtracts this from the fuel consumption values in Steps 1 and 2. EIA calculates the amount of carbon sequestered as the product of the non-combustion use of fossil fuels shown in MER Table 1.13b and the following carbon sequestration factors. The factors range from 0.00 to 1.00. A factor of 0.00 indicates that the fuel does not sequester any carbon (all is emitted), while a factor of 1.00 indicates that the fuel sequesters all of the carbon (none is emitted). EIA uses the following carbon sequestration factors: coal—0.75; natural gas used to produce hydrogen—0.00; natural gas used for other manufacturing—0.44; asphalt and road oil—1.00; distillate fuel oil—0.50; hydrocarbon gas liquids—0.80; lubricants—0.50; naphthas used for petrochemical feedstock—0.75; other oils used for petrochemical feedstock—0.50; petroleum coke used for aluminum production—0.00; petroleum coke used for other manufacturing—0.50; residual fuel oil—0.50; special naphthas—0.00; still gas—0.80; waxes—1.00; and miscellaneous petroleum products—1.00.

Step 4. Determine Carbon Dioxide Emissions From Energy Consumption

EIA calculates carbon dioxide (CO₂) emissions data in million metric tons as the product of the consumption values in trillion Btu from Steps 1 and 2 (minus the carbon sequestered by non-combustion use in Step 3) and the annual CO₂ emissions factors at https://www.eia.gov/environment/emissions/xls/CO2_coefs_detailed.xls.

Except for plant condensate and unfractionated stream (which are EIA estimates), the CO₂ emissions factors for fossil fuels are from the U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, Tables A-20, A-32, and A-226. EIA converts metric tons of carbon to metric tons of CO₂ using the approximate molar mass (44/12)—see <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2022>.

Coal—EIA calculates coal CO₂ emissions for each sector (residential, commercial, coke plants, other industrial, transportation, electric power). Total coal emissions are the sum of the sectoral coal emissions.

Coal Coke Net Imports—EIA calculates coal coke net imports CO₂ emissions for the industrial sector.

Natural Gas—EIA calculates natural gas CO₂ emissions for each sector (residential, commercial, industrial, transportation, electric power). Total natural gas emissions are the sum of the sectoral natural gas emissions.

Petroleum—EIA calculates CO₂ emissions for each petroleum product and sector. Total petroleum emissions are the sum of the product emissions. Total HGL emissions are the sum of the emissions for the component products (ethane/ethylene, propane/propylene, normal butane/butylene, isobutane/isobutylene, and natural gasoline). EIA estimates residential, commercial, and transportation sector HGL emissions as the product of the HGL consumption values in trillion Btu from MER Tables 3.8a and 3.8c and the propane emissions factor. EIA estimates industrial sector HGL emissions as total HGL emissions minus emissions by the other sectors.

Geothermal and Non-Biomass Waste—EIA estimates annual CO₂ emissions data for geothermal and non-biomass waste on Form EIA-923, "Power Plant Operations Report" (and predecessor forms). EIA estimates monthly data by dividing the annual data by the number of days in the year and then multiplying by the number of days in the month. Annual estimates for the current year are set equal to those of the previous year.

Biomass—EIA calculates wood, biomass waste, and biofuel CO₂ emissions for each sector. Total emissions for each biomass fuel are the sum of the sectoral emissions. EIA uses the following CO₂ emissions factors, in million metric tons

CO2 per quadrillion Btu: wood—93.80; biomass waste—90.70; fuel ethanol—68.44; and biodiesel—73.84. For 1973–1988, EIA estimates the biomass portion of waste in MER Tables 10.2a–10.2c as 67%; for 1989–2000, the annual biomass portion of waste ranges from 67% in 1989 to 58% in 2000, based on the biogenic shares of total municipal solid waste shown in EIA's "Methodology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy," Table 1 at <https://www.eia.gov/totalenergy/data/monthly/pdf/historical/msw.pdf>.

Appendix A

British Thermal Unit Conversion Factors

British Thermal Unit Conversion Factors

The thermal conversion factors presented in the following tables can be used to estimate the heat content in British thermal units (Btu) of a given amount of energy measured in physical units, such as barrels or cubic feet. For example, 10 barrels of asphalt has a heat content of approximately 66.36 million Btu (10 barrels x 6.636 million Btu per barrel = 66.36 million Btu).

The heat content rates (i.e., thermal conversion factors) provided in this section represent the gross (or higher or upper) energy content of the fuels. Gross heat content rates are applied in all Btu calculations for the *Monthly Energy Review* and are commonly used in energy calculations in the United States; net (or lower) heat content rates are typically used in European energy calculations. The difference between the two rates is the amount of energy that is consumed to vaporize water that is created during the combustion process. Generally, the difference ranges from 2% to 10%, depending on the specific fuel and its hydrogen content. Some fuels, such as unseasoned wood, can be more than 40% different in their gross and net heat content rates. See "Heat Content" and "British Thermal Unit (Btu)" in the Glossary for more information.

In general, the annual thermal conversion factors presented in Tables A2 through A6 are computed from final annual data or from the best available data and labeled "preliminary." Often, the current year's factors are labeled "estimate," and are set equal to the previous year's values until data become available to calculate the factors. The source of each factor is described in the section entitled "Thermal Conversion Factor Source Documentation," which follows Table A6 in this appendix.

Table A1. Approximate Heat Content of Petroleum and Biofuels

(Million Btu per Barrel, Except as Noted)

Commodity	Heat Content	Commodity	Heat Content
Asphalt and Road Oil	6.636	Motor Gasoline (Finished)—see Tables A2 and A3	
Aviation Gasoline (Finished)	5.048	Motor Gasoline Blending Components (MGBC)	
Aviation Gasoline Blending Components	5.048	Through 2006	5.253
Crude Oil—see Table A2		Beginning in 2007	5.222
Distillate Fuel Oil—see Table A3 for averages		Oxygenates (excluding Fuel Ethanol)	4.247
15 ppm sulfur and under	5.770	Petrochemical Feedstocks	
Greater than 15 ppm to 500 ppm sulfur	5.817	Naphtha Less Than 401°F	5.248
Greater than 500 ppm sulfur	5.825	Other Oils Equal to or Greater Than 401°F	5.825
Hydrocarbon Gas Liquids		Petroleum Coke—see Table A3 for averages	
Natural Gas Liquids		Total, through 2003	6.024
Ethane	2.783	Catalyst, beginning in 2004	^a 6.287
Propane	3.841	Marketable, beginning in 2004	5.719
Normal Butane	4.353	Residual Fuel Oil	6.287
Isobutane	4.183	Special Naphthas	5.248
Natural Gasoline (Pentanes Plus)	4.638	Still Gas	
Refinery Olefins		Through 2015	^b 6.000
Ethylene	2.436	Beginning in 2016	^a 6.287
Propylene	3.835	Unfinished Oils	5.825
Butylene	4.377	Waxes	5.537
Isobutylene	4.355	Miscellaneous Products	5.796
Hydrogen	^c 6.287	Other Hydrocarbons	5.825
Jet Fuel, Kerosene Type	5.670	Biofuels, Fuel Ethanol—see Table A3	
Jet Fuel, Naphtha Type	5.355	Biofuels, Biodiesel	5.359
Kerosene	5.670	Biofuels, Renewable Diesel Fuel	5.494
Lubricants	6.065	Biofuels, Other	5.359

^a Per residual fuel oil equivalent barrel (6.287 million Btu per barrel).

^b Per fuel oil equivalent barrel (6.000 million Btu per barrel).

^c Hydrogen has a gross heat content of 323.6 Btu per standard cubic foot (at 60 degrees Fahrenheit and 1 atmosphere), and 6.287 million Btu per residual fuel oil equivalent barrel. For hydrogen, barrels can be converted to standard cubic feet by multiplying by 19,426 standard cubic feet per barrel of residual fuel oil equivalent.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

Table A2. Approximate Heat Content of Petroleum Production, Imports, and Exports
(Million Btu per Barrel)

	Production		Imports				Exports			
			Crude Oil ^a	Petroleum Products		Total ^d	Crude Oil ^a	Petroleum Products		Total ^d
	Crude Oil ^a	Natural Gas Plant Liquids ^b		Motor Gasoline ^c	Total Products ^d			Motor Gasoline ^e	Total Products ^d	
1950	5.800	4.470	5.943	5.253	6.263	6.080	5.800	5.253	5.751	5.766
1955	5.800	4.346	5.924	5.253	6.234	6.040	5.800	5.253	5.765	5.768
1960	5.800	4.253	5.911	5.253	6.161	6.021	5.800	5.253	5.835	5.834
1965	5.800	4.197	5.872	5.253	6.123	5.997	5.800	5.253	5.742	5.743
1970	5.800	4.090	5.822	5.253	6.088	5.985	5.800	5.253	5.811	5.810
1975	5.800	3.923	5.821	5.253	5.935	5.858	5.800	5.253	5.747	5.748
1980	5.800	^b 3.864	5.812	5.253	5.748	5.796	5.800	5.253	5.841	5.820
1981	5.800	3.860	5.818	5.253	5.659	5.775	5.800	5.253	5.837	5.821
1982	5.800	3.798	5.826	5.253	5.664	5.775	5.800	5.253	5.829	5.820
1983	5.800	3.755	5.825	5.253	5.677	5.774	5.800	5.253	5.800	5.800
1984	5.800	3.745	5.823	5.253	5.613	5.745	5.800	5.253	5.867	5.850
1985	5.800	3.752	5.832	5.253	5.572	5.736	5.800	5.253	5.819	5.814
1986	5.800	3.733	5.903	5.253	5.624	5.808	5.800	5.253	5.839	5.832
1987	5.800	3.742	5.901	5.253	5.599	5.820	5.800	5.253	5.860	5.858
1988	5.800	3.751	5.900	5.253	5.618	5.820	5.800	5.253	5.842	5.840
1989	5.800	3.764	5.906	5.253	5.641	5.833	5.800	5.253	5.869	5.857
1990	5.800	3.758	5.934	5.253	5.614	5.849	5.800	5.253	5.838	5.833
1991	5.800	3.740	5.948	5.253	5.636	5.873	5.800	5.253	5.827	5.823
1992	5.800	3.739	5.953	5.253	5.623	5.877	5.800	5.253	5.774	5.777
1993	5.800	3.735	5.954	5.253	5.539	5.866	5.800	5.253	5.681	5.693
1994	5.800	3.728	5.950	5.253	5.416	5.835	5.800	5.253	5.693	5.704
1995	5.800	3.728	5.938	5.253	5.345	5.830	5.800	5.253	5.692	5.703
1996	5.800	3.703	5.947	5.253	5.373	5.828	5.800	5.253	5.663	5.678
1997	5.800	3.686	5.954	5.253	5.333	5.836	5.800	5.253	5.663	5.678
1998	5.800	3.694	5.953	5.253	5.314	5.833	5.800	5.253	5.505	5.539
1999	5.800	3.663	5.942	5.253	5.291	5.815	5.800	5.253	5.530	5.564
2000	5.800	3.648	5.959	5.253	5.309	5.823	5.800	5.253	5.529	5.542
2001	5.800	3.652	5.976	5.253	5.330	5.838	5.800	5.253	5.637	5.641
2002	5.800	3.646	5.971	5.253	5.362	5.845	5.800	5.253	5.517	5.519
2003	5.800	3.659	5.970	5.253	5.381	5.845	5.800	5.253	5.628	5.630
2004	5.800	3.636	5.981	5.253	5.429	5.853	5.800	5.253	5.532	5.539
2005	5.800	3.638	5.977	5.253	5.436	5.835	5.800	5.253	5.504	5.513
2006	5.800	3.622	5.980	5.253	5.431	5.836	5.800	^e 5.219	5.415	5.423
2007	5.800	3.609	5.985	5.222	5.483	5.857	5.800	5.188	5.465	5.471
2008	5.800	3.614	5.990	5.222	5.459	5.861	5.800	5.215	5.587	5.591
2009	5.800	3.598	5.988	5.222	5.509	5.878	5.800	5.221	5.674	5.677
2010	5.800	3.573	5.989	5.222	5.545	5.892	5.800	5.214	5.601	5.604
2011	5.800	3.573	6.008	5.222	5.538	5.905	5.800	5.216	5.526	5.530
2012	5.800	3.588	6.165	5.222	5.501	6.035	5.800	5.217	5.520	5.526
2013	5.800	3.629	6.010	5.222	5.497	5.899	5.800	5.216	5.470	5.482
2014	5.800	3.640	6.035	5.222	5.518	5.929	5.800	5.218	5.369	5.406
2015	5.717	3.669	6.065	5.222	5.504	5.941	5.682	5.218	5.279	5.319
2016	5.722	3.632	6.053	5.222	5.491	5.929	5.724	5.218	5.184	5.245
2017	5.723	3.612	6.050	5.222	5.489	5.930	5.738	^e 5.222	5.151	5.258
2018	5.706	3.591	6.063	5.222	^d 5.491	^d 5.938	5.721	5.222	^d 5.088	^d 5.259
2019	5.698	3.607	6.061	5.222	5.464	5.908	5.708	5.222	5.022	5.263
2020	5.691	3.593	6.066	5.222	5.513	5.927	5.709	5.222	4.924	5.220
2021	5.690	3.585	6.067	5.222	5.508	5.905	5.725	5.222	4.861	5.161
2022	5.684	3.575	6.085	5.222	5.519	5.928	5.721	5.222	4.866	5.187
2023	5.689	3.575	6.064	5.222	5.471	5.922	5.729	5.222	4.805	5.174
2024	5.689	3.578	6.062	5.222	5.455	5.929	5.719	5.222	4.804	5.154
2025	^P 5.689	^P 3.568	^P 6.062	^P 5.222	^P 5.437	^P 5.924	^P 5.716	^P 5.222	^P 4.739	^P 5.102
2026	^E 5.689	^E 3.568	^E 6.062	^E 5.222	^E 5.437	^E 5.924	^E 5.716	^E 5.222	^E 4.739	^E 5.102

^a Includes lease condensate.

^b Natural gas processing plant production of natural gas liquids (ethane, propane, normal butane, isobutane, and natural gasoline). Through 1980, also includes natural gas processing plant production of finished petroleum products (aviation gasoline, distillate fuel oil, jet fuel, kerosene, motor gasoline, special naphthas, and miscellaneous products).

^c Excludes fuel ethanol, methyl tertiary butyl ether (MTBE), and other oxygenates blended into motor gasoline.

^d Through 2017, the imports and exports factors are developed using old hydrocarbon gas liquids heat content values shown in Table A1 of the September 2019 *Monthly Energy Review* (MER). Beginning in 2018, the factors are developed using heat content values shown in Table A1 of the current MER.

^e For 2006–2016, includes MTBE blended into motor gasoline; excludes MTBE in other years. For all years, excludes fuel ethanol and other non-MTBE oxygenates blended into motor gasoline.

P=Preliminary. E=Estimate.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

Table A3. Approximate Heat Content of Petroleum Consumption and Fuel Ethanol
(Million Btu per Barrel)

	Total Petroleum ^a Consumption by Sector						Distillate Fuel Oil Consumption ⁱ	Hydrocarbon Gas Liquids Consumption ^g	Motor Gasoline (Finished) Consumption ^h	Petroleum Coke Consumption ^j	Fuel Ethanol ^k	Fuel Ethanol Feedstock Factor ^k
	Residential	Commercial ^b	Industrial ^b	Transportation ^{b,c}	Electric Power ^{d,e}	Total ^{b,c}						
1950	5.473	5.817	5.927	5.461	6.254	5.642	5.825	3.810	5.253	6.024	NA	NA
1955	5.470	5.781	5.847	5.407	6.254	5.581	5.825	3.810	5.253	6.024	NA	NA
1960	5.418	5.781	5.772	5.387	6.267	5.542	5.825	3.810	5.253	6.024	NA	NA
1965	5.365	5.761	5.695	5.386	6.267	5.517	5.825	^g 3.810	5.253	6.024	NA	NA
1970	5.262	5.709	5.579	5.393	6.252	5.499	5.825	3.731	5.253	6.024	NA	NA
1975	5.255	5.649	5.490	5.392	6.250	5.489	5.825	3.671	5.253	6.024	NA	NA
1980	5.322	5.752	5.340	5.441	6.254	5.472	5.825	3.669	5.253	6.024	3.564	6.586
1981	5.284	5.693	5.268	5.433	6.258	5.440	5.825	3.632	5.253	6.024	3.564	6.562
1982	5.267	5.699	5.211	5.423	6.258	5.406	5.825	3.588	5.253	6.024	3.564	6.539
1983	5.141	5.592	5.214	5.416	6.255	5.396	5.825	3.535	5.253	6.024	3.564	6.515
1984	5.308	5.658	5.167	5.418	6.251	5.385	5.825	3.580	5.253	6.024	3.564	6.492
1985	5.264	5.598	5.159	5.423	6.247	5.377	5.825	3.584	5.253	6.024	3.564	6.469
1986	5.269	5.632	5.237	5.426	6.257	5.410	5.825	3.631	5.253	6.024	3.564	6.446
1987	5.241	5.594	5.203	5.429	6.249	5.395	5.825	3.663	5.253	6.024	3.564	6.423
1988	5.259	5.598	5.196	5.433	6.250	5.402	5.825	3.643	5.253	6.024	3.564	6.400
1989	5.195	5.549	5.190	5.438	^d 6.240	5.403	5.825	3.679	5.253	6.024	3.564	6.377
1990	5.146	5.554	5.219	5.442	6.244	5.403	5.825	3.630	5.253	6.024	3.564	6.355
1991	5.096	5.529	5.130	5.441	6.246	5.375	5.825	3.626	5.253	6.024	3.564	6.332
1992	5.126	5.514	5.133	5.443	6.238	5.369	5.825	3.643	5.253	6.024	3.564	6.309
1993	5.103	^b 5.505	^b 5.140	^b 5.413	6.230	^b 5.354	5.825	3.628	^h 5.217	6.024	3.564	6.287
1994	5.097	5.513	5.115	5.413	6.213	5.344	^f 5.820	3.657	5.214	6.024	3.564	6.264
1995	5.062	5.476	5.084	5.409	6.187	5.326	5.820	3.641	5.204	6.024	3.564	6.242
1996	4.997	5.431	5.076	5.416	6.194	5.323	5.820	3.629	5.211	6.024	3.564	6.220
1997	4.988	5.389	5.083	5.410	6.198	5.322	5.820	3.627	5.205	6.024	3.564	6.198
1998	4.974	5.363	5.101	5.406	6.210	5.335	5.819	3.619	5.203	6.024	3.564	6.176
1999	4.902	5.289	5.052	5.406	6.204	5.313	5.819	3.628	5.202	6.024	3.564	6.167
2000	4.908	5.313	5.015	5.415	6.188	5.311	5.819	3.610	5.201	6.024	3.564	6.159
2001	4.936	5.323	5.104	5.405	6.199	5.331	5.819	3.604	5.201	6.024	3.564	6.151
2002	4.885	5.291	5.053	5.404	6.172	5.309	5.819	3.588	5.199	6.024	3.564	6.143
2003	4.920	5.313	5.108	5.400	6.182	5.326	5.819	3.610	5.197	6.024	3.564	6.106
2004	4.952	5.324	5.106	5.407	6.134	5.330	5.818	3.591	5.196	ⁱ 5.982	3.564	6.069
2005	4.915	5.360	5.143	5.408	6.126	5.342	5.818	3.589	5.192	5.982	3.564	6.032
2006	4.886	5.296	5.120	5.405	6.038	5.323	5.803	3.551	5.185	5.987	3.564	5.995
2007	4.833	5.270	5.079	5.376	6.064	5.293	5.784	3.544	5.142	5.996	3.564	5.959
2008	4.772	5.156	5.103	5.342	6.013	5.268	5.780	3.549	5.106	5.992	3.564	5.922
2009	4.664	5.217	4.959	^c 5.320	5.987	^c 5.218	5.781	3.487	5.090	6.017	3.564	5.901
2010	4.664	5.195	4.920	5.316	5.956	5.204	5.778	3.489	5.067	6.059	3.562	5.880
2011	4.657	5.176	4.887	5.315	5.900	5.193	5.776	3.423	5.063	6.077	3.561	5.859
2012	4.714	5.126	4.843	5.306	5.925	5.176	5.774	3.440	5.062	6.084	3.560	5.838
2013	4.648	5.053	4.801	5.302	5.892	5.157	5.774	3.468	5.060	6.089	3.560	5.831
2014	4.664	5.016	4.804	5.300	5.906	5.161	5.773	3.439	5.059	6.100	3.559	5.825
2015	4.721	5.050	4.767	5.302	5.915	5.154	5.773	3.461	5.057	6.085	3.558	5.818
2016	4.631	5.022	4.799	5.303	5.885	5.161	5.773	3.424	5.055	6.104	3.558	5.811
2017	4.623	5.006	4.769	5.305	5.893	5.153	5.772	3.400	5.053	6.132	3.556	5.804
2018	4.620	4.971	4.664	5.309	5.896	5.122	5.772	3.381	5.054	6.122	3.553	5.797
2019	4.540	4.962	4.646	5.307	5.900	5.111	5.771	3.401	5.052	6.132	3.555	5.790
2020	4.536	4.889	4.534	5.301	5.883	5.054	5.770	3.349	5.052	6.130	3.557	5.784
2021	4.611	4.909	4.524	5.307	5.883	5.067	5.770	3.369	5.050	6.135	3.555	5.777
2022	4.596	4.942	4.441	5.314	5.902	5.058	5.770	3.229	5.049	6.164	3.553	5.777
2023	4.621	4.957	4.388	5.308	5.931	5.039	5.770	3.224	5.049	6.153	3.554	5.777
2024	4.617	4.943	4.310	5.307	5.939	5.012	5.770	3.210	5.050	6.219	3.553	5.777
2025	^E 4.607	^E 4.931	^E 4.281	^E 5.310	^P 5.930	^P 5.001	^P 5.770	^P 3.195	^P 5.047	^P 6.198	^P 3.554	5.717
2026	^E 4.607	^E 4.931	^E 4.281	^E 5.310	^E 5.930	^E 5.001	^E 5.770	^E 3.195	^E 5.047	^E 6.198	^E 3.554	5.717

^a Petroleum products supplied, including natural gas plant liquids and crude oil burned directly as fuel. Quantity-weighted averages of the petroleum products included in each category are calculated by using heat content values for individual products shown in Tables A1 and A3.

^b Beginning in 1993, includes fuel ethanol blended into motor gasoline.

^c Beginning in 2009, includes biodiesel and renewable diesel fuel blended into distillate fuel oil.

^d Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

^e Electric power sector factors are weighted average heat contents for distillate fuel oil, petroleum coke, and residual fuel oil; they exclude other liquids.

^f There is a discontinuity in this time series between 1993 and 1994; beginning in 1994, the single constant factor is replaced by a quantity-weighted factor.

Quantity-weighted averages of the sulfur-content categories of distillate fuel oil are calculated by using heat content values shown in Table A1. Excludes biodiesel and renewable diesel fuel blended into distillate fuel oil.

^g Quantity-weighted averages of the major components of hydrocarbon gas liquids are calculated by using heat content values shown in Table A1. The factor for 1967 is used as the estimated factor for 1949–1966.

^h Through 1992, excludes oxygenates. Beginning in 1993, includes fuel ethanol blended into motor gasoline; and for 1993–2006, also includes methyl tertiary butyl ether (MTBE) and other oxygenates blended into motor gasoline.

ⁱ There is a discontinuity in this time series between 2003 and 2004; beginning in 2004, the single constant factor is replaced by a quantity-weighted factor. Quantity-weighted averages of the two categories of petroleum coke are calculated by using heat content values shown in Table A1.

^j Includes denaturant (petroleum added to ethanol to make it undrinkable). Fuel ethanol factors are weighted average heat contents for undenatured ethanol (3.539 million Btu per barrel) and products used as denaturant (natural gasoline, finished motor gasoline, and motor gasoline blending components—see Tables A1 and A3 for factors). The factor for 2009 is used as the estimated factor for 1980–2008.

^k Corn input to the production of undenatured ethanol (million Btu corn per barrel undenatured ethanol), used as the factor to estimate total biomass inputs to the production of undenatured ethanol. Ethanol yields (gallons undenatured ethanol per bushel of corn) range from 2.5 in 1980 to 2.88 in 2025—see "Fuel Ethanol Feedstock" sources in the "Thermal Conversion Factor Source Documentation," which follows Table A6. Corn is assumed to have a gross heat content of 0.392 million Btu per bushel. Undenatured ethanol is assumed to have a gross heat content of 3.539 million Btu per barrel.

^P=Preliminary. ^E=Estimate. NA=Not available.

Note: The heat content values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

Table A4. Approximate Heat Content of Natural Gas
(Btu per Cubic Foot)

	Production		Consumption ^a			Imports	Exports
	Marketed	Dry	End-Use Sectors ^b	Electric Power Sector ^c	Total		
1950	1,119	1,035	1,035	1,035	1,035	--	1,035
1955	1,120	1,035	1,035	1,035	1,035	1,035	1,035
1960	1,107	1,035	1,035	1,035	1,035	1,035	1,035
1965	1,101	1,032	1,032	1,032	1,032	1,032	1,032
1970	1,102	1,031	1,031	1,031	1,031	1,031	1,031
1975	1,095	1,021	1,020	1,026	1,021	1,026	1,014
1980	1,098	1,026	1,024	1,035	1,026	1,022	1,013
1981	1,103	1,027	1,025	1,035	1,027	1,014	1,011
1982	1,107	1,028	1,026	1,036	1,028	1,018	1,011
1983	1,115	1,031	1,031	1,030	1,031	1,024	1,010
1984	1,109	1,031	1,030	1,035	1,031	1,005	1,010
1985	1,112	1,032	1,031	1,038	1,032	1,002	1,011
1986	1,110	1,030	1,029	1,034	1,030	997	1,008
1987	1,112	1,031	1,031	1,032	1,031	999	1,011
1988	1,109	1,029	1,029	1,028	1,029	1,002	1,018
1989	1,107	1,031	1,032	1,028	1,031	1,004	1,019
1990	1,105	1,029	1,029	1,027	1,029	1,012	1,018
1991	1,108	1,030	1,031	1,025	1,030	1,014	1,022
1992	1,110	1,030	1,031	1,025	1,030	1,011	1,018
1993	1,106	1,027	1,027	1,025	1,027	1,020	1,016
1994	1,105	1,028	1,029	1,025	1,028	1,022	1,011
1995	1,106	1,026	1,027	1,021	1,026	1,021	1,011
1996	1,109	1,026	1,027	1,020	1,026	1,022	1,011
1997	1,107	1,026	1,027	1,020	1,026	1,023	1,011
1998	1,109	1,031	1,033	1,024	1,031	1,023	1,011
1999	1,107	1,027	1,028	1,022	1,027	1,022	1,006
2000	1,107	1,025	1,026	1,021	1,025	1,023	1,006
2001	1,105	1,028	1,029	1,026	1,028	1,023	1,010
2002	1,103	1,024	1,025	1,020	1,024	1,022	1,008
2003	1,103	1,028	1,029	1,025	1,028	1,025	1,009
2004	1,104	1,026	1,026	1,027	1,026	1,025	1,009
2005	1,104	1,028	1,028	1,028	1,028	1,025	1,009
2006	1,103	1,028	1,028	1,028	1,028	1,025	1,009
2007	1,102	1,027	1,027	1,027	1,027	1,025	1,009
2008	1,100	1,027	1,027	1,027	1,027	1,025	1,009
2009	1,101	1,025	1,025	1,025	1,025	1,025	1,009
2010	1,098	1,023	1,023	1,022	1,023	1,025	1,009
2011	1,142	1,022	1,022	1,021	1,022	1,025	1,009
2012	1,091	1,024	1,025	1,022	1,024	1,025	1,009
2013	1,101	1,027	1,028	1,025	1,027	1,025	1,009
2014	1,116	1,032	1,033	1,029	1,032	1,025	1,009
2015	1,124	1,037	1,038	1,035	1,037	1,025	1,009
2016	1,128	1,037	1,039	1,034	1,037	1,025	1,009
2017	1,129	1,036	1,037	1,034	1,036	1,025	1,009
2018	1,134	1,036	1,038	1,033	1,036	1,025	1,009
2019	1,140	1,038	1,040	1,034	1,038	1,025	1,009
2020	1,145	1,037	1,039	1,034	1,037	1,025	1,009
2021	1,146	1,037	1,039	1,034	1,037	1,025	1,009
2022	1,149	1,036	1,038	1,033	1,036	1,025	1,009
2023	1,157	1,036	1,038	1,033	1,036	1,025	1,009
2024	1,167	1,037	1,039	1,034	1,037	1,025	1,009
2025	^E 1,167	^P 1,036	^P 1,037	^P 1,034	^P 1,036	^E 1,025	^E 1,009
2026	^E 1,167	^E 1,036	^E 1,037	^E 1,034	^E 1,036	^E 1,025	^E 1,009

^a Consumption factors are for natural gas, plus a small amount of supplemental gaseous fuels.

^b Residential, commercial, industrial, and transportation sectors.

^c Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

P=Preliminary. E=Estimate. --=Not applicable.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

Table A5. Approximate Heat Content of Coal and Coal Coke
(Million Btu per Short Ton)

	Coal									Coal Coke
	Production ^a	Waste Coal Supplied ^b	Consumption					Imports	Exports	Imports and Exports
			Residential and Commercial Sectors ^c	Industrial Sector		Electric Power Sector ^{e,f}	Total			
				Coke Plants	Other ^d					
1950	25.090	NA	24.461	26.798	24.820	23.937	24.989	25.020	26.788	24.800
1955	25.201	NA	24.373	26.794	24.821	24.056	24.982	25.000	26.907	24.800
1960	24.906	NA	24.226	26.791	24.609	23.927	24.713	25.003	26.939	24.800
1965	24.775	NA	24.028	26.787	24.385	23.780	24.537	25.000	26.973	24.800
1970	23.842	NA	23.203	26.784	22.983	22.573	23.440	25.000	26.982	24.800
1975	22.897	NA	22.261	26.782	22.436	21.642	22.506	25.000	26.562	24.800
1980	22.415	NA	22.543	26.790	22.690	21.295	21.947	25.000	26.384	24.800
1985	21.870	NA	22.646	26.798	22.020	20.959	21.366	25.000	26.307	24.800
1986	21.913	NA	22.947	26.798	22.198	21.084	21.462	25.000	26.292	24.800
1987	21.922	NA	23.404	26.799	22.381	21.136	21.517	25.000	26.291	24.800
1988	21.823	NA	23.571	26.799	22.360	20.900	21.328	25.000	26.299	24.800
1989	21.765	^b 10.391	23.650	26.800	22.347	^e 20.898	21.307	25.000	26.160	24.800
1990	21.822	9.303	23.137	26.799	22.457	20.779	21.197	25.000	26.202	24.800
1991	21.681	10.758	23.114	26.799	22.460	20.730	21.120	25.000	26.188	24.800
1992	21.682	10.396	23.105	26.799	22.250	20.709	21.068	25.000	26.161	24.800
1993	21.418	10.638	22.994	26.800	22.123	20.677	21.010	25.000	26.335	24.800
1994	21.394	11.097	23.112	26.800	22.068	20.589	20.929	25.000	26.329	24.800
1995	21.326	11.722	23.118	26.800	21.950	20.543	20.880	25.000	26.180	24.800
1996	21.322	12.147	23.011	26.800	22.105	20.547	20.870	25.000	26.174	24.800
1997	21.296	12.158	22.494	26.800	22.172	20.518	20.830	25.000	26.251	24.800
1998	21.418	12.639	21.620	27.426	23.164	20.516	20.881	25.000	26.800	24.800
1999	21.070	12.552	23.880	27.426	22.489	20.490	20.818	25.000	26.081	24.800
2000	21.072	12.360	25.020	27.426	22.433	20.511	20.828	25.000	26.117	24.800
2001	^a 20.772	12.169	24.909	27.426	22.622	20.337	20.671	25.000	25.998	24.800
2002	20.673	12.165	22.962	27.426	22.562	20.238	20.541	25.000	26.062	24.800
2003	20.499	12.360	22.242	27.425	22.468	20.082	20.387	25.000	25.972	24.800
2004	20.424	12.266	22.324	27.426	22.473	19.980	20.290	25.000	26.108	24.800
2005	20.348	12.093	22.342	26.279	22.178	19.988	20.246	25.000	25.494	24.800
2006	20.310	12.080	22.066	26.271	22.050	19.931	20.181	25.000	25.453	24.800
2007	20.340	12.090	22.069	26.329	22.371	19.909	20.168	25.000	25.466	24.800
2008	20.208	12.121	^c 23.035	26.281	22.304	19.713	19.979	25.000	25.399	24.800
2009	19.963	12.076	22.852	26.334	21.823	19.521	19.741	25.000	25.633	24.800
2010	20.173	11.960	22.611	26.295	21.846	19.623	19.870	25.000	25.713	24.800
2011	20.142	11.604	22.099	26.299	21.568	19.341	19.600	25.000	25.645	24.800
2012	20.215	11.539	21.300	28.636	21.449	19.211	19.544	23.128	24.551	24.800
2013	20.182	11.103	21.233	28.705	21.600	19.174	19.513	22.379	24.605	24.800
2014	20.146	11.474	21.307	28.458	21.525	19.290	19.611	22.187	25.032	24.800
2015	19.880	11.527	20.699	28.526	21.258	19.146	19.482	22.633	25.048	24.800
2016	19.977	11.496	20.078	28.608	21.055	19.153	19.459	22.327	25.655	24.800
2017	20.025	11.438	19.467	28.673	20.802	18.981	19.303	21.489	24.628	24.800
2018	20.160	11.419	19.269	28.608	20.739	18.915	19.258	20.415	24.294	24.800
2019	20.053	11.513	19.084	28.629	20.721	18.903	19.292	20.558	24.584	24.800
2020	19.845	11.268	18.297	28.717	20.425	18.882	19.260	20.347	24.969	24.800
2021	19.933	11.268	18.399	28.666	20.578	18.941	19.331	20.295	24.216	24.800
2022	20.100	11.268	18.083	28.669	20.388	18.792	19.180	21.447	24.346	24.800
2023	20.172	11.268	17.375	28.859	20.490	18.717	19.185	21.929	24.055	24.800
2024	20.469	11.268	17.198	28.932	20.358	18.792	19.254	23.445	24.225	24.800
2025	^P 20.383	^P 11.268	^P 17.041	^P 28.917	^P 20.325	^P 18.774	^P 19.167	^P 23.115	^P 24.439	^P 24.800
2026	^E 20.383	^E 11.268	^E 17.041	^E 28.917	^E 20.325	^E 18.774	^E 19.167	^E 23.115	^E 24.439	^E 24.800

^a Beginning in 2001, includes a small amount of refuse recovery (coal recaptured from a refuse mine, and cleaned to reduce the concentration of noncombustible materials).

^b Waste coal (including fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste) consumed by the electric power and industrial sectors. Beginning in 1989, waste coal supplied is counted as a supply-side item to balance the same amount of waste coal included in "Consumption."

^c Through 2007, used as the thermal conversion factor for coal consumption by the residential and commercial sectors. Beginning in 2008, used as the thermal conversion factor for coal consumption by the commercial sector only.

^d Includes transportation. Excludes coal synfuel plants.

^e Electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public. Through 1988, data are for electric utilities only; beginning in 1989, data are for electric utilities and independent power producers.

^f Electric power sector factors are for anthracite, bituminous coal, subbituminous coal, lignite, waste coal, and, beginning in 1998, coal synfuel.

P=Preliminary. E=Estimate. NA=Not available.

Note: The values in this table are for gross heat contents. See "Heat Content" in Glossary.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: See "Thermal Conversion Factor Source Documentation," which follows Table A6.

Table A6. Approximate Heat Rates for Electricity, and Heat Content of Electricity
(Btu per Kilowatthour)

	Approximate Heat Rates ^a for Electricity Net Generation					Thermal Conversion Factor for Noncombustible Renewable Energy ^{l,k}	Heat Content ^j of Electricity ^k
	Fossil Fuels ^b				Nuclear ^h		
	Coal ^c	Petroleum ^d	Natural Gas ^e	Total Fossil Fuels ^{f,g}			
1950	NA	NA	NA	14,030	--	3,412	3,412
1955	NA	NA	NA	11,699	--	3,412	3,412
1960	NA	NA	NA	10,760	11,629	3,412	3,412
1965	NA	NA	NA	10,453	11,804	3,412	3,412
1970	NA	NA	NA	10,494	10,977	3,412	3,412
1975	NA	NA	NA	10,406	11,013	3,412	3,412
1980	NA	NA	NA	10,388	10,908	3,412	3,412
1981	NA	NA	NA	10,453	11,030	3,412	3,412
1982	NA	NA	NA	10,454	11,073	3,412	3,412
1983	NA	NA	NA	10,520	10,905	3,412	3,412
1984	NA	NA	NA	10,440	10,843	3,412	3,412
1985	NA	NA	NA	10,447	10,622	3,412	3,412
1986	NA	NA	NA	10,446	10,579	3,412	3,412
1987	NA	NA	NA	10,419	10,442	3,412	3,412
1988	NA	NA	NA	10,324	10,602	3,412	3,412
1989	NA	NA	NA	10,432	10,583	3,412	3,412
1990	NA	NA	NA	10,402	10,582	3,412	3,412
1991	NA	NA	NA	10,436	10,484	3,412	3,412
1992	NA	NA	NA	10,342	10,471	3,412	3,412
1993	NA	NA	NA	10,309	10,504	3,412	3,412
1994	NA	NA	NA	10,316	10,452	3,412	3,412
1995	NA	NA	NA	10,312	10,507	3,412	3,412
1996	NA	NA	NA	10,340	10,503	3,412	3,412
1997	NA	NA	NA	10,213	10,494	3,412	3,412
1998	NA	NA	NA	10,197	10,491	3,412	3,412
1999	NA	NA	NA	10,226	10,450	3,412	3,412
2000	NA	NA	NA	10,201	10,429	3,412	3,412
2001	10,378	10,742	10,051	10,333	10,443	3,412	3,412
2002	10,314	10,641	9,533	10,173	10,442	3,412	3,412
2003	10,297	10,610	9,207	10,125	10,422	3,412	3,412
2004	10,331	10,571	8,647	10,016	10,428	3,412	3,412
2005	10,373	10,631	8,551	9,999	10,436	3,412	3,412
2006	10,351	10,809	8,471	9,919	10,435	3,412	3,412
2007	10,375	10,794	8,403	9,884	10,489	3,412	3,412
2008	10,378	11,015	8,305	9,854	10,452	3,412	3,412
2009	10,414	10,923	8,160	9,760	10,459	3,412	3,412
2010	10,415	10,984	8,185	9,756	10,452	3,412	3,412
2011	10,444	10,829	8,152	9,716	10,464	3,412	3,412
2012	10,498	10,991	8,039	9,516	10,479	3,412	3,412
2013	10,459	10,713	7,948	9,541	10,449	3,412	3,412
2014	10,428	10,814	7,907	9,509	10,459	3,412	3,412
2015	10,495	10,687	7,869	9,314	10,458	3,412	3,412
2016	10,493	10,811	7,863	9,228	10,459	3,412	3,412
2017	10,465	10,834	7,803	9,208	10,459	3,412	3,412
2018	10,481	11,095	7,811	9,098	10,455	3,412	3,412
2019	10,551	11,205	7,725	8,899	10,442	3,412	3,412
2020	10,655	11,259	7,725	8,767	10,446	3,412	3,412
2021	10,583	11,224	7,689	8,844	10,429	3,412	3,412
2022	10,689	11,166	7,740	8,813	10,448	3,412	3,412
2023	10,745	11,465	7,721	8,630	10,452	3,412	3,412
2024	10,777	11,200	7,754	8,617	10,443	3,412	3,412
2025	E 10,777	E 11,200	E 7,754	E 8,617	E 10,443	3,412	3,412
2026	E 10,777	E 11,200	E 7,754	E 8,617	E 10,443	3,412	3,412

^a The values in columns 1–5 of this table are for net heat rates. See "Heat Rate" in Glossary.
^b Through 2000, heat rates are for fossil-fueled steam-electric plants at electric utilities. Beginning in 2001, heat rates are for all fossil-fueled plants at electric utilities and electricity-only independent power producers.
^c Includes anthracite, bituminous coal, subbituminous coal, lignite, and, beginning in 2002, waste coal and coal synfuel.
^d Includes distillate fuel oil, residual fuel oil, jet fuel, kerosene, petroleum coke, and waste oil.
^e Includes natural gas and supplemental gaseous fuels.
^f Includes coal, petroleum, natural gas, and, beginning in 2001, other fossil gases (blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels).
^g Through 2000, used as the thermal conversion factor for wood and waste electricity net generation at electric utilities; beginning in 2001, Btu data for wood and waste at electric utilities are available from surveys.
^h Used as the thermal conversion factor for nuclear electricity net generation.
ⁱ Technology-based geothermal heat rates are no longer used in Btu calculations in this report. For technology-based geothermal heat rates for 1960–2010, see the *Annual Energy Review 2010*, Table A6.
^j See "Heat Content" in Glossary.
^k The value of 3,412 Btu per kilowatthour, which is the heat content of electricity, is a constant. It is used as the thermal conversion factor for electricity net generation from noncombustible renewable energy (hydro, geothermal, solar thermal, photovoltaic, and wind), electricity sales to ultimate customers, and electricity imports and exports.
^E=Estimate. NA=Not available. —=Not applicable.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.
Sources: See "Thermal Conversion Factor Source Documentation," which follows this table.

Approximate Heat Content of Petroleum and Natural Gas Liquids

Asphalt. The U.S. Energy Information Administration (EIA) adopted the thermal conversion factor of 6.636 million British thermal units (Btu) per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Aviation Gasoline Blending Components. Assumed by EIA to be 5.048 million Btu per barrel or equal to the thermal conversion factor for **Aviation Gasoline (Finished)**.

Aviation Gasoline (Finished). EIA adopted the thermal conversion factor of 5.048 million Btu per barrel as adopted by the Bureau of Mines from the Texas Eastern Transmission Corporation publication *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics.

Butylene. EIA estimated the thermal conversion factor to be 4.377 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Crude Oil Exports. • 1949–2014: Assumed by EIA to be 5.800 million Btu per barrel or equal to the thermal conversion factor for crude oil produced in the United States. See **Crude Oil Production**. • 2015 forward: Calculated annually by EIA based on conversion of American Petroleum Institute (API) gravity ranges of crude oil exports as reported in trade data from the U.S. Census Bureau. Specific gravity (SG) = $141.5 / (131.5 + \text{API gravity})$. The higher heating value (HHV) in million Btu per barrel = $\text{SG} * (7.801796 - 1.3213 * \text{SG}^2)$.

Crude Oil Imports. Calculated annually by EIA as the average of the thermal conversion factors for each type of crude oil imported weighted by the quantities imported. Thermal conversion factors for each type were calculated on a foreign country basis, by determining the average American Petroleum Institute (API) gravity of crude oil imported from each foreign country from Form ERA-60 in 1977 and converting average API gravity to average Btu content by using National Bureau of Standards, Miscellaneous Publication No. 97, *Thermal Properties of Petroleum Products*, 1933.

Crude Oil Production. • 1949–2014: EIA adopted the thermal conversion factor of 5.800 million Btu per barrel as reported in a Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.” • 2015 forward: Calculated annually by EIA based on conversion of American Petroleum Institute (API) gravity ranges of crude oil production as reported on Form EIA-914, “Monthly Crude Oil, Lease Condensate, and Natural Gas Production Report.” Specific gravity (SG) = $141.5 / (131.5 + \text{API gravity})$. The higher heating value (HHV) in million Btu per barrel = $\text{SG} * (7.801796 - 1.3213 * \text{SG}^2)$.

Distillate Fuel Oil Consumption. • 1949–1993: EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.” • 1994 forward: Calculated by EIA as the annual quantity-weighted average of the conversion factors for **Distillate Fuel Oil, 15 ppm Sulfur and Under** (5.770 million Btu per barrel), **Distillate Fuel Oil, Greater Than 15 ppm to 500 ppm Sulfur** (5.817 million Btu per barrel), and **Distillate Fuel Oil, Greater Than 500 ppm Sulfur** (5.825 million Btu per barrel).

Distillate Fuel Oil, 15 ppm Sulfur and Under. EIA adopted the thermal conversion factor of 5.770 million Btu per barrel (137,380 Btu per gallon) for U.S. conventional diesel from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Distillate Fuel Oil, Greater Than 15 ppm to 500 ppm Sulfur. EIA adopted the thermal conversion factor of 5.817 million Btu per barrel (138,490 Btu per gallon) for low-sulfur diesel from U.S. Department of Energy, Argonne Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Distillate Fuel Oil, Greater Than 500 ppm Sulfur. EIA adopted the Bureau of Mines thermal conversion factor of 5.825 million Btu per barrel as reported in a Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.”

Ethane. EIA estimated the thermal conversion factor to be 2.783 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook*, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Ethylene. EIA adopted the thermal conversion factor of 2.436 million Btu per barrel (0.058 million Btu per gallon) as published in the Federal Register EPA; 40 CFR part 98; e-CRF; Table C1; April 5, 2019. The ethylene higher heating value is determined at 41 degrees Fahrenheit at saturation pressure.

Hydrocarbon Gas Liquids. • 1949–1966: EIA used the 1967 factor. • 1967 forward: Calculated annually by EIA as the average of the thermal conversion factors for all hydrocarbon gas liquids consumed (see Table A1) weighted by the quantities consumed. The component products of hydrocarbon gas liquids are ethane, propane, normal butane, isobutane, natural gasoline (pentanes plus), and refinery olefins (ethylene, propylene, butylene, and isobutylene). For 1967–1980, quantities consumed are from EIA, Energy Data Reports, “Petroleum Statement, Annual.” For 1981 forward, quantities consumed are from EIA, *Petroleum Supply Annual*.

Hydrogen. EIA estimated a thermal conversion factor of 323.6 Btu per standard cubic foot (at 60 degrees Fahrenheit and 1 atmosphere), based on data published by the National Research Council and National Academy of Engineering, in Appendix H of *The Hydrogen Economy: Opportunities, Costs, Barriers, and R&D Needs*, 2004. EIA also assumed a thermal conversion factor of 6.287 million Btu per residual fuel oil equivalent barrel or equal to the thermal conversion factor for **Residual Fuel Oil**.

Isobutane. EIA estimated the thermal conversion factor to be 4.183 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook*, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Isobutylene. EIA estimated the thermal conversion factor to be 4.355 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook*, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Jet Fuel, Kerosene-Type. EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel for “Jet Fuel, Commercial” as published by the Texas Eastern Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics.

Jet Fuel, Naphtha-Type. EIA adopted the Bureau of Mines thermal conversion factor of 5.355 million Btu per barrel for “Jet Fuel, Military” as published by the Texas Eastern Transmission Corporation in the report *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics.

Kerosene. EIA adopted the Bureau of Mines thermal conversion factor of 5.670 million Btu per barrel as reported in a Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.”

Lubricants. EIA adopted the thermal conversion factor of 6.065 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual*, 1956.

Miscellaneous Products. EIA adopted the thermal conversion factor of 5.796 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual*, 1956.

Motor Gasoline Blending Components. • 1949–2006: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for “Gasoline, Motor Fuel” as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Markets 1947–1985*, a 1968 release of historical and projected statistics. • 2007 forward: EIA adopted the thermal conversion factor of 5.222 million Btu per barrel (124,340 Btu per gallon) for gasoline blendstock from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Motor Gasoline Exports. • 1949–2005: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for “Gasoline, Motor Fuel” as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics. • 2006 forward: Calculated by EIA as the annual quantity-weighted average of the conversion factors for gasoline blendstock and the methyl tertiary butyl ether (MTBE) blended into motor gasoline exports. The factor for gasoline

blendstock is 5.253 million Btu per barrel in 2006 and 5.222 million Btu per barrel beginning in 2007 (see **Motor Gasoline Blending Components**). For MTBE, EIA adopted the thermal conversion factor of 4.247 million Btu per barrel (101,130 Btu per gallon) from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Motor Gasoline (Finished) Consumption. • 1949–1992: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for “Gasoline, Motor Fuel” as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Markets 1947-1985*, a 1968 release of historical and projected statistics. • 1993–2006: Calculated by EIA as the annual quantity-weighted average of the conversion factors for gasoline blendstock and the oxygenates blended into motor gasoline. The factor for gasoline blendstock is 5.253 million Btu per barrel (the motor gasoline factor used for previous years). The factors for fuel ethanol are shown in Table A3 (see **Fuel Ethanol, Denatured**). The following factors for other oxygenates are from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025—methyl tertiary butyl ether (MTBE): 4.247 million Btu per barrel (101,130 Btu per gallon); tertiary amyl methyl ether (TAME): 4.560 million Btu per barrel (108,570 Btu per gallon); ethyl tertiary butyl ether (ETBE): 4.390 million Btu per barrel (104,530 Btu per gallon); methanol: 2.738 million Btu per barrel (65,200 Btu per gallon); and butanol: 4.555 million Btu per barrel (108,458 Btu per gallon). • 2007 forward: Calculated by EIA as the annual quantity-weighted average of the conversion factors for gasoline blendstock and fuel ethanol blended into motor gasoline. The factor for gasoline blendstock is 5.222 million Btu per barrel (124,340 Btu per gallon), which is from the GREET model (see above). The factors for fuel ethanol are shown in Table A3 (see **Fuel Ethanol, Denatured**).

Motor Gasoline Imports. • 1949–2006: EIA adopted the Bureau of Mines thermal conversion factor of 5.253 million Btu per barrel for “Gasoline, Motor Fuel” as published by the Texas Eastern Transmission Corporation in Appendix V of *Competition and Growth in American Energy Markets 1947–1985*, a 1968 release of historical and projected statistics. • 2007 forward: EIA adopted the thermal conversion factor of 5.222 million Btu per barrel (124,340 Btu per gallon) for gasoline blendstock from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Natural Gas Plant Liquids Production. Calculated annually by EIA as the average of the thermal conversion factors for each natural gas plant liquid produced weighted by the quantities produced.

Natural Gasoline. EIA estimated the thermal conversion factor to be 4.638 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute. EIA assumes a natural gasoline ratio of 29% isopentane, 29% neopentane, 20% normal pentane, 13% normal hexane, 4% cyclohexane, 3% benzene, and 2% toluene in these calculations.

Normal Butane. EIA estimated the thermal conversion factor to be 4.353 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook, NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Other Hydrocarbons. Assumed by EIA to be 5.825 million Btu per barrel or equal to the thermal conversion factor for **Unfinished Oils**.

Oxygenates (Excluding Fuel Ethanol). EIA adopted the thermal conversion factor of 4.247 million Btu per barrel (101,130 Btu per gallon) for methyl tertiary butyl ether (MTBE) from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Petrochemical Feedstocks, Naphtha Less Than 401 Degrees Fahrenheit. Assumed by EIA to be 5.248 million Btu per barrel or equal to the thermal conversion factor for **Special Naphthas**.

Petrochemical Feedstocks, Other Oils Equal to or Greater Than 401 Degrees Fahrenheit. Assumed by EIA to be 5.825 million Btu per barrel or equal to the thermal conversion factor for **Distillate Fuel Oil**.

Petrochemical Feedstocks, Still Gas. Assumed by EIA to be equal to the thermal conversion factor for **Still Gas**.

Petroleum Coke, Catalyst. Assumed by EIA to be 6.287 million Btu per barrel or equal to the thermal conversion factor for **Residual Fuel Oil**.

Petroleum Coke, Marketable. EIA adopted the thermal conversion factor of 5.719 million Btu per barrel, calculated by dividing 28,595,925 Btu per short ton for petroleum coke (from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025) by 5.0 barrels per short ton (as given in the Bureau of Mines Form 6-1300-M and successor EIA forms).

Petroleum Coke, Total. • 1949–2003: EIA adopted the thermal conversion factor of 6.024 million Btu per barrel as reported in Btu per short ton in the Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.” The Bureau of Mines calculated this factor by dividing 30.120 million Btu per short ton, as given in the referenced Bureau of Mines internal memorandum, by 5.0 barrels per short ton, as given in the Bureau of Mines Form 6-1300-M and successor EIA forms. • 2004 forward: Calculated by EIA as the annual quantity-weighted average of the conversion factors for **Petroleum Coke, Catalyst** (6.287 million Btu per barrel) and **Petroleum Coke, Marketable** (5.719 million Btu per barrel).

Petroleum Consumption, Commercial Sector. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the commercial sector weighted by the estimated quantities consumed by the commercial sector. The quantities of petroleum products consumed by the commercial sector are estimated in the State Energy Data System—see documentation at http://www.eia.gov/state/seds/sep_use/notes/use_petrol.pdf.

Petroleum Consumption, Electric Power Sector. Calculated annually by EIA as the average of the thermal conversion factors for distillate fuel oil, petroleum coke, and residual fuel oil consumed by the electric power sector weighted by the quantities consumed by the electric power sector. Data are from Form EIA-923, “Power Plant Operations Report,” and predecessor forms.

Petroleum Consumption, Industrial Sector. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the industrial sector weighted by the estimated quantities consumed by the industrial sector. The quantities of petroleum products consumed by the industrial sector are estimated in the State Energy Data System—see documentation at http://www.eia.gov/state/seds/sep_use/notes/use_petrol.pdf.

Petroleum Consumption, Residential Sector. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the residential sector weighted by the estimated quantities consumed by the residential sector. The quantities of petroleum products consumed by the residential sector are estimated in the State Energy Data System—see documentation at http://www.eia.gov/state/seds/sep_use/notes/use_petrol.pdf.

Petroleum Consumption, Total. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed weighted by the quantities consumed.

Petroleum Consumption, Transportation Sector. Calculated annually by EIA as the average of the thermal conversion factors for all petroleum products consumed by the transportation sector weighted by the estimated quantities consumed by the transportation sector. The quantities of petroleum products consumed by the transportation sector are estimated in the State Energy Data System—see documentation at http://www.eia.gov/state/seds/sep_use/notes/use_petrol.pdf.

Petroleum Products Exports. Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product exported weighted by the quantities exported.

Petroleum Products Imports. Calculated annually by EIA as the average of the thermal conversion factors for each petroleum product imported weighted by the quantities imported.

Plant Condensate. • 1973–1983: Estimated to be 5.418 million Btu per barrel by EIA from data provided by McClanahan Consultants, Inc., Houston, Texas.

Propane. EIA estimated the thermal conversion factor to be 3.841 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook*, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Propylene. EIA estimated the thermal conversion factor to be 3.835 million Btu per barrel, based on data for enthalpy of combustion from the National Institute of Standards and Technology, *NIST Chemistry WebBook*, *NIST Standard Reference Database Number 69*, 2018; and data for density of liquids at 60 degrees Fahrenheit and equilibrium pressure from the American Petroleum Institute.

Residual Fuel Oil. EIA adopted the thermal conversion factor of 6.287 million Btu per barrel as reported in the Bureau of Mines internal memorandum, “Bureau of Mines Standard Average Heating Values of Various Fuels, Adopted January 3, 1950.”

Road Oil. EIA adopted the Bureau of Mines thermal conversion factor of 6.636 million Btu per barrel, which was assumed to be equal to that of **Asphalt** and was first published by the Bureau of Mines in the *Petroleum Statement, Annual, 1970*.

Special Naphthas. EIA adopted the Bureau of Mines thermal conversion factor of 5.248 million Btu per barrel, which was assumed to be equal to that of the total gasoline (aviation and motor) factor and was first published in the *Petroleum Statement, Annual, 1970*.

Still Gas. • 1949–2015: EIA adopted the Bureau of Mines estimated thermal conversion factor of 6.000 million Btu per barrel, first published in the *Petroleum Statement, Annual, 1970*. • 2016 forward: Assumed by EIA to be 6.287 million Btu per barrel or equal to the thermal conversion factor for **Residual Fuel Oil**.

Total Petroleum Exports. Calculated annually by EIA as the average of the thermal conversion factors for crude oil and each petroleum product exported weighted by the quantities exported. See **Crude Oil Exports** and **Petroleum Products Exports**.

Total Petroleum Imports. Calculated annually by EIA as the average of the thermal conversion factors for each type of crude oil and petroleum product imported weighted by the quantities imported. See **Crude Oil Imports** and **Petroleum Products Imports**.

Unfinished Oils. EIA assumed the thermal conversion factor to be 5.825 million Btu per barrel, the average of all natural gas or equal to that for **Distillate Fuel Oil** and first published it in EIA’s *Annual Report to Congress, Volume 3, 1977*.

Unfractionated Stream. • 1979–1982: EIA assumed the thermal conversion factor to be 3.800 million Btu per barrel, the average of all natural gas plant liquids calculated on their contribution to total barrels produced.

Waxes. EIA adopted the thermal conversion factor of 5.537 million Btu per barrel as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*.

Approximate Heat Content of Biofuels

Biodiesel. EIA estimated the thermal conversion factor for biodiesel to be 5.359 million Btu per barrel, or 17,253 Btu per pound.

Biodiesel Feedstock. EIA used soybean oil input to the production of biodiesel (million Btu soybean oil per barrel biodiesel) as the factor to estimate total biomass inputs to the production of biodiesel. EIA assumed that 7.65 pounds of soybean oil are needed to produce one gallon of biodiesel, and 5.433 million Btu of soybean oil are needed to produce one barrel of biodiesel. EIA also assumed that soybean oil has a gross heat content of 16,909 Btu per pound, or 5.483 million Btu per barrel.

Ethanol (Undenatured). EIA adopted the thermal conversion factor of 3.539 million Btu per barrel published in “Oxygenate Flexibility for Future Fuels,” a paper presented by William J. Piel of the ARCO Chemical Company at the National Conference on Reformulated Gasolines and Clean Air Act Implementation, Washington, DC, October 1991.

Fuel Ethanol (Denatured). • 1981–2008: EIA used the 2009 factor. • 2009 forward: Calculated by EIA as the annual quantity-weighted average of the thermal conversion factors for undenatured ethanol (3.539 million Btu per barrel), natural gasoline used as denaturant (4.638 million Btu per barrel), and conventional motor gasoline and motor gasoline blending components used as denaturant (5.253 million Btu per barrel). The quantity of ethanol consumed is from EIA’s *Petroleum Supply Annual* (PSA) and *Petroleum Supply Monthly* (PSM), Table 1, data for renewable fuels and oxygenate plant net production of fuel ethanol. The quantity of natural gasoline used as denaturant is from PSA/PSM, Table 1, data for renewable fuels and oxygenate plant net production of natural gasoline, multiplied by -1. The quantity of conventional motor gasoline and motor gasoline blending components used as denaturant is from PSA/PSM, Table 1, data for renewable fuels and oxygenate plant net production of conventional motor gasoline and motor gasoline blending components, multiplied by -1.

Fuel Ethanol Feedstock. EIA used corn input to the production of undenatured ethanol (million Btu corn per barrel undenatured ethanol) as the annual factor to estimate total biomass inputs to the production of undenatured ethanol. EIA used the following observed ethanol yields (in gallons undenatured ethanol per bushel of corn) from U.S.

Department of Agriculture: 2.5 in 1980, 2.666 in 1998, 2.68 in 2002; and from University of Illinois at Chicago, Energy Resources Center, “2012 Corn Ethanol: Emerging Plant Energy and Environmental Technologies”: 2.78 in 2008, and 2.82 in 2012. EIA used the following weighted-average ethanol yields (in gallons undenatured ethanol per bushel of corn) from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025: 2.85 in 2021–2024, and 2.88 in 2025. EIA estimated the ethanol yields in other years. EIA also assumed that corn has a gross heat content of 0.392 million Btu per bushel.

Other Biofuels. EIA assumed the thermal conversion factor to be 5.359 million Btu per barrel or equal to the thermal conversion factor for **Biodiesel**.

Renewable Diesel Fuel. EIA adopted the thermal conversion factor of 5.494 million Btu per barrel (130,817 Btu per gallon) for renewable diesel II (UOP-HDO) from U.S. Department of Energy, Argonne National Laboratory, “The Greenhouse Gases, Regulated Emissions, and Energy Use in Technologies Model” (GREET), version R&D GREET1_2025, December 2025.

Approximate Heat Content of Natural Gas

Natural Gas Consumption, Electric Power Sector. Calculated annually by EIA by dividing the heat content of natural gas consumed by the electric power sector by the quantity consumed. Data are from Form EIA-923, “Power Plant Operations Report,” and predecessor forms.

Natural Gas Consumption, End-Use Sectors. Calculated annually by EIA by dividing the heat content of natural gas consumed by the end-use sectors (residential, commercial, industrial, and transportation) by the quantity consumed. The heat content of natural gas consumed by the end-use sectors is calculated as the total heat content of natural gas consumed minus the heat content of natural gas consumed by the electric power sector. The quantity of natural gas consumed by the end-use sectors is calculated as the total quantity of natural gas consumed minus the quantity of natural gas consumed by the electric power sector. Data are from Form EIA-176, “Annual Report of Natural and Supplemental Gas Supply and Disposition”; and Form EIA-923, “Power Plant Operations Report,” and predecessor forms.

Natural Gas Consumption, Total. • 1949–1962: EIA adopted the thermal conversion factor of 1,035 Btu per cubic foot as estimated by the Bureau of Mines and first published in the *Petroleum Statement, Annual, 1956*. • 1963–1979: EIA adopted the thermal conversion factor calculated annually by the American Gas Association (AGA) and published in *Gas Facts*, an AGA annual publication. • 1980 forward: Calculated annually by EIA by dividing the total heat content of natural gas consumed by the total quantity consumed.

Natural Gas Exports. • 1949–1972: Assumed by EIA to be equal to the thermal conversion factor for dry natural gas consumed (see **Natural Gas Consumption, Total**). • 1973 forward: Calculated annually by EIA by dividing the heat content of natural gas exported by the quantity exported. For 1973–1995, data are from Form FPC-14, “Annual Report for Importers and Exporters of Natural Gas.” Beginning in 1996, data are from U.S. Department of Energy, Office of Fossil Energy, *Natural Gas Imports and Exports*.

Natural Gas Imports. • 1949–1972: Assumed by EIA to be equal to the thermal conversion factor for dry natural gas consumed (see **Natural Gas Consumption, Total**). • 1973 forward: Calculated annually by EIA by dividing the heat content of natural gas imported by the quantity imported. For 1973–1995, data are from Form FPC-14, “Annual Report for Importers and Exporters of Natural Gas.” Beginning in 1996, data are from U.S. Department of Energy, Office of Fossil Energy, *Natural Gas Imports and Exports*.

Natural Gas Production, Dry. Assumed by EIA to be equal to the thermal conversion factor for dry natural gas consumed. See **Natural Gas Consumption, Total**.

Natural Gas Production, Marketed. Calculated annually by EIA by dividing the heat content of dry natural gas produced (see **Natural Gas Production, Dry**) and natural gas liquids produced (see **Natural Gas Liquids Production**) by the total quantity of marketed natural gas produced.

Approximate Heat Content of Coal and Coal Coke

Coal Coke Imports and Exports. EIA adopted the Bureau of Mines estimate of 24.800 million Btu per short ton.

Coal Consumption, Electric Power Sector. Calculated annually by EIA by dividing the heat content of coal consumed by the electric power sector by the quantity consumed. Data are from Form EIA-923, “Power Plant Operations Report,” and predecessor forms.

Coal Consumption, Industrial Sector, Coke Plants. • 1949–2011: Calculated annually by EIA based on the reported volatility (low, medium, or high) of coal received by coke plants. (For 2011, EIA used the following volatility factors, in million Btu per short ton: low volatile—26.680; medium volatile—27.506; and high volatile—25.652.) Data are from Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants,” and predecessor forms. • 2012 forward: Calculated annually by EIA by dividing the heat content of coal received by coke plants by the quantity received. Through June 2014, data are from Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants”; beginning in July 2014, data are from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”).

Coal Consumption, Industrial Sector, Other. • 1949–2007: Calculated annually by EIA by dividing the heat content of coal received by manufacturing plants by the quantity received. Data are from Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing Plants,” and predecessor forms. • 2008 forward: Calculated annually by EIA by dividing the heat content of coal received by manufacturing, gasification, and liquefaction plants by the quantity received. Data are from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”).

Coal Consumption, Residential and Commercial Sectors. • 1949–1999: Calculated annually by EIA by dividing the heat content of coal received by the residential and commercial sectors by the quantity received. Data are from Form EIA-6, “Coal Distribution Report,” and predecessor forms. • 2000–2007: Calculated annually by EIA by dividing the heat content of coal consumed by commercial combined-heat-and-power (CHP) plants by the quantity consumed. Data are from Form EIA-923, “Power Plant Operations Report,” and predecessor forms. • 2008 forward: Calculated annually by EIA by dividing the heat content of coal received by commercial and institutional users by the quantity received. Data are from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”).

Coal Consumption, Total. Calculated annually by EIA by dividing the total heat content of coal consumed by all sectors by the total quantity consumed.

Coal Exports. • 1949–2011: Calculated annually by EIA by dividing the heat content of steam coal and metallurgical coal exported by the quantity exported. Data are from U.S. Department of Commerce, U.S. Census Bureau, “Monthly Report EM 545,” and predecessor forms. • 2012 forward: Calculated annually by EIA by dividing the heat content of steam coal and metallurgical coal exported by the quantity exported. The average heat content of steam coal is derived from receipts data from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”), and Form EIA-923, “Power Plant Operations Report.” Through June 2014, the average heat content of metallurgical coal is derived from receipts data from Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants”; beginning in July 2014, the average heat content of metallurgical coal is derived from receipts data from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”). Data for export quantities are from U.S. Department of Commerce, U.S. Census Bureau, “Monthly Report EM 545.”

Coal Imports. • 1949–1963: Calculated annually by EIA by dividing the heat content of coal imported by the quantity imported. Data are from U.S. Department of Commerce, U.S. Census Bureau, “Monthly Report IM 145,” and predecessor forms. • 1964–2011: Assumed by EIA to be 25.000 million Btu per short ton. • 2012 forward: Calculated annually by EIA by dividing the heat content of coal imported (received) by the quantity imported (received). Data are from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”); Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants” (data through June 2014); and Form EIA-923, “Power Plant Operations Report.”

Coal Production. • 1949–2011: Calculated annually by EIA by dividing the heat content of domestic coal (excluding waste coal) received by the quantity received. Data are from Form EIA-3, “Quarterly Coal Consumption and Quality Report—Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Users”; Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants”; Form EIA-923, “Power Plant Operations Report”; and predecessor forms. • 2012 forward: Calculated annually by EIA by dividing the heat content of domestic coal (excluding waste coal) received and exported by the quantity received and exported. Data are from Form EIA-3, “Quarterly Survey

of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”); Form EIA-5, “Quarterly Coal Consumption and Quality Report—Coke Plants” (data through June 2014); Form EIA-923, “Power Plant Operations Report”; U.S. Department of Commerce, U.S. Census Bureau, “Monthly Report EM 545”; and predecessor forms.

Waste Coal Supplied. • 1989–2000: Calculated annually by EIA by dividing the heat content of waste coal consumed by the quantity consumed. Data are from Form EIA-860B, “Annual Electric Generator Report—Nonutility,” and predecessor form. • 2001 forward: Calculated by EIA by dividing the heat content of waste coal received (or consumed) by the quantity received (or consumed). Receipts data are from Form EIA-3, “Quarterly Survey of Industrial, Commercial, and Institutional Coal Users” (formerly called “Quarterly Survey of Non-Electric Sector Coal Data”), and predecessor forms. Consumption data are from Form EIA-923, “Power Plant Operations Report,” and predecessor forms.

Table A6 Sources

Approximate Heat Rates for Electricity Net Generation, Coal. • 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, “Power Plant Operations Report,” and predecessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using anthracite, bituminous coal, subbituminous coal, lignite, and beginning in 2002, waste coal and coal synfuel.

Approximate Heat Rates for Electricity Net Generation, Petroleum. • 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, “Power Plant Operations Report,” and predecessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using distillate fuel oil, residual fuel oil, jet fuel, kerosene, petroleum coke, and waste oil.

Approximate Heat Rates for Electricity Net Generation, Natural Gas. • 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, “Power Plant Operations Report,” and predecessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using natural gas and supplemental gaseous fuels.

Approximate Heat Rates for Electricity Net Generation, Total Fossil Fuels. • 1949–1955: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published by EIA in *Thermal-Electric Plant Construction Cost and Annual Production Expenses—1981* and *Steam-Electric Plant Construction Cost and Annual Production Expenses—1978*. • 1956–1988: The weighted annual average heat rate for fossil-fueled steam-electric power plants in the United States, as published in EIA, *Electric Plant Cost and Power Production Expenses 1991*, Table 9. • 1989–2000: Calculated annually by EIA by using heat rate data reported on Form EIA-860, “Annual Electric Generator Report,” and predecessor forms; and net generation data reported on Form EIA-759, “Monthly Power Plant Report.” The computation includes data for all electric utility steam-electric plants using fossil fuels. • 2001 forward: Calculated annually by EIA by using fuel consumption and net generation data reported on Form EIA-923, “Power Plant Operations Report,” and predecessor forms. The computation includes data for all electric utilities and electricity-only independent power producers using coal, petroleum, natural gas, and other fossil gases (blast furnace gas, propane gas, and other manufactured and waste gases derived from fossil fuels).

Approximate Heat Rates for Electricity Net Generation, Nuclear. • 1957–1984: Calculated annually by dividing the total heat content consumed in nuclear generating units by the total (net) electricity generated by nuclear generating units. The heat content and electricity generation were reported on Form FERC-1, “Annual Report of Major Electric Utilities, Licensees, and Others”; Form EIA-412, “Annual Report of Public Electric Utilities”; and predecessor forms. For 1982, the factors were published in EIA, *Historical Plant Cost and Annual Production Expenses for Selected Electric Plants 1982*, page 215. For 1983 and 1984, the factors were published in EIA, *Electric Plant Cost and Power Production Expenses 1991*, Table 13. • 1985 forward: Calculated annually by EIA by using the heat rate data reported on Form EIA-860, “Annual Electric Generator Report,” and predecessor forms.

Thermal Conversion Factor for Noncombustible Renewable Energy. There is no generally accepted practice for measuring the thermal conversion rates for power plants that generate electricity from hydro, geothermal, solar thermal, photovoltaic, and wind energy sources. Therefore, EIA uses the heat content of electricity, 3,412 Btu per kilowatthour. See Appendix E for more information.

Heat Content of Electricity. The value of 3,412 Btu per kilowatthour, which is the heat content of electricity, is a constant. It is used as the thermal conversion factor for electricity net generation from noncombustible renewable energy (hydro, geothermal, solar thermal, photovoltaic, and wind), electricity sales to ultimate customers, and electricity imports and exports.

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Appendix B

Metric Conversion Factors, Metric Prefixes, and Other Physical Conversion Factors

Metric Conversion Factors, Metric Prefixes, and Other Physical Conversion Factors

Data presented in the *Monthly Energy Review* and in other U.S. Energy Information Administration publications are expressed predominately in units that historically have been used in the United States, such as British thermal units, barrels, cubic feet, and short tons. The metric conversion factors presented in Table B1 can be used to calculate the metric-unit equivalents of values expressed in U.S. Customary units. For example, 500 short tons are the equivalent of 453.6 metric tons (500 short tons x 0.9071847 metric tons/short ton = 453.6 metric tons).

In the metric system of weights and measures, the names of multiples and subdivisions of any unit may be derived by combining the name of the unit with prefixes, such as deka, hecto, and kilo, meaning, respectively, 10, 100, 1,000, and deci, centi, and milli, meaning, respectively, one-tenth, one-hundredth, and one-thousandth. Common metric prefixes can be found in Table B2.

The conversion factors presented in Table B3 can be used to calculate equivalents in various physical units commonly used in energy analyses. For example, 10 barrels are the equivalent of 420 U.S. gallons (10 barrels x 42 gallons/barrel = 420 gallons).

Table B1. Metric Conversion Factors

Type of Unit	U.S. Unit		Equivalent in	Metric Units
Mass	1 short ton (2,000 lb)	=	0.907 184 7	metric tons (t)
	1 long ton	=	1.016 047	metric tons (t)
	1 pound (lb)	=	0.453 592 37 ^a	kilograms (kg)
	1 pound uranium oxide (lb U ₃ O ₈)	=	0.384 647 ^b	kilograms uranium (kgU)
	1 ounce, avoirdupois (avdp oz)	=	28.349 52	grams (g)
Volume	1 barrel of oil (bbl)	=	0.158 987 3	cubic meters (m ³)
	1 cubic yard (yd ³)	=	0.764 555	cubic meters (m ³)
	1 cubic foot (ft ³)	=	0.028 316 85	cubic meters (m ³)
	1 U.S. gallon (gal)	=	3.785 412	liters (L)
	1 ounce, fluid (fl oz)	=	29.573 53	milliliters (mL)
	1 cubic inch (in ³)	=	16.387 06	milliliters (mL)
Length	1 mile (mi)	=	1.609 344 ^a	kilometers (km)
	1 yard (yd)	=	0.914 4 ^a	meters (m)
	1 foot (ft)	=	0.304 8 ^a	meters (m)
	1 inch (in)	=	2.54 ^a	centimeters (cm)
Area	1 acre	=	0.404 69	hectares (ha)
	1 square mile (mi ²)	=	2.589 988	square kilometers (km ²)
	1 square yard (yd ²)	=	0.836 127 4	square meters (m ²)
	1 square foot (ft ²)	=	0.092 903 04 ^a	square meters (m ²)
	1 square inch (in ²)	=	6.451 6 ^a	square centimeters (cm ²)
Energy	1 British thermal unit (Btu) ^c	=	1,055.055 852 62 ^a	joules (J)
	1 calorie (cal)	=	4.186 8 ^a	joules (J)
	1 kilowatthour (kWh)	=	3.6 ^a	megajoules (MJ)
Temperature^d	32 degrees Fahrenheit (°F)	=	0 ^a	degrees Celsius (°C)
	212 degrees Fahrenheit (°F)	=	100 ^a	degrees Celsius (°C)

[a] Exact conversion.

[b] Calculated by the U.S. Energy Information Administration.

[c] The Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

[d] To convert degrees Fahrenheit (°F) to degrees Celsius (°C) exactly, subtract 32, then multiply by 5/9.

Notes: • Spaces have been inserted after every third digit to the right of the decimal for ease of reading. • Most metric units belong to the International System of Units (SI), and the liter, hectare, and metric ton are accepted for use with the SI units. For more information about the SI units, see <http://physics.nist.gov/cuu/Units/index.html>.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 1993), pp. 9–11, 13, and 16. • U.S. Department of Commerce, National Institute of Standards and Technology, Special Publications 330, 811, and 814. • American National Standards Institute/Institute of Electrical and Electronic Engineers, ANSI/IEEE Std268-1992, pp. 28 and 29.

Table B2. Metric Prefixes

Unit Multiple	Prefix	Symbol	Unit Subdivision	Prefix	Symbol
10 ¹	deka	da	10 ⁻¹	deci	d
10 ²	hecto	h	10 ⁻²	centi	c
10 ³	kilo	k	10 ⁻³	milli	m
10 ⁶	mega	M	10 ⁻⁶	micro	μ
10 ⁹	giga	G	10 ⁻⁹	nano	n
10 ¹²	tera	T	10 ⁻¹²	pico	p
10 ¹⁵	peta	P	10 ⁻¹⁵	femto	f
10 ¹⁸	exa	E	10 ⁻¹⁸	atto	a
10 ²¹	zetta	Z	10 ⁻²¹	zepto	z
10 ²⁴	yotta	Y	10 ⁻²⁴	yocto	y

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: U.S. Department of Commerce, National Institute of Standards and Technology, *The International System of Units (SI)*, NIST Special Publication 330, 1991 Edition (Washington, DC, August 1991), p.10.

Table B3. Other Physical Conversion Factors

Energy Source	Original Unit		Equivalent in Final Units
Petroleum	1 barrel (bbl)	=	42 ^a U.S. gallons (gal)
Coal	1 short ton	=	2,000 ^a pounds (lb)
	1 long ton	=	2,240 ^a pounds (lb)
	1 metric ton (t)	=	1,000 ^a kilograms (kg)
Wood	1 cord (cd)	=	1.25 ^b shorts tons
	1 cord (cd)	=	128 ^a cubic feet (ft ³)

[a] Exact conversion.

[b] Calculated by the U.S. Energy Information Administration.

Web Page: <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

Sources: U.S. Department of Commerce, National Institute of Standards and Technology, *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, NIST Handbook 44, 1994 Edition (Washington, DC, October 1993), pp. B-10, C-17, and C-21.

Appendix C

Population, U.S. Gross Domestic Product, and U.S. Gross Output

Population, U.S. Gross Domestic Product, and U.S. Gross Output

Table C1. Population, U.S. Gross Domestic Product, and U.S. Gross Output

	Population			U.S. Gross Domestic Product			U.S. Gross Output ^a
	United States ^b	World	United States as Share of World	Billion Nominal Dollars ^d	Billion Chained (2017) Dollars ^e	Implicit Price Deflator ^c (2017 = 1.00000)	Billion Nominal Dollars ^d
	Million People		Percent				
1950	152.3	2,558.0	6.0	299.8	2,458.5	0.12195	577.8
1955	165.9	2,783.0	6.0	425.5	3,083.0	.13801	802.6
1960	180.7	3,043.7	5.9	542.4	3,500.3	.15495	1,006.0
1965	194.3	3,351.4	5.8	742.3	4,478.6	.16574	1,356.0
1970	205.1	3,714.3	5.5	1,073.3	5,316.4	.20189	1,903.0
1975	216.0	4,090.1	5.3	1,684.9	6,060.9	.27800	3,055.3
1980	227.2	4,446.7	5.1	2,857.3	7,257.3	.39371	5,462.0
1981	229.5	4,528.2	5.1	3,207.0	7,441.5	.43097	6,033.5
1982	231.7	4,610.6	5.0	3,343.8	7,307.3	.45759	6,175.0
1983	233.8	4,694.6	5.0	3,634.0	7,642.3	.47552	6,631.0
1984	235.8	4,776.3	4.9	4,037.6	8,195.3	.49267	7,313.8
1985	237.9	4,861.1	4.9	4,339.0	8,537.0	.50826	7,775.7
1986	240.1	4,948.4	4.9	4,579.6	8,832.6	.51849	8,031.0
1987	242.3	5,038.2	4.8	4,855.2	9,137.7	.53134	8,707.5
1988	244.5	5,129.2	4.8	5,236.4	9,519.4	.55008	9,434.2
1989	246.8	5,220.0	4.7	5,641.6	9,869.0	.57165	10,069.8
1990	249.6	5,312.2	4.7	5,963.1	10,055.1	.59305	10,624.6
1991	253.0	5,399.7	4.7	6,158.1	10,044.2	.61310	10,808.0
1992	256.5	5,486.0	4.7	6,520.3	10,398.0	.62707	11,381.0
1993	259.9	5,569.2	4.7	6,858.6	10,684.2	.64194	12,024.4
1994	263.1	5,650.1	4.7	7,287.2	11,114.6	.65564	12,826.8
1995	266.3	5,731.8	4.6	7,639.7	11,413.0	.66939	13,653.2
1996	269.4	5,812.7	4.6	8,073.1	11,843.6	.68164	14,463.4
1997	272.6	5,892.0	4.6	8,577.6	12,370.3	.69340	15,393.6
1998	275.9	5,970.2	4.6	9,062.8	12,924.9	.70119	16,217.0
1999	279.0	6,048.0	4.6	9,631.2	13,543.8	.71111	17,273.4
2000	282.2	6,126.1	4.6	10,251.0	14,096.0	.72722	18,625.7
2001	285.0	6,204.8	4.6	10,581.9	14,230.7	.74360	18,884.5
2002	287.6	6,283.8	4.6	10,929.1	14,472.7	.75515	19,173.8
2003	290.1	6,362.2	4.6	11,456.5	14,877.3	.77006	20,140.7
2004	292.8	6,442.0	4.5	12,217.2	15,449.8	.79077	21,689.1
2005	295.5	6,522.1	4.5	13,039.2	15,988.0	.81556	23,517.9
2006	298.4	6,604.1	4.5	13,815.6	16,433.1	.84071	24,925.5
2007	301.2	6,688.0	4.5	14,474.2	16,762.4	.86349	26,250.3
2008	304.1	6,773.9	4.5	14,769.9	16,781.5	.88013	27,024.9
2009	306.8	6,860.2	4.5	14,478.1	16,349.1	.88556	24,959.3
2010	309.3	6,945.6	4.5	15,049.0	16,789.8	.89632	26,479.5
2011	311.6	7,030.5	4.4	15,599.7	17,052.4	.91481	28,050.3
2012	313.8	7,116.0	4.4	16,254.0	17,442.8	.93185	29,232.2
2013	316.0	7,203.1	4.4	16,880.7	17,812.2	.94771	30,388.8
2014	318.3	7,290.3	4.4	17,608.1	18,261.7	.96421	31,795.7
2015	320.6	7,376.7	4.3	18,295.0	18,799.6	.97316	32,233.9
2016	322.9	7,462.2	4.3	18,804.9	19,141.7	.98241	32,898.1
2017	325.0	7,546.3	4.3	19,612.1	19,612.1	1.00000	34,468.1
2018	326.7	7,629.1	4.3	20,656.5	20,193.9	1.02291	36,504.5
2019	328.2	7,710.4	4.3	21,540.0	20,715.7	1.03979	37,658.0
2020	331.6	7,787.9	4.3	21,375.3	20,284.5	1.05377	36,714.6
2021	332.1	7,857.1	4.2	23,725.6	21,532.4	1.10186	41,833.3
2022	334.0	7,921.4	4.2	26,054.6	22,075.9	1.18023	46,611.2
2023	336.8	7,988.4	4.2	27,811.5	22,723.7	1.22390	48,540.3
2024	340.0	8,059.2	4.2	29,298.0	23,358.4	1.25428	50,736.6
2025	341.8	8,124.2	4.2	30,767.1	23,853.0	1.28986	53,003.9

^a Gross output is the value of gross domestic product (GDP) plus the value of intermediate inputs used to produce GDP.

^b Resident population of the 50 states and the District of Columbia estimated for July 1 of each year.

^c The gross domestic product implicit price deflator is used to convert nominal dollars to chained (2017) dollars.

^d See "Nominal Dollars" in Glossary.

^e See "Chained Dollars" in Glossary.

Notes: • Data are estimates. • U.S. geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949.

Sources: • **United States Population: 1949–1989**—U.S. Department of Commerce (DOC), U.S. Census Bureau, Current Population Reports Series P-25 (June 2000). **1990–1999**—DOC, U.S. Census Bureau, "Time Series of Intercensal

State Population Estimates" (April 2002). **2000–2009**—DOC, U.S. Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico" (September 2011). **2010–2019**—DOC, U.S. Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico" (December 2019). **2020 forward**—DOC, U.S. Census Bureau, "Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico" (December 2024). • **World Population: 1950 forward**—DOC, U.S. Census Bureau, International Database (December 2024). • **United States as Share of World Population:** Calculated as U.S. population divided by world population. • **U.S. Gross Domestic Product: 1949 forward**—DOC, Bureau of Economic Analysis (BEA), National Income and Product Accounts (September 2025), Tables 1.1.5, 1.1.6, and 1.1.9. • **U.S. Gross Output: 1949–1996**—DOC, BEA, GDP by industry (Historical) data (November 2021). **1997 forward**—DOC, BEA, GDP by Industry data (September 2025).

Appendix D

Estimated Primary Energy Consumption in the United States, Selected Years, 1635-1945

Estimated Primary Energy Consumption in the United States, Selected Years, 1635-1945

Table D1. Estimated Primary Energy Consumption in the United States, Selected Years, 1635–1945 (Quadrillion Btu)

	Fossil Fuels				Renewable Energy			Electricity Net Imports ^b	Total
	Coal	Natural Gas	Petroleum	Total	Conventional Hydroelectric Power	Biomass	Total		
						Wood ^a			
1635	NA	--	--	NA	--	(s)	(s)	--	(s)
1645	NA	--	--	NA	--	0.001	0.001	--	0.001
1655	NA	--	--	NA	--	.002	.002	--	.002
1665	NA	--	--	NA	--	.005	.005	--	.005
1675	NA	--	--	NA	--	.007	.007	--	.007
1685	NA	--	--	NA	--	.009	.009	--	.009
1695	NA	--	--	NA	--	.014	.014	--	.014
1705	NA	--	--	NA	--	.022	.022	--	.022
1715	NA	--	--	NA	--	.037	.037	--	.037
1725	NA	--	--	NA	--	.056	.056	--	.056
1735	NA	--	--	NA	--	.080	.080	--	.080
1745	NA	--	--	NA	--	.112	.112	--	.112
1755	NA	--	--	NA	--	.155	.155	--	.155
1765	NA	--	--	NA	--	.200	.200	--	.200
1775	NA	--	--	NA	--	.249	.249	--	.249
1785	NA	--	--	NA	--	.310	.310	--	.310
1795	NA	--	--	NA	--	.402	.402	--	.402
1805	NA	--	--	NA	--	.537	.537	--	.537
1815	NA	--	--	NA	--	.714	.714	--	.714
1825	NA	--	--	NA	--	.960	.960	--	.960
1835	NA	--	--	NA	--	1.305	1.305	--	1.305
1845	NA	--	--	NA	--	1.757	1.757	--	1.757
1850	0.219	--	--	0.219	--	2.138	2.138	--	2.357
1855	.421	--	--	.421	--	2.389	2.389	--	2.810
1860	.518	--	0.003	.521	--	2.641	2.641	--	3.162
1865	.632	--	.010	.642	--	2.767	2.767	--	3.409
1870	1.048	--	.011	1.059	--	2.893	2.893	--	3.952
1875	1.440	--	.011	1.451	--	2.872	2.872	--	4.323
1880	2.054	--	.096	2.150	--	2.851	2.851	--	5.001
1885	2.840	0.082	.040	2.962	--	2.683	2.683	--	5.645
1890	4.062	.257	.156	4.475	0.001	2.515	2.516	--	6.991
1895	4.950	.147	.168	5.265	.003	2.306	2.309	--	7.574
1900	6.841	.252	.229	7.322	.010	2.015	2.025	--	9.347
1905	10.001	.372	.610	10.983	.017	1.843	1.860	--	12.843
1910	12.714	.540	1.007	14.261	.029	1.765	1.794	--	16.055
1915	13.294	.673	1.418	15.385	.045	1.688	1.733	0.002	17.120
1920	15.504	.813	2.676	18.993	.064	1.610	1.674	.003	20.670
1925	14.706	1.191	4.280	20.177	.087	1.533	1.620	.004	21.801
1930	13.639	1.932	5.897	21.468	.122	1.455	1.577	.005	23.050
1935	10.634	1.919	5.675	18.228	.146	1.397	1.543	.005	19.776
1940	12.535	2.665	7.760	22.960	.171	1.358	1.529	.007	24.496
1945	15.972	3.871	10.110	29.953	.289	^a 1.261	1.550	.009	31.512

^a There is a discontinuity in the "Wood" time series between 1945 (in this table) and 1949 (in Table 10.1). Through 1945, data are for fuelwood only; beginning in 1949, data are for wood and wood-derived fuels.

^b Electricity transmitted across U.S. borders. Net imports equal imports minus exports.

NA=Not available. --=Not applicable. (s)=Less than 0.5 trillion Btu.

Notes: • For years not shown, data are not available. • See Tables 1.3 and 10.1 for continuation of these data series beginning in 1949. • See Note, "Geographic Coverage of Statistics for 1635–1945," at end of section.

Sources: • **Fossil Fuels:** *Energy in the American Economy, 1850–1975*, Table VII. • **Conventional Hydroelectric Power:** *Energy in the American Economy, 1850–1975*, Table I. Data are converted to Btu by multiplying by 3,412 Btu per kilowatthour. • **Wood: 1635–1845—**U.S. Department of Agriculture, Circular No.

641, *Fuel Wood Used in the United States 1630–1930*, February 1942. This source estimates fuelwood consumption in cords per decade, which were converted to Btu using the conversion factor of 20 million Btu per cord. The annual average value for each decade was assigned to the fifth year of the decade on the assumption that annual use was likely to increase during any given decade and the average annual value was more likely to reflect mid-decade yearly consumption than use at either the beginning or end of the decade. Values thus begin in 1635 and are plotted at 10-year intervals. **1850–1945—***Energy in the American Economy, 1850–1975*, Table VII. • **Electricity Net Imports:** *Energy in the American Economy, 1850–1975*, Tables I and VI. Electricity net imports are assumed to equal hydroelectric consumption minus hydroelectric production (data are converted to Btu by multiplying by 3,412 Btu per kilowatthour).

Note. Geographic Coverage of Statistics for 1635–1945.

Table D1 presents estimates of U.S. energy consumption by energy source for a period that begins a century and a half before the original 13 colonies formed a political union and continues through the decades during which the United States was still expanding territorially. The question thus arises, what exactly is meant by “U.S. consumption” of an energy source for those years when the United States did not formally exist or consisted of less territory than is now encompassed by the 50 states and the District of Columbia?

The documents used to assemble the estimates, and (as far as possible) the sources of those documents, were reviewed carefully for clues to geographic coverage. For most energy sources, the extent of coverage expanded more rapidly than the nation, defined as all the official states and the District of Columbia. Estimates or measurements of consumption of each energy source generally appear to follow settlement patterns. That is, they were made for areas of the continent that were settled enough to have economically significant consumption even though those areas were not to become states for years. The wood data series, for example, begins in 1635 and includes 12 of the original colonies (excepting Georgia), as well as Maine, Vermont, and the area that would become the District of Columbia. By the time the series reaches 1810, the rest of the continental states are all included, although the last of the 48 states to achieve statehood did not do so until 1912. Likewise, the coal data series begins in 1850 but includes consumption in areas, such as Utah and Washington (state), which were significant coal producing regions but had not yet attained statehood. (Note: No data were available on state-level historical coal consumption. The coal data shown in Table D1 through 1945 describe *apparent* consumption, i.e., production plus imports minus exports. The geographic coverage for coal was therefore based on a tally of coal-producing states listed in various historical issues of *Minerals Yearbook*. It is likely that coal was consumed in states where it was not mined in significant quantities.)

By energy source, the extent of coverage can be summarized as follows:

- Coal—35 coal-producing states by 1885.
- Natural Gas—All 48 contiguous states, the District of Columbia, and Alaska by 1885.
- Petroleum—All 48 contiguous states, the District of Columbia, and Alaska by 1885.
- Conventional Hydroelectric Power—Coverage for 1890 and 1895 is uncertain, but probably the 48 contiguous states and the District of Columbia. Coverage for 1900–1945 is the 48 contiguous states, and the District of Columbia.
- Wood—All 48 contiguous states and the District of Columbia by 1810.

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Appendix E

Alternative Measures for the Energy Content of Noncombustible Renewables

Alternative Measures for the Energy Content of Noncombustible Renewables

Energy sources are measured in different physical units: liquid fuels in barrels or gallons, gases in cubic feet, coal in short tons, and electricity in kilowatthours. EIA converts each source into common British thermal units (Btu) to allow comparison among different types of energy and to calculate total energy concepts.

Noncombustible renewables (hydroelectric, geothermal, solar, and wind energy) are resources from which energy is extracted without burning or combusting fuel. When noncombustible renewables generate electricity, there is no fuel combustion and, therefore, no set Btu conversion factors for the energy sources.¹

There are three broadly accepted ways to convert electricity generated from noncombustible renewables into Btu of primary energy—the captured energy, fossil fuel equivalency, and incident energy approaches. Each of these methods are described in detail below.

Captured Energy Approach

The captured energy approach converts primary energy consumption of noncombustible renewables from kilowatthours (kWh) to Btu using the constant conversion factor representing the heat content of electricity—3,412 Btu per kWh. Captured energy reflects the primary energy captured for economic use and does not include losses. In other words, it represents the net energy available for direct consumption after the transformation of a noncombustible renewable source of energy into electricity, where captured energy is the energy measured as the "output" of a generating unit, such as electricity from a wind turbine or solar plant.

The captured energy approach is often used to show the economically significant portion of the energy transformation associated with renewable energy sources. There is no market for the resource-specific energy apart from its immediate, site-specific energy conversion, and there is no substantive opportunity cost to its continued exploitation.² This approach is preferred by the *UN International Recommendations for Energy Statistics* (IRES) because the detailed data needed to estimate quantities of incident energy are not available now and are not likely to develop soon. This approach is also more closely tied to a physical market commodity, that is, electricity net generation, than the conceptual measure derived using the fossil fuel equivalency approach.

Fossil Fuel Equivalency Approach

The fossil fuel equivalency approach converts the consumption of noncombustible renewable electricity (in kWh) to Btu by applying a fossil fuel equivalency factor, based on the fossil-fuels heat rate (Table A6). The fossil-fuels heat rate is equal to the average thermal efficiency across fossil-fueled fired generating plants based on fuel consumption and net generation data reported to EIA. The fossil fuel equivalent consumption represents the energy consumed as if the electricity were generated by fossil fuels and is useful for analysis when considering the amount of primary fossil fuel energy displaced by renewable energy sources.

However, unlike the captured energy approach, the fossil fuel equivalency approach is not as directly tied to any real market or physical quantity. The fossil fuel equivalency approach measures neither primary energy consumption nor fossil fuels actually displaced. Additionally, its use becomes increasingly problematic as noncombustible renewables begin to displace other renewables instead of fossil fuels.

Incident Energy Approach

Incident energy is the mechanical, radiation, or thermal energy that is measurable as the "input" of the device. EIA defines "incident energy" for noncombustible renewables as the gross energy that first strikes an energy conversion device:

- For hydroelectric, the energy contained in the water passing through the penstock (a closed conduit for carrying water to the turbines)
- For geothermal, the energy contained in the hot fluid at the surface of the wellbore
- For wind, the energy contained in the wind that passes through the rotor disc
- For solar, the energy contained in the sunlight that strikes the panel or collector mirror

The incident energy approach converts noncombustible renewable electricity to Btu by accounting for the “losses” that result from an inability to convert 100% of incident energy to a useful form of energy. EIA has not published total primary energy consumption statistics based on this approach because it is difficult to obtain accurate estimates of input energy without creating undue burden on survey respondents and possible concern about the quality of the resulting data. Few renewable electricity power plants track cumulative input energy due to its lack of economic significance or other purpose. In addition, estimated energy efficiencies of renewable conversion technologies vary significantly across technologies, site-specific configurations, and environmental factors.³

EIA now using the captured energy approach

Starting with the September 2023 *Monthly Energy Review* (MER), EIA began converting electricity generation from noncombustible renewables into Btu using the captured energy approach rather than the fossil fuel equivalency approach in its main data tables (reflected in MER Sections 1, 2, and 10). The Btu values of hydroelectric, geothermal, solar, and wind energy consumption and, consequently, total primary energy consumption and total energy production are lower for all time periods because of the new conversion factor (the heat content of electricity from Table A6).

After a thorough review of the alternative approaches, EIA made the change for two primary reasons. First, adopting the captured energy approach promotes international comparability in energy statistics by adopting the standards provided in IRES. Second, as renewable energy continues to represent an increasingly larger portion of U.S. energy consumption over time, the fossil fuel equivalent values of generation from renewable sources become less relevant to our data users than the electrical energy provided by renewable sources.

Some analysts may still prefer to use the measures based on the fossil fuel equivalency approach, which was previously used by EIA. MER Tables E1–E4 present noncombustible renewable energy statistics using the fossil fuel equivalency approach.

¹Direct use of noncombustible renewables in the form of heat (e.g., solar thermal heating) is estimated separately and is measured in Btu.

²There is an initial opportunity cost when a facility is first built: water behind a dam might flood land that could have been used for other purposes, or a solar panel might shade an area that could have used the sunlight. But that is a “fixed” opportunity cost that does not change during the operation of the plant.

³Based on EIA research conducted in 2016, engineering estimates of conversion efficiencies for noncombustible renewables range from less than 20% for solar photovoltaics and geothermal to 90% for large-scale hydroelectricity plants. Those estimates are notional indications of the energy output as a percent of energy input at each technology based on typical equipment operating within the normal operating range for that technology.

Table E1. Primary Energy Overview, Fossil Fuel Equivalency Approach
(Quadrillion Btu)

	Production				Trade			Stock Change and Other ^d	Consumption			
	Fossil Fuels ^a	Nuclear Electric Power	Renewable Energy ^b	Total	Imports	Exports	Net Imports ^c		Fossil Fuels ^e	Nuclear Electric Power	Renewable Energy ^b	Total ^f
1950 Total	32.553	0.000	2.978	35.531	1.913	1.465	0.448	-1.380	31.615	0.000	2.978	34.599
1955 Total	37.347	.000	2.784	40.131	2.790	2.286	.504	-.457	37.380	.000	2.784	40.178
1960 Total	39.855	.006	2.928	42.789	4.188	1.477	2.710	-.458	42.091	.006	2.928	45.041
1965 Total	47.205	.043	3.396	50.644	5.892	1.829	4.063	-.754	50.515	.043	3.396	53.953
1970 Total	59.152	.239	4.070	63.462	8.342	2.632	5.709	-1.354	63.501	.239	4.070	67.817
1975 Total	54.697	1.900	4.687	61.284	14.032	2.323	11.709	-1.062	65.323	1.900	4.687	71.931
1980 Total	58.979	2.739	5.428	67.147	15.796	3.695	12.101	-1.227	69.782	2.739	5.428	78.021
1985 Total	57.502	4.076	6.084	67.661	11.781	4.196	7.584	1.088	66.035	4.076	6.084	76.334
1990 Total	58.523	6.104	6.040	70.668	18.817	4.752	14.065	-.299	72.281	6.104	6.040	84.433
1995 Total	57.496	7.075	6.557	71.129	22.180	4.496	17.684	2.118	77.162	7.075	6.559	90.931
2000 Total	57.307	7.862	6.102	71.271	28.865	3.962	24.904	2.528	84.620	7.862	6.104	98.702
2005 Total	54.995	8.161	6.221	69.377	34.659	4.462	30.197	.527	85.623	8.161	6.233	100.101
2010 Total	58.159	8.434	8.313	74.906	29.866	8.176	21.690	.916	80.723	8.434	8.266	97.512
2011 Total	60.529	8.269	9.306	78.104	28.748	10.373	18.375	.389	79.263	8.269	9.210	96.868
2012 Total	62.298	8.062	8.890	79.249	27.068	11.267	15.801	-.670	77.304	8.062	8.853	94.380
2013 Total	64.180	8.244	9.438	81.862	24.623	11.788	12.835	2.433	79.224	8.244	9.465	97.131
2014 Total	69.599	8.338	9.795	87.732	23.241	12.270	10.971	-.409	80.017	8.338	9.759	98.294
2015 Total	70.174	8.337	9.760	88.271	23.794	12.902	10.892	-1.764	79.090	8.337	9.743	97.398
2016 Total	65.447	8.427	10.469	84.343	25.378	14.119	11.259	1.771	78.319	8.427	10.401	97.373
2017 Total	68.492	8.419	11.253	88.164	25.458	17.946	7.512	1.967	77.901	8.419	11.132	97.644
2018 Total	75.784	8.438	11.575	95.797	24.833	21.224	3.610	1.829	81.281	8.438	11.365	101.236
2019 Total	81.407	8.452	11.624	101.483	22.865	23.476	-.610	-.397	80.425	8.452	11.465	100.475
2020 Total	76.182	8.251	11.583	96.016	19.988	23.464	-3.476	.459	73.169	8.251	11.418	92.999
2021 Total	77.994	8.131	12.220	98.344	21.455	25.071	-3.616	3.047	77.454	8.131	12.057	97.775
2022 Total	82.250	8.061	13.366	103.677	21.507	27.335	-5.828	2.032	78.529	8.061	13.149	99.880
2023 Total	86.115	8.099	13.309	107.523	21.657	29.656	-7.999	-.970	77.262	8.099	13.128	98.554
2024 January	7.071	.721	1.066	8.858	1.904	2.521	-.617	1.181	7.652	.721	1.043	9.422
February	6.917	.674	1.135	8.726	1.714	2.526	-.811	.243	6.363	.674	1.119	8.157
March	7.253	.662	1.263	9.178	1.736	2.650	-.914	-.032	6.330	.662	1.242	8.231
April	6.926	.601	1.265	8.792	1.770	2.362	-.591	-.517	5.832	.601	1.253	7.684
May	7.207	.679	1.277	9.162	1.939	2.564	-.625	-.516	6.067	.679	1.275	8.021
June	7.111	.712	1.274	9.098	1.824	2.595	-.771	-.179	6.171	.712	1.259	8.147
July	7.349	.729	1.198	9.277	1.967	2.551	-.583	-.031	6.738	.729	1.187	8.663
August	7.442	.729	1.195	9.365	1.785	2.625	-.840	.126	6.741	.729	1.174	8.651
September	7.150	.654	1.090	8.894	1.724	2.539	-.815	-.290	6.054	.654	1.073	7.789
October	7.452	.614	1.168	9.234	1.725	2.563	-.839	-.396	6.224	.614	1.155	7.999
November	7.151	.646	1.130	8.928	1.746	2.661	-.914	-.008	6.253	.646	1.104	8.006
December	7.448	.744	1.149	9.341	1.861	2.687	-.826	.575	7.220	.744	1.119	9.089
Total	86.477	8.165	14.211	108.853	21.696	30.844	-9.147	.155	77.644	8.165	14.004	99.860
2025 January	7.331	.749	1.207	9.287	1.893	2.534	-.640	1.330	8.047	.749	1.170	9.976
February	6.663	.646	1.124	8.433	1.606	2.411	-.805	.876	6.753	.646	1.098	8.503
March	7.612	.652	1.366	9.630	1.663	2.697	-1.034	-.219	6.387	.652	1.335	8.377
April	7.271	.605	1.337	9.212	1.630	2.521	-.891	R -.487	5.905	.605	1.318	7.834
May	7.526	.649	1.326	9.501	1.734	2.565	-.830	-.726	5.995	.649	1.292	7.945
June	7.337	.692	1.318	9.347	1.680	2.519	-.839	-.246	6.283	.692	1.281	8.262
July	7.656	.739	1.300	9.695	1.742	R 2.531	R -.789	R -.046	6.855	.739	1.264	8.861
August	7.745	.738	1.236	9.719	1.760	2.655	-.895	-.200	6.678	.738	1.204	8.624
September	7.471	.684	1.126	9.280	1.724	2.655	-.931	-.392	6.177	.684	1.092	7.957
October	7.671	.618	1.236	9.525	1.632	2.755	-1.124	-.324	6.258	.618	1.202	8.077
November	7.511	.666	1.189	9.366	1.605	2.750	-1.145	-.004	6.409	.666	1.146	8.218
December	7.743	.757	1.273	9.773	1.870	2.904	-1.034	.693	7.437	.757	1.239	9.432
Total	89.536	8.195	15.037	112.769	20.540	R 31.497	R -10.957	R .253	79.184	8.195	14.643	102.065
2026 January	R 7.565	.765	1.290	R 9.620	1.869	2.760	-.891	R 1.052	R 7.775	.765	1.244	R 9.781
February	R 7.008	.651	1.200	R 8.859	1.652	2.588	-.936	R .580	R 6.685	.651	1.165	R 8.503
March	R 7.785	.648	1.482	R 9.915	R 1.756	3.015	R -1.258	R -.151	R 6.410	.648	1.447	R 8.506
April	7.519	.599	1.410	9.529	1.640	3.145	-1.505	-.125	5.920	.599	1.382	7.899
4-Month Total	29.877	2.664	5.382	37.923	6.917	11.508	-4.590	1.357	26.790	2.664	5.238	34.690
2025 4-Month Total	28.877	2.652	5.033	36.562	6.793	10.163	-3.370	1.499	27.092	2.652	4.922	34.690
2024 4-Month Total	28.166	2.658	4.729	35.553	7.125	10.059	-2.933	.875	26.176	2.658	4.657	33.495

^a Coal, natural gas (dry), crude oil, and natural gas plant liquids.

^b See Table E4 for notes on series components and estimation.

^c Net imports equal imports minus exports.

^d Includes petroleum stock change and adjustments; natural gas net storage withdrawals and balancing item; coal stock change, losses, and unaccounted for; fuel ethanol stock change; and biodiesel stock change and balancing item.

^e Coal, coal coke net imports, natural gas, and petroleum.

^f Also includes electricity net imports.

R=Revised.

Notes: • See "Primary Energy," "Primary Energy Production," and "Primary

Energy Consumption," in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Production:** Table E2. • **Trade:** Tables 1.4a and 1.4b. • **Stock Change and Other:** Calculated as consumption minus production and net imports. • **Consumption:** Table E3.

Table E2. Primary Energy Production by Source, Fossil Fuel Equivalency Approach
(Quadrillion Btu)

	Fossil Fuels					Nuclear Electric Power	Renewable Energy ^a						Total
	Coal ^b	Natural Gas (Dry)	Crude Oil ^c	NGPL ^d	Total		Hydro-electric Power ^e	Geo-thermal	Solar	Wind	Bio-mass	Total	
1950 Total	14.060	6.233	11.447	0.813	32.553	0.000	1.415	NA	NA	NA	1.562	2.978	35.531
1955 Total	12.370	9.345	14.410	1.223	37.347	.000	1.360	NA	NA	NA	1.424	2.784	40.131
1960 Total	10.817	12.656	14.935	1.447	39.855	.006	1.608	(s)	NA	NA	1.320	2.928	42.789
1965 Total	13.055	15.775	16.521	1.853	47.205	.043	2.059	.002	NA	NA	1.335	3.396	50.644
1970 Total	14.607	21.666	20.401	2.478	59.152	.239	2.634	.006	NA	NA	1.431	4.070	63.462
1975 Total	14.989	19.640	17.729	2.338	54.697	1.900	3.155	.034	NA	NA	1.499	4.687	61.284
1980 Total	18.598	19.908	18.249	2.225	58.979	2.739	2.900	.053	NA	NA	2.475	5.428	67.147
1985 Total	19.325	16.980	18.992	2.204	57.502	4.076	2.970	.097	(s)	(s)	3.016	6.084	67.661
1990 Total	22.488	18.326	15.571	2.138	58.523	6.104	3.046	.171	.059	.029	2.735	6.040	70.668
1995 Total	22.130	19.082	13.887	2.398	57.496	7.075	3.205	.152	.068	.033	3.099	6.557	71.129
2000 Total	22.735	19.662	12.358	2.551	57.307	7.862	2.811	.164	.063	.057	3.006	6.102	71.271
2005 Total	23.185	18.556	10.974	2.280	54.995	8.161	2.703	.181	.058	.178	3.101	6.221	69.377
2010 Total	22.038	21.806	11.610	2.705	58.159	8.434	2.539	.208	.090	.923	4.553	8.313	74.906
2011 Total	22.221	23.406	12.012	2.890	60.529	8.269	3.103	.212	.110	1.168	4.712	9.306	78.104
2012 Total	20.677	24.610	13.849	3.162	62.298	8.062	2.629	.212	.156	1.340	4.554	8.890	79.249
2013 Total	20.001	24.859	15.868	3.451	64.180	8.244	2.562	.214	.226	1.601	4.835	9.438	81.862
2014 Total	20.286	26.718	18.590	4.005	69.599	8.338	2.466	.214	.338	1.727	5.049	9.795	87.732
2015 Total	17.946	28.067	19.685	4.476	70.174	8.337	2.320	.212	.427	1.776	5.025	9.760	88.271
2016 Total	14.667	27.576	18.539	4.665	65.447	8.427	2.471	.210	.572	2.095	5.122	10.469	84.343
2017 Total	15.625	28.325	19.555	4.987	68.492	8.419	2.765	.210	.779	2.342	5.156	11.253	88.164
2018 Total	15.363	31.882	22.812	5.727	75.784	8.438	2.661	.209	.918	2.481	5.306	11.575	95.797
2019 Total	14.256	35.187	25.612	6.352	81.407	8.452	2.562	.201	1.021	2.633	5.207	11.624	101.483
2020 Total	10.703	35.062	23.612	6.805	76.182	8.251	2.501	.203	1.216	2.963	4.700	11.583	96.016
2021 Total	11.596	35.807	23.492	7.099	77.994	8.131	2.225	.205	1.529	3.345	4.916	12.220	98.344
2022 Total	12.043	37.560	24.905	7.742	82.250	8.061	2.245	.205	1.892	3.827	5.196	13.366	103.677
2023 Total	11.750	39.008	26.877	8.480	86.115	8.099	2.114	.205	2.154	3.634	5.202	13.309	107.523
2024 January	.911	3.271	2.208	.681	7.071	.721	.186	.017	.129	.300	.434	1.066	8.858
February	.910	3.145	2.166	.696	6.917	.674	.179	.016	.161	.353	.425	1.135	8.726
March	.866	3.289	2.326	.772	7.253	.662	.201	.017	.208	.389	.448	1.263	9.178
April	.741	3.153	2.272	.760	6.926	.601	.180	.016	.243	.406	.420	1.265	8.792
May	.814	3.263	2.338	.792	7.207	.679	.211	.016	.277	.338	.435	1.277	9.162
June	.890	3.196	2.262	.764	7.111	.712	.193	.016	.295	.333	.437	1.274	9.098
July	.897	3.344	2.330	.777	7.349	.729	.184	.016	.297	.244	.457	1.198	9.277
August	.972	3.313	2.365	.792	7.442	.729	.177	.016	.292	.252	.458	1.195	9.365
September	.942	3.184	2.248	.777	7.150	.654	.137	.016	.251	.251	.435	1.090	8.894
October	.912	3.336	2.386	.818	7.452	.614	.132	.016	.237	.341	.441	1.168	9.234
November	.844	3.229	2.286	.793	7.151	.646	.144	.017	.172	.346	.452	1.130	8.928
December	.882	3.397	2.370	.799	7.448	.744	.168	.017	.158	.341	.465	1.149	9.341
Total	10.579	39.121	27.557	9.221	86.477	8.165	2.093	.196	2.719	3.894	5.308	14.211	108.853
2025 January	.922	E 3.349	E 2.317	.742	7.331	.749	.185	.017	.186	.376	.443	1.207	9.287
February	.819	E 3.042	E 2.109	.693	6.663	.646	.168	.016	.199	.339	.402	1.124	8.433
March	.983	E 3.447	E 2.373	.810	7.612	.652	.193	.017	.278	.436	.441	1.366	9.630
April	.863	E 3.322	E 2.298	.788	7.271	.605	.197	.016	.317	.395	.411	1.337	9.212
May	.907	E 3.422	E 2.371	.826	7.526	.649	.210	.016	.348	.318	.434	1.326	9.501
June	.871	E 3.342	E 2.323	.801	7.337	.692	.191	.016	.368	.308	.435	1.318	9.347
July	.930	E 3.470	E 2.417	.838	7.656	.739	.172	.016	.385	.274	.453	1.300	9.695
August	.967	E 3.489	E 2.436	.853	7.745	.738	.173	.017	.365	.235	.445	1.236	9.719
September	.900	E 3.365	E 2.360	.845	7.471	.684	.132	.016	.323	.221	.434	1.126	9.280
October	.916	E 3.447	E 2.445	.863	7.671	.618	.143	.016	.286	.341	.450	1.236	9.525
November	.890	E 3.427	E 2.353	.840	7.511	.666	.159	.016	.219	.353	.443	1.189	9.366
December	.909	E 3.585	E 2.408	.841	7.743	.757	.206	.017	.187	.405	.457	1.273	9.773
Total	10.876	E 40.708	E 28.211	9.740	89.536	8.195	2.129	.199	3.461	4.002	5.247	15.037	112.769
2026 January	R .928	E 3.493	E 2.346	.798	R 7.565	.765	.240	.018	.213	.383	.436	1.290	R 9.620
February	R .849	RE 3.210	RE 2.184	.765	R 7.008	.651	.194	.016	.246	.342	.403	1.200	R 8.859
March	R .938	RE 3.558	RE 2.419	.870	R 7.785	.648	.232	.017	.336	.450	.446	1.482	R 9.915
April	.848	E 3.447	E 2.378	.846	7.519	.599	.194	.016	.363	.423	.415	1.410	9.529
4-Month Total	3.563	E 13.708	E 9.328	3.278	29.877	2.664	.860	.066	1.158	1.598	1.700	5.382	37.923
2025 4-Month Total	3.587	13.160	9.097	3.033	28.877	2.652	.743	.067	.980	1.546	1.697	5.033	36.562
2024 4-Month Total	3.427	12.858	8.972	2.909	28.166	2.658	.746	.067	.740	1.447	1.728	4.729	35.553

^a Most data are estimates. See Table E4 for notes on series components and estimation.

^b Beginning in 1989, includes waste coal supplied. Beginning in 2001, also includes a small amount of refuse recovery. See Table 6.1.

^c Includes lease condensate.

^d Natural gas processing plant production of natural gas liquids (ethane, propane, normal butane, isobutane, and natural gasoline). Through 1980, also includes natural gas processing plant production of finished petroleum products (aviation gasoline, distillate fuel oil, jet fuel, kerosene, motor gasoline, special naphthas, and miscellaneous products).

^e Conventional hydroelectric power.

R=Revised. E=Estimate. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • See "Primary Energy Production" in Glossary. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Fossil Fuels and Nuclear Electric Power:** Table 1.2. • **Renewable Energy:** Table E4. • **Total:** Calculated as the sum of Fossil Fuels, Nuclear Electric Power, and Renewable Energy.

Table E3. Primary Energy Consumption by Source, Fossil Fuel Equivalency Approach
(Quadrillion Btu)

	Fossil Fuels ^a				Nuclear Electric Power	Renewable Energy ^b						Total ^g
	Coal	Natural Gas ^c	Petroleum ^d	Total ^e		Hydro-electric Power ^f	Geo-thermal	Solar	Wind	Bio-mass	Total	
1950 Total	12.347	5.968	13.298	31.615	0.000	1.415	NA	NA	NA	1.562	2.978	34.599
1955 Total	11.167	8.998	17.225	37.380	.000	1.360	NA	NA	NA	1.424	2.784	40.178
1960 Total	9.838	12.385	19.874	42.091	.006	1.608	(s)	NA	NA	1.320	2.928	45.041
1965 Total	11.581	15.769	23.184	50.515	.043	2.059	.002	NA	NA	1.335	3.396	53.953
1970 Total	12.265	21.795	29.499	63.501	.239	2.634	.006	NA	NA	1.431	4.070	67.817
1975 Total	12.663	19.948	32.699	65.323	1.900	3.155	.034	NA	NA	1.499	4.687	71.931
1980 Total	15.423	20.235	34.159	69.782	2.739	2.900	.053	NA	NA	2.475	5.428	78.021
1985 Total	17.478	17.703	30.866	66.035	4.076	2.970	.097	(s)	(s)	3.016	6.084	76.334
1990 Total	19.173	19.603	33.500	72.281	6.104	3.046	.171	.059	.029	2.735	6.040	84.433
1995 Total	20.089	22.671	34.341	77.162	7.075	3.205	.152	.068	.033	3.101	6.559	90.931
2000 Total	22.580	23.824	38.152	84.620	7.862	2.811	.164	.063	.057	3.008	6.104	98.702
2005 Total	22.797	22.565	40.217	85.623	8.161	2.703	.181	.058	.178	3.114	6.233	100.101
2010 Total	20.834	24.575	35.321	80.723	8.434	2.539	.208	.090	.923	4.506	8.266	97.512
2011 Total	19.658	24.955	34.639	79.263	8.269	3.103	.212	.110	1.168	4.616	9.210	96.868
2012 Total	17.378	26.089	33.833	77.304	8.062	2.629	.212	.156	1.340	4.517	8.853	94.380
2013 Total	18.039	26.805	34.398	79.224	8.244	2.562	.214	.226	1.601	4.861	9.465	97.131
2014 Total	17.998	27.383	34.658	80.017	8.338	2.466	.214	.338	1.727	5.013	9.759	98.294
2015 Total	15.549	28.191	35.368	79.090	8.337	2.320	.212	.427	1.776	5.008	9.743	97.398
2016 Total	14.226	28.400	35.712	78.319	8.427	2.471	.210	.572	2.095	5.053	10.401	97.373
2017 Total	13.837	28.049	36.043	77.901	8.419	2.765	.210	.779	2.342	5.035	11.132	97.644
2018 Total	13.252	31.163	36.892	81.281	8.438	2.661	.209	.918	2.481	5.096	11.365	101.236
2019 Total	11.316	32.264	36.866	80.425	8.452	2.562	.201	1.021	2.633	5.048	11.465	100.475
2020 Total	9.181	31.669	32.331	73.169	8.251	2.501	.203	1.216	2.963	4.535	11.418	92.999
2021 Total	10.549	31.711	35.243	77.454	8.131	2.225	.205	1.529	3.345	4.753	12.057	97.775
2022 Total	9.888	33.379	35.319	78.529	8.061	2.245	.205	1.892	3.827	4.980	13.149	99.880
2023 Total	8.171	33.676	35.448	77.262	8.099	2.114	.205	2.154	3.634	5.021	13.128	98.554
2024 January	.879	3.859	2.914	7.652	.721	.186	.017	.129	.300	.411	1.043	9.422
February	.562	3.069	2.734	6.363	.674	.179	.016	.161	.353	.410	1.119	8.157
March	.494	2.896	2.944	6.330	.662	.201	.017	.208	.389	.427	1.242	8.231
April	.467	2.480	2.888	5.832	.601	.180	.016	.243	.406	.408	1.253	7.684
May	.563	2.417	3.089	6.067	.679	.211	.016	.277	.338	.433	1.275	8.021
June	.721	2.513	2.942	6.171	.712	.193	.016	.295	.333	.422	1.259	8.147
July	.838	2.839	3.062	6.738	.729	.184	.016	.297	.244	.446	1.187	8.663
August	.818	2.816	3.111	6.741	.729	.177	.016	.292	.252	.437	1.174	8.651
September	.664	2.498	2.896	6.054	.654	.137	.016	.251	.251	.418	1.073	7.789
October	.589	2.513	3.127	6.224	.614	.132	.016	.237	.341	.428	1.155	7.999
November	.570	2.802	2.885	6.253	.646	.144	.017	.172	.346	.425	1.104	8.006
December	.747	3.478	2.999	7.220	.744	.168	.017	.158	.341	.435	1.119	9.089
Total	7.912	34.179	35.590	77.644	8.165	2.093	.196	2.719	3.894	5.101	14.004	99.860
2025 January	.940	4.051	3.057	8.047	.749	.185	.017	.186	.376	.406	1.170	9.976
February	.733	3.339	2.682	6.753	.646	.168	.016	.199	.339	.377	1.098	8.503
March	.597	2.841	2.950	6.387	.652	.193	.017	.278	.436	.410	1.335	8.377
April	.549	2.455	2.904	5.905	.605	.197	.016	.317	.395	.393	1.318	7.834
May	.590	2.384	3.024	5.995	.649	.210	.016	.348	.318	.401	1.292	7.945
June	.755	2.497	3.033	6.283	.692	.191	.016	.368	.308	.397	1.281	8.262
July	.921	2.814	3.123	6.855	.739	.172	.016	.385	.274	.416	1.264	8.861
August	.817	2.730	3.133	6.678	.738	.173	.017	.365	.235	.413	1.204	8.624
September	.695	2.506	2.976	6.177	.684	.132	.016	.323	.221	.400	1.092	7.957
October	.652	2.524	3.082	6.258	.618	.143	.016	.286	.341	.416	1.202	8.077
November	.651	2.874	2.882	6.409	.666	.159	.016	.219	.353	.400	1.146	8.218
December	.771	3.614	3.053	7.437	.757	.206	.017	.187	.405	.423	1.239	9.432
Total	8.671	34.631	35.899	79.184	8.195	2.129	.199	3.461	4.002	4.853	14.643	102.065
2026 January	R .820	R 3.916	3.040	R 7.775	.765	.240	.018	.213	.383	.390	1.244	R 9.781
February	R .653	R 3.216	2.818	R 6.685	.651	.194	.016	.246	.342	.368	1.165	R 8.503
March	R .539	2.871	3.002	R 6.410	.648	.232	.017	.336	.450	.412	1.447	R 8.506
April	.481	2.467	2.974	5.920	.599	.194	.016	.363	.423	.386	1.382	7.899
4-Month Total	2.493	12.469	11.834	26.790	2.664	.860	.066	1.158	1.598	1.556	5.238	34.690
2025 4-Month Total	2.819	12.687	11.592	27.092	2.652	.743	.067	.980	1.546	1.586	4.922	34.690
2024 4-Month Total	2.402	12.305	11.480	26.176	2.658	.746	.067	.740	1.447	1.656	4.657	33.495

^a Includes non-combustion use of fossil fuels.
^b Most data are estimates. See Table E4 for notes on series components and estimation.
^c Natural gas only; excludes supplemental gaseous fuels. See Note 3, "Supplemental Gaseous Fuels," at end of Section 4.
^d Petroleum products supplied; excludes biofuels. Biofuels are included in "Biomass."
^e Includes coal coke net imports. See Tables 1.4c.
^f Conventional hydroelectric power.
^g Includes coal coke net imports and electricity net imports, which are not separately displayed. See Tables 1.4c.
R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • See "Primary Energy Consumption" in Glossary.
• See Table D1 for estimated energy consumption for 1635–1945. • Totals may not equal sum of components due to independent rounding.
• Geographic coverage is the 50 states and the District of Columbia.
Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.
Sources: • **Fossil Fuels** and **Nuclear Electric Power:** Table 1.3. • **Renewable Energy:** Table E4. • **Total:** Calculated as the sum of Fossil Fuels, Nuclear Electric Power, Renewable Energy, and Electricity Net Imports (see Table 1.4c).

Table E4. Renewable Energy Production and Consumption by Source, Fossil Fuel Equivalency Approach (Trillion Btu)

	Production ^a				Consumption								
	Biomass			Total Renewable Energy ^e	Noncombustible (Fossil Fuel Equivalent)				Biomass				Total Renewable Energy
	Wood ^b	Bio-fuels ^c	Total ^d		Hydro-electric Power ^f	Geo-thermal ^g	Solar ^h	Wind ⁱ	Wood ^j	Waste ^k	Bio-fuels ^l	Total	
1950 Total	1,562	NA	1,562	2,978	1,415	NA	NA	NA	1,562	NA	NA	1,562	2,978
1955 Total	1,424	NA	1,424	2,784	1,360	NA	NA	NA	1,424	NA	NA	1,424	2,784
1960 Total	1,320	NA	1,320	2,928	1,608	(s)	NA	NA	1,320	NA	NA	1,320	2,928
1965 Total	1,335	NA	1,335	3,396	2,059	2	NA	NA	1,335	NA	NA	1,335	3,396
1970 Total	1,429	NA	1,431	4,070	2,634	6	NA	NA	1,429	2	NA	1,431	4,070
1975 Total	1,497	NA	1,499	4,687	3,155	34	NA	NA	1,497	2	NA	1,499	4,687
1980 Total	2,474	NA	2,475	5,428	2,900	53	NA	NA	2,474	2	NA	2,475	5,428
1985 Total	2,687	93	3,016	6,084	2,970	97	NA	(s)	2,687	236	93	3,016	6,084
1990 Total	2,216	111	2,735	6,040	3,046	171	59	29	2,216	408	111	2,735	6,040
1995 Total	2,370	198	3,099	6,557	3,205	152	68	33	2,370	531	200	3,101	6,559
2000 Total	2,262	233	3,006	6,102	2,811	164	63	57	2,262	511	236	3,008	6,104
2005 Total	2,137	561	3,101	6,221	2,703	181	58	178	2,137	403	574	3,114	6,233
2010 Total	2,217	1,868	4,553	8,313	2,539	208	90	923	2,217	468	1,821	4,506	8,266
2011 Total	2,213	2,037	4,712	9,306	3,103	212	110	1,168	2,213	462	1,941	4,616	9,210
2012 Total	2,151	1,936	4,554	8,890	2,629	212	156	1,340	2,151	467	1,899	4,517	8,853
2013 Total	2,338	2,000	4,835	9,438	2,562	214	226	1,601	2,338	496	2,026	4,861	9,465
2014 Total	2,398	2,135	5,049	9,795	2,466	214	338	1,727	2,398	516	2,099	5,013	9,759
2015 Total	2,305	2,201	5,025	9,760	2,320	212	427	1,776	2,305	518	2,185	5,008	9,743
2016 Total	2,290	2,329	5,122	10,469	2,471	210	572	2,095	2,217	503	2,333	5,053	10,401
2017 Total	2,254	2,407	5,156	11,253	2,765	210	779	2,342	2,176	495	2,364	5,035	11,132
2018 Total	2,348	2,471	5,306	11,575	2,661	209	918	2,481	2,254	487	2,355	5,096	11,365
2019 Total	2,333	2,432	5,207	11,624	2,562	201	1,021	2,633	2,229	442	2,376	5,048	11,465
2020 Total	2,066	2,194	4,700	11,583	2,501	203	1,216	2,963	1,960	440	2,136	4,535	11,418
2021 Total	2,111	2,374	4,916	12,220	2,225	205	1,529	3,345	1,992	430	2,331	4,753	12,057
2022 Total	2,273	2,511	5,196	13,366	2,245	205	1,892	3,827	2,135	412	2,433	4,980	13,149
2023 Total	2,103	2,705	5,202	13,309	2,114	205	2,154	3,634	1,968	394	2,659	5,021	13,128
2024 January	173	226	434	1,066	186	17	129	300	165	35	212	411	1,043
February	166	227	425	1,135	179	16	161	353	154	32	223	410	1,119
March	174	241	448	1,263	201	17	208	389	161	33	232	427	1,242
April	166	223	420	1,265	180	16	243	406	155	31	222	408	1,253
May	170	232	435	1,277	211	16	277	338	158	33	242	433	1,275
June	169	238	437	1,274	193	16	295	333	157	30	235	422	1,259
July	173	252	457	1,198	184	16	297	244	162	32	252	446	1,187
August	176	250	458	1,195	177	16	292	252	163	32	242	437	1,174
September	169	236	435	1,090	137	16	251	251	157	31	231	418	1,073
October	164	245	441	1,168	132	16	237	341	153	32	243	428	1,155
November	169	251	452	1,130	144	17	172	346	157	32	235	425	1,104
December	178	255	465	1,149	168	17	158	341	166	33	236	435	1,119
Total	2,046	2,875	5,308	14,211	2,093	196	2,719	3,894	1,909	387	2,806	5,101	14,004
2025 January	177	233	443	1,207	185	17	186	376	165	33	208	406	1,170
February	160	212	402	1,124	168	16	199	339	148	30	199	377	1,098
March	176	232	441	1,366	193	17	278	436	163	33	214	410	1,335
April	162	218	411	1,337	197	16	317	395	151	31	212	393	1,318
May	170	234	434	1,326	210	16	348	318	158	31	212	401	1,292
June	170	235	435	1,318	191	16	368	308	158	30	209	397	1,281
July	180	243	453	1,300	172	16	385	274	166	30	220	416	1,264
August	177	237	445	1,236	173	17	365	235	165	30	218	413	1,204
September	172	233	434	1,126	132	16	323	221	160	29	211	400	1,092
October	171	248	450	1,236	143	16	286	341	158	31	226	416	1,202
November	169	243	443	1,189	159	16	219	353	156	31	212	400	1,146
December	175	249	457	1,273	206	17	187	405	163	32	228	423	1,239
Total	2,058	2,817	5,247	15,037	2,129	199	3,461	4,002	1,912	372	2,569	4,853	14,643
2026 January	172	232	436	1,290	240	18	213	383	159	31	199	390	1,244
February	154	220	403	1,200	194	16	246	342	145	29	194	368	1,165
March	166	248	446	1,482	232	17	336	450	155	32	225	412	1,447
April	152	233	415	1,410	194	16	363	423	140	30	216	386	1,382
4-Month Total	644	933	1,700	5,382	860	66	1,158	1,598	598	123	835	1,556	5,238
2025 4-Month Total	675	895	1,697	5,033	743	67	980	1,546	627	126	833	1,586	4,922
2024 4-Month Total	679	917	1,728	4,729	746	67	740	1,447	636	131	889	1,656	4,657

^a For hydroelectric power, geothermal, solar, wind, and biomass waste, production equals consumption.

^b Wood and wood-derived fuels. Through 2015, wood production equals consumption. Beginning in 2016, wood production equals consumption plus densified biomass exports.

^c Total biomass inputs to the production of fuel ethanol and biodiesel. Beginning in 2011, also includes production of renewable diesel fuel. Beginning in 2014, also includes production of other biofuels.

^d Includes biomass waste.

^e Hydroelectric power, geothermal, solar, wind, and biomass.

^f Conventional hydroelectricity net generation (converted to Btu by multiplying by the total fossil fuels heat rate factors in Table A6).

^g Geothermal electricity net generation (converted to Btu by multiplying by the total fossil fuels heat rate factors in Table A6), and geothermal heat pump and direct use energy.

^h Solar photovoltaic (PV) and solar thermal electricity net generation (converted to Btu by multiplying by the total fossil fuels heat rate factors in Table A6), and solar thermal direct use energy.

ⁱ Wind electricity net generation (converted to Btu by multiplying by the total fossil fuels heat rate factors in Table A6).

^j Wood and wood-derived fuels.

^k Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass. Through 2000, also includes non-renewable waste (municipal solid waste from non-biogenic sources, and

tire-derived fuels).

^l Fuel ethanol (minus denaturant), biodiesel, renewable diesel fuel, and other biofuels consumption; plus losses and co-products from the production of fuel ethanol and biodiesel.

R=Revised. NA=Not available. (s)=Less than 0.5 trillion Btu.

Notes: • Production data are estimates. Consumption data are estimates, except for hydroelectric power in 1949–1978 and 1989 forward, and wind. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available annual data beginning in 1949 and monthly data beginning in 1973.

Sources: • **Biomass:** Table 10.1. • **Hydroelectric Power and Wind:** Calculated as electricity net generation (see Table 7.2a) multiplied by the total fossil fuels heat rate factors (see Table A6). • **Geothermal:** Calculated as geothermal electricity net generation (see Table 7.2a) multiplied by the total fossil fuels heat rate factors (see Table A6); plus geothermal heat pump and direct use energy in the residential, commercial, and industrial sectors (see Tables 10.2a and 10.2b). • **Solar:** Calculated as solar electricity net generation (see Table 7.2a) multiplied by the total fossil fuels heat rate factors (see Table A6); plus solar thermal direct use energy (see Table 10.5). • **Total Production:** Calculated as the sum of biomass production and noncombustible consumption. • **Total Consumption:** Calculated as the sum of biomass consumption and noncombustible consumption.

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Appendix F

Electric Vehicle Charging Infrastructure

Table F1. Electric Vehicle Charging Infrastructure
(Number)

	Locations ^a							Ports						
	With Public Ports Only	With Private Ports Only	With Public and Private Ports	With Net-worked Ports Only ^b	With Non-Net-worked Ports Only ^c	With Net-worked and Non-Net-worked Ports	Total	DC ^d Fast-Charging Ports	Level 2 Charging Ports	Level 1 Charging Ports	Legacy Charging Ports	Total	DC ^d Fast-Charging Ports per Location ^e	Level 2 Charging Ports per Location ^f
2007 Year	NA	NA	NA	NA	NA	NA	432	NA	NA	NA	NA	NA	NA	NA
2008 Year	NA	NA	NA	NA	NA	NA	440	NA	NA	NA	NA	NA	NA	NA
2009 Year	NA	NA	NA	NA	NA	NA	484	NA	NA	NA	NA	NA	NA	NA
2010 Year	NA	NA	NA	NA	NA	NA	626	NA	NA	NA	NA	NA	NA	NA
2011 Year	NA	NA	NA	NA	NA	NA	2,100	NA	NA	NA	NA	5,070	NA	NA
2012 Year	NA	NA	NA	NA	NA	NA	6,200	NA	NA	NA	NA	15,192	NA	NA
2013 Year	NA	NA	NA	NA	NA	NA	8,100	NA	NA	NA	NA	19,472	NA	NA
2014 Year	NA	NA	NA	NA	NA	NA	10,957	1,494	20,636	3,781	NA	25,913	NA	NA
2015 Year	12,267	1,235	1,474	9,583	4,502	891	14,976	7,046	45,497	4,203	597	57,343	3.20	3.34
2016 Year	16,078	1,734	1,532	12,756	5,007	1,581	19,344	10,874	60,635	4,085	362	75,956	3.55	3.49
2017 Year	19,721	1,812	1,455	15,659	5,203	2,126	22,988	12,554	75,236	3,764	453	92,007	3.74	3.62
2018 Year	21,920	1,890	1,448	17,166	5,379	2,713	25,258	11,739	83,681	2,905	108	98,433	3.89	3.59
2019 Year	24,374	2,205	1,339	19,238	5,959	2,721	27,918	14,898	93,239	3,080	92	111,309	3.94	3.66
2020 Year	28,325	1,912	1,522	22,748	6,239	2,772	31,759	19,337	109,590	2,808	61	131,796	4.17	3.83
2021 Year	45,583	2,460	1,577	39,581	7,212	2,827	49,620	24,575	130,059	3,797	56	158,487	3.98	2.92
2022 Year	52,801	2,708	1,704	48,627	8,082	504	57,213	30,193	152,306	3,415	45	185,959	4.07	2.98
2023 Year	64,515	3,183	1,184	60,085	8,109	688	68,882	41,722	170,519	3,263	29	215,533	4.14	2.83
2024 January	65,260	3,212	1,151	60,869	8,101	653	69,623	42,775	171,963	3,203	29	217,970	4.15	2.83
February	65,915	3,253	1,143	61,619	8,050	642	70,311	43,781	173,216	3,191	29	220,217	4.14	2.83
March	66,650	3,283	1,149	62,396	8,047	639	71,082	44,866	175,167	3,191	29	223,253	4.14	2.84
April	67,863	3,313	1,151	63,628	8,056	643	72,327	46,387	178,750	3,192	29	228,358	4.14	2.85
May	68,444	3,329	1,140	64,153	8,097	663	72,913	47,333	180,977	3,193	29	231,532	4.14	2.87
June	69,231	3,349	1,142	64,962	8,105	655	73,722	48,218	182,927	3,192	29	234,366	4.13	2.88
July	70,034	3,653	1,125	66,044	8,091	677	74,812	49,156	186,752	3,187	29	239,124	4.12	2.90
August	70,494	3,698	1,113	66,556	8,072	677	75,305	50,518	188,728	3,176	29	242,451	4.17	2.91
September	70,966	3,708	1,106	67,082	8,030	668	75,780	51,360	186,820	3,173	29	241,382	4.18	2.87
October	71,825	3,783	1,066	67,819	8,221	634	76,674	52,443	189,944	3,147	29	245,563	4.18	2.89
November	72,469	3,796	1,055	68,517	8,173	630	77,320	53,861	191,109	3,140	28	248,138	4.21	2.89
December	73,083	3,793	1,047	69,176	8,122	625	77,923	54,728	189,195	3,136	28	247,087	4.20	2.84
2025 January	74,051	3,728	1,036	70,202	8,276	337	78,815	55,868	190,406	2,903	28	249,205	4.19	2.83
February	74,687	3,730	1,037	70,839	8,278	337	79,454	56,666	191,313	2,903	28	250,910	4.20	2.83
March	75,152	3,740	1,037	71,310	8,281	338	79,929	58,301	194,414	2,903	28	255,646	4.26	2.86
April	74,831	3,756	1,034	70,992	8,299	330	79,621	58,829	194,618	2,913	28	256,388	4.38	2.87
May	75,237	3,739	1,005	71,935	7,831	215	79,981	59,974	193,406	2,725	26	256,131	4.41	2.84
June	75,113	3,787	963	71,888	7,797	178	79,863	61,426	191,957	2,723	25	256,131	4.45	2.84
July	75,740	3,799	955	72,566	7,758	170	80,494	62,379	193,704	2,717	25	258,825	4.45	2.84
August	76,220	4,361	938	72,935	8,418	166	81,519	63,603	199,963	3,049	25	266,640	4.47	2.90
September	76,846	4,374	913	73,564	8,405	164	82,133	64,783	201,028	3,049	25	268,885	4.49	2.90
October	77,021	4,379	904	73,787	8,363	154	82,304	65,870	201,437	3,034	25	270,366	4.51	2.91
November	77,404	4,374	889	74,262	8,262	143	82,667	67,554	202,104	3,008	24	272,690	4.57	2.91
December	77,718	4,377	874	74,638	8,196	135	82,969	69,277	202,663	3,005	24	274,969	4.62	2.91
2026 January	76,530	4,695	430	73,494	8,034	127	81,655	69,654	199,470	2,979	24	272,127	4.73	2.92
February	76,987	4,696	430	73,957	8,036	120	82,113	70,390	200,108	2,979	24	273,501	4.73	2.92
March	77,219	4,695	428	74,201	8,022	119	82,342	71,386	200,797	2,979	22	275,184	4.76	2.92
April	77,793	4,695	422	74,796	7,997	117	82,910	72,378	201,726	2,977	21	277,102	4.76	2.92
May	^R 78,373	4,700	422	^R 75,398	7,980	117	^R 83,495	^R 73,888	^R 203,158	2,976	21	^R 280,043	^R 4.82	2.92
June	78,742	4,703	419	75,789	7,961	114	83,864	73,791	204,351	2,973	21	281,136	4.83	2.92

^a Includes all of the electric vehicle (EV) charging ports located at a single location regardless of who is able to access the ports, what charging network they belong to, or the level of charging. Ports are determined to be at the same location based on latitude, longitude, and AFDC equipment ID number.

^b Networked ports are connected to the internet, can communicate with their EV service provider, have a dedicated platform that allows users to find the chargers, and pay to charge. The service provider can manage who can access the port and the cost of charging. The charging infrastructure may also be able to communicate directly with drivers, other charging infrastructure, and utilities.

^c Non-networked ports are not connected to the internet and provide only basic charging capabilities.

^d Direct current.

^e Calculated as the total number of DC fast charging ports divided by the total number of locations with DC fast charging ports (available in the microdata file).

Includes only locations with DC fast charging ports.

^f Calculated as the total number of Level 2 charging ports divided by the total number of locations with Level 2 charging ports (available in the microdata file). Includes only locations with Level 2 charging ports.

R=Revised. NA=Not available.

Notes: • Does not include data on charging infrastructure at single-family residential locations. • See "Appendix F Methodology and Sources" and end of section. • See "Electric Vehicle" in Glossary. • Data are at end of period. • Geographic coverage is the 50 states and the District of Columbia.

Web Page: See <http://www.eia.gov/totalenergy/data/monthly/#appendices> (Excel and CSV files) for all available national and state annual and monthly data beginning in June 2015 and monthly microdata file.

Sources: See end of section.

Data Source

The U.S. Energy Information Administration (EIA) receives administrative electric vehicle (EV) charging infrastructure data from the U.S. Department of Energy, Office of Critical Minerals and Energy Innovation Alternative Fuels Data Center (AFDC).¹ AFDC collects and publishes location-level charging infrastructure data that allows alternative fuel vehicle owners to find fueling and charging stations near them or along a route. AFDC receives daily updates from many of the networked providers.² Networked providers that do not provide daily updates provide regular updates. AFDC contacts non-networked³ providers every two years to determine if the stations are still in service.⁴ AFDC does not collect data on charging infrastructure at single-family residential locations.

Historical annual data (2007-2014)

Historical annual data come from the AFDC Alternative Fueling Station Counts by State (https://afdc.energy.gov/stations/states?count=total&include_temporarily_unavailable=false&date=) and are included in the 2023 historical data file (<https://afdc.energy.gov/files/docs/historical-station-counts.xlsx?year=2023>). Estimated location counts for 2011-2013 are from AFDC analysis (<https://afdc.energy.gov/data/10964>).

Historical monthly data (June 2015 – December 2021)

The National Laboratory of the Rockies (NLR), which manages the AFDC, provided the historical data to EIA. The data began in June 2015 and went through December 2021, however not all months were available. The table below shows the months of data EIA received. For the months that are blacked out, EIA did not receive any data.

2015	2016	2017	2018	2019	2020	2021
			January	January	January	January
	February	February	February	February	February	February
	March	March	March	March	March	March
	April	April	April	April	April	April
		May		May	May	
June	June	June	June	June	June	June
	July		July	July	July	July
August		August	August	August	August	August
September	September	September	September	September	September	September
		October	October	October	October	October
November	November	November	November	November		November
		December	December	December	December	December

Monthly updates (January 2022 – present)

Beginning in January 2022, EIA began pulling the data through the AFDC API⁵ on the last business day of every month.

Data

EIA uses multiple variables from the AFDC database to develop the MER PDF, excel, CSV, microdata and monthly state data output files. AFDC variables of interest include:

- Location information – station name, ID, fuel type code, open date, access code, status code, facility type, EV renewable source, EV pricing
- Physical location information – latitude, longitude, street address, city, state, zip, intersection/directions

- Charging port information – EV network, EV connector types, EV DC fast num, EV level 1 EVSE num, EV level 2 EVSE num, EV other EVSE

Historical data series included variables with different names but with the same data. The charging port information was structured differently in historical datasets. Work was completed to convert the data in the historical datasets into the same format as the current datasets.

Data quality

The EV charging infrastructure data are administrative data and do not have the same level of statistical accuracy as data published from many of EIA's surveys.

Coverage

The data do not represent the entire population or a statistically representative subset of the population of EV charging infrastructure. Instead, the data represent the known to NLR EV charging infrastructure at the time of the data pull. NLR works with EV charging network providers to receive daily updates.⁶ The accuracy and timeliness of the networked providers charging infrastructure will continue to improve as additional networked providers convert to providing daily updates to NLR. There are also non-networked public and private EV chargers, and it is harder to track when these ports become available for use or are decommissioned. These challenges result in less EV charging infrastructure reported than exists, but it is unknown how many additional EV charger locations and ports exist. It is likely that the networked EV charging infrastructure are more accurately represented than the non-networked charging infrastructure. It is also likely that the public charging infrastructure is more accurately represented than the private charging infrastructure due to a lack of incentive for the owners of private charging infrastructure to make the existence of their ports known to the public.

Data Cleaning

EIA has not verified the accuracy of the administrative data and only conducted minimal cleaning of the data. The cleaning EIA did complete included:

- Fixing latitudes and longitudes if they equaled 0, 0 or 1, -1, to facility creation of location ID
- Normalizing the naming convention of several variables including the electric network providers and the facility type
- Removing charging infrastructure outside of the United States, that had not opened yet, and non-EV locations

Breaks in series

There was a break in series in the number of charging locations between December 2020 and January 2021 because of a definitional change to align with the international standard – Open Charge Point Interface (OCPI).⁷

Duplicate observations

It is likely that duplicate observations exist. Duplicate observations may be introduced multiple ways:

- Multiple people adding the same charging port
- Updates to the networked providers database creating the appearance of a new charging port
- Changes in the underlying data structure of the historical data series creating the appearance of new ports
- EIA's imputation of number of charging ports to the date the charging port opened, not the date it first appeared

Because EIA cannot verify if these are duplicates, the details of the possibly duplicated charging infrastructure remain in the database.

Creation of the location and port id

In most historical datasets, the AFDC data included an equipment ID variable that is helpful to identify EV charging locations. However, this variable was inadequate to track EV charging location overtime for a couple reasons:

1. Between February 2017 and January 2018, 10 monthly datasets are missing equipment IDs
2. Ports located at the same location could have different equipment IDs for various reasons:
 - a. Co-located public and private ports have different equipment IDs
 - b. Co-located networked and non-networked ports have different equipment IDs
 - c. Ports that either came online or were added to the AFDC database at different times have different equipment IDs
 - d. Changes in underlying systems could cause an already established port to receive a new equipment ID

For these reasons, EIA created a new ID variable called the “Location ID” using latitude and longitude pairings and equipment ID. It is common for a location ID to be associated with multiple latitudes and longitudes pairings as well as multiple equipment IDs due to responses to these variables changing in the historical datasets.

To allow for variation across ports at a location, EIA created a “Port ID” variable using access group (public versus private access), network provider, port level (DC fast charger, Level 2, Level 1, or Legacy), and equipment ID. Every unique combination of the previously mentioned variables received a different Port ID.

Imputation

EIA imputes all missing and incomplete data. Historical datasets had missing subsets of data, so EIA had to fill in the missing data. The missing subsets varied from large (all private charging ports) to small (ports missing for one month and then reappearing during the next month). EIA filled in the missing month with the port count data from the following month.

EIA also imputed data in months that we did not receive any data from NLR. EIA imputed the data using data from the first month following the missing month if the location open date was during the missing month or prior. We did not extend the life of any ports if the last month they appeared in was the month prior to the missing month. We assumed the last month in service was the last month the port appeared, not during the missing month.

In addition, we imputed to remove errors that only appear in one month. For each historical month, EIA compared the previous and following months. If those months were equal but the middle month was different, then EIA updated the middle month to match the other months. New EV ports require a long time lag to install, so it is unlikely that the number of ports would change for a single month then return to their original number.

It is common for EV infrastructure to be added to the AFDC website months or years after the location came online. Because of this, EIA also backfilled EV charging port data to cover all months since the port was available, not only when it appeared in the AFDC database. The MER conducts this backfill imputation twice per year, in the May and November MERs, to correspond with the release of data in the State Energy Data System (SEDS).⁸

Data quality analysis

In December 2023 and January 2024, we conducted a data quality evaluation study to assess the accuracy of the number of electric vehicle (EV) charging ports and charging locations. The study relied on a virtual ground truthing process that compared the number of charging ports listed for 120 randomly sampled charging locations from the August 2023 MER File compared to what EIA observed in online resources available, particularly online street-level imagery. A paired t-test found no significant mean difference between the MER File charging port counts versus observed charging port counts at a 99% confidence level. The MER File reflected the observed number of charging ports approximately 94% of the time, and the MER File reflected the observed number of charging ports within an absolute value difference of two charging ports approximately 99% of the time. The study also identified potential sources of error that contributed to charging port count differences but based on the quantitative findings of the study, these possible sources of error

seemed to have limited effect on the MER File's accuracy. Overall, the study findings show that the MER File's data quality accuracy was generally high at reflecting observable charging port counts.

Available data

In addition to the monthly and annual national data, monthly state level data and a microdata file are also available at <http://www.eia.gov/totalenergy/data/monthly/#appendices>.

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1. Alternative Fuels Data Center: <https://afdc.energy.gov/stations/#/find/nearest>
 2. Networked ports are connected to the internet, can communicate with their EV service provider, have a dedicated platform that allows users to find the chargers and pay to charge. The service provider can manage who can access the station and the cost of charging. The charging infrastructure may also be able to communicate directly with drivers, other charging infrastructure, and utilities.
 3. Non-networked ports are not connected to the internet and provide only basic charging capabilities.
 4. Details on the EV charging infrastructure data received by AFDC:
https://afdc.energy.gov/stations/#/find/nearest?show_about=true
 5. AFDC API details: <https://developer.nrel.gov/docs/transportation/alt-fuel-stations-v1/all/>
 6. For more details of the networked providers NLR is currently receiving daily updates from see:
https://afdc.energy.gov/stations/#/find/nearest?show_about=true
 7. For more details on the OCIP see https://afdc.energy.gov/stations/#/find/nearest?show_about=true
 8. For more information on SEDS see <https://www.eia.gov/state/seds/>

Glossary

Alcohol: The family name of a group of organic chemical compounds composed of carbon, hydrogen, and oxygen. The series of molecules vary in chain length and are composed of a **hydrocarbon** plus a hydroxyl group; $\text{CH}_3\text{-(CH}_2\text{)}_n\text{-OH}$ (e.g., **methanol**, **ethanol**, and tertiary butyl alcohol). See **Fuel ethanol**.

Alternative fuel: Alternative fuels, for transportation applications, include the following: **methanol**; denatured **ethanol**, and other **alcohols**; fuel mixtures containing 85 percent or more by volume of methanol, denatured ethanol, and other alcohols with **motor gasoline** or other fuels; **natural gas**; **liquefied petroleum gas (propane)**; **hydrogen**; **coal-derived liquid fuels**; fuels (other than alcohol) derived from biological materials (**biofuels** such as soy **diesel fuel**); **electricity** (including electricity from **solar energy**); and "... any other fuel the Secretary determines, by rule, is substantially not **petroleum** and would yield substantial energy security benefits and substantial environmental benefits." The term "alternative fuel" does not include alcohol or other blended portions of primarily petroleum-based fuels used as **oxygenates** or extenders, i.e., **MTBE**, **ETBE**, other ethers, and the 10-percent ethanol portion of **gasohol**.

Alternative-fuel vehicle (AFV): A vehicle designed to operate on an **alternative fuel** (e.g., compressed **natural gas**, **methane** blend, or **electricity**). The vehicle could be either a dedicated vehicle designed to operate exclusively on alternative fuel or a nondedicated vehicle designed to operate on alternative fuel and/or a traditional fuel.

Anthracite: The highest rank of **coal**; used primarily for residential and commercial space heating. It is a hard, brittle, and black lustrous coal, often referred to as hard coal, containing a high percentage of fixed carbon and a low percentage of volatile matter. The moisture content of fresh-mined anthracite generally is less than 15 percent. The heat content of anthracite ranges from 22 to 28 million **Btu per short ton** on a moist, mineral-matter-free basis. The heat content of anthracite coal consumed in the United States averages 25 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter). **Note:** Since the 1980's, anthracite refuse or mine waste has been used for steam-electric power generation. This fuel typically has a heat content of 15 million Btu per ton or less.

Anthropogenic: Made or generated by a human or caused by human activity. The term is used in the context of global **climate change** to refer to gaseous emissions that are the result of human activities, as well as other potentially climate-altering activities, such as deforestation.

Asphalt: A dark brown-to-black cement-like material obtained by **petroleum** processing and containing bitumens as the predominant component; used primarily for road construction. It includes crude asphalt as well as the following finished products: cements, fluxes, the asphalt content of emulsions (exclusive of water), and petroleum distillates blended with asphalt to make cutback asphalts. **Note:** The conversion factor for asphalt is 5.5 barrels per short ton.

ASTM: The American Society for Testing and Materials.

Aviation gasoline blending components: **Naphthas** that will be used for blending or compounding into finished aviation gasoline (e.g., straight run gasoline, alkylate, reformate, benzene, toluene, and xylene). Excludes **oxygenates (alcohols, ethers)**, **butane**, and **natural gasoline**. Oxygenates are reported as **other hydrocarbons, hydrogen**, and oxygenates. See **Aviation gasoline, finished**.

Aviation gasoline, finished: A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, blended to form a fuel suitable for use in aviation reciprocating engines. Fuel specifications are provided in ASTM Specification D 910 and Military Specification MIL-G-5572. **Note:** Data on blending components are not counted in data on finished aviation gasoline.

Barrel (petroleum): A unit of volume equal to 42 U.S. Gallons.

Base gas: The quantity of **natural gas** needed to maintain adequate reservoir pressures and deliverability rates throughout the withdrawal season. Base gas usually is not withdrawn and remains in the reservoir. All natural gas native to a depleted reservoir is included in the base gas volume.

Battery electric vehicle (BEV): An all-electric vehicle that receives power by plugging into an electric power source and storing the power in a battery pack. BEVs do not use any petroleum-based or other liquid- or gas-based fuel during operation and do not produce tailpipe emissions.

Biodiesel: Renewable fuel consisting of mono alkyl esters (long chain fatty acids) that are produced through the conversion of animal fats, vegetable oils, and recycled grease feedstocks (transesterification). Biodiesel is typically blended with **petroleum-based diesel fuel** in concentrations of 2% to 20% biodiesel, or B2 to B20.

Biofuels: Liquid fuels and blending components produced from **biomass** (plant) feedstocks, used primarily for transportation. See **Biodiesel**, **Fuel ethanol**, **Other biofuels**, and **Renewable diesel fuel**.

Biogas: A mixture of methane and other gases produced by decomposing matter in an oxygen-free (anaerobic) environment with the assistance of microbes. Biogas is typically produced at landfills and anaerobic digesters.

Biogenic: Produced by biological processes of living organisms. **Note:** EIA uses the term “biogenic” to refer only to organic nonfossil material of biological origin.

Biomass: Organic nonfossil material of biological origin constituting a renewable energy source. See **Biodiesel**, **Biofuels**, **Biomass waste**, **Densified biomass**, **Fuel ethanol**, **Other biofuels**, **Renewable diesel fuel**, and **Wood and wood-derived fuels**.

Biomass-based diesel fuel: Biodiesel and other renewable **diesel fuel** or diesel fuel blending components derived from **biomass**, but excluding renewable diesel fuel coprocessed with petroleum feedstocks. See **Biodiesel** and **Renewable diesel fuel**.

Biomass waste: Organic non-fossil material of biological origin that is a byproduct or a discarded product. “Biomass waste” includes municipal solid waste from **biogenic** sources, landfill gas, sludge waste, agricultural crop byproducts, straw, and other **biomass** solids, liquids, and gases; but excludes **wood and wood-derived fuels** (including **black liquor**), **biofuels** feedstock, **biodiesel**, **fuel ethanol**, **other biofuels**, and **renewable diesel fuel**. **Note:** EIA “biomass waste” data also include energy crops grown specifically for energy production, which would not normally constitute waste.

Bituminous coal: A dense **coal**, usually black, sometimes dark brown, often with well-defined bands of bright and dull material, used primarily as fuel in steam-electric power generation, with substantial quantities also used for heat and power applications in manufacturing and to make **coke**. Bituminous coal is the most abundant coal in active U.S. mining regions. Its moisture content usually is less than 20 percent. The heat content of bituminous coal ranges from 21 to 30 million **Btu** per **short ton** on a moist, mineral-matter-free basis. The heat content of bituminous coal consumed in the United States averages 24 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Black liquor: A byproduct of the paper production process, alkaline spent liquor that can be used as a source of energy. Alkaline spent liquor is removed from the digesters in the process of chemically pulping wood. After evaporation, the residual “black” liquor is burned as a fuel in a recovery furnace that permits the recovery of certain basic chemicals.

British thermal unit (Btu): The quantity of heat required to raise the temperature of 1 pound of liquid water by 1 degree Fahrenheit at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit). See **Heat content**.

Btu: See **British thermal unit**.

Btu conversion factor: A factor for converting **energy** data between one unit of measurement and **British thermal units (Btu)**. Btu conversion factors are generally used to convert energy data from physical units of measure (such as **barrels**, **cubic feet**, or **short tons**) into the energy-equivalent measure of Btu. (See <http://www.eia.gov/totalenergy/data/monthly/#appendices> for further information on Btu conversion factors.)

Butane (C₄H₁₀): A straight-chain or branch-chain **hydrocarbon** extracted from **natural gas** or **refinery gas** streams, which is gaseous at standard temperature and pressure. It includes **isobutane** and **normal butane** and is designated in ASTM Specification D1835 and Gas Processors Association specifications for commercial butane.

Butylene (C₄H₈): An olefinic **hydrocarbon** recovered from refinery or petrochemical processes, which is gaseous at standard temperature and pressure. Butylene is used in the production of gasoline and various petrochemical products. See **Olefinic hydrocarbons (olefins)**.

Capacity factor: The ratio of the electrical energy produced by a generating unit for a given period of time to the electrical energy that could have been produced at continuous full-power operation during the same period.

Carbon dioxide (CO₂): A colorless, odorless, non-poisonous gas that is a normal part of Earth's atmosphere. Carbon dioxide is a product of **fossil-fuel** combustion as well as other processes. It is considered a **greenhouse gas** as it traps heat (infrared energy) radiated by the Earth into the atmosphere and thereby contributes to the potential for **global warming**. The **global warming potential** (GWP) of other greenhouse gases is measured in relation to that of carbon dioxide, which by international scientific convention is assigned a value of one (1).

Chained dollars: A measure used to express **real prices**. Real prices are those that have been adjusted to remove the effect of changes in the purchasing power of the dollar; they usually reflect buying power relative to a reference year. Prior to 1996, real prices were expressed in constant dollars, a measure based on the weights of goods and services in a single year, usually a recent year. In 1996, the U.S. Department of Commerce introduced the chained-dollar measure. The new measure is based on the average weights of goods and services in successive pairs of years. It is "chained" because the second year in each pair, with its weights, becomes the first year of the next pair. The advantage of using the chained-dollar measure is that it is more closely related to any given period and is therefore subject to less distortion over time.

CIF: See **Cost, insurance, freight**.

Citygate: A point or measuring station at which a distribution gas utility receives gas from a **natural gas** pipeline company or transmission system.

Climate change: A term used to refer to all forms of climatic inconsistency, but especially to significant change from one prevailing climatic condition to another. In some cases, "climate change" has been used synonymously with the term "**global warming**"; scientists, however, tend to use the term in a wider sense inclusive of natural changes in climate, including climatic cooling.

Coal: A readily combustible black or brownish-black rock whose composition, including inherent moisture, consists of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time. See **Anthracite, Bituminous coal, Lignite, Subbituminous coal, Waste coal, and Coal synfuel**.

Coal coke: A solid carbonaceous residue derived from low-ash, low-sulfur **bituminous coal** from which the volatile constituents are driven off by baking in an oven at temperatures as high as 2,000 degrees Fahrenheit so that the fixed carbon and residual ash are fused together. Coke is used as a fuel and as a reducing agent in smelting iron ore in a blast furnace. Coke from coal is grey, hard, and porous and has a heating value of 24.8 million Btu per ton.

Coal stocks: Coal quantities that are held in storage for future use and disposition. **Note:** When coal data are collected for a particular reporting period (month, quarter, or year), coal stocks are commonly measured as of the last day of the period.

Coal synfuel: Coal-based solid fuel that has been processed by a **coal synfuel plant**; and coal-based fuels such as briquettes, pellets, or extrusions, which are formed from fresh or recycled coal and binding materials.

Coal synfuel plant: A plant engaged in the chemical transformation of **coal** into **coal synfuel**.

Coke: See **Coal coke** and **Petroleum coke**.

Coking coal: Bituminous coal suitable for making coke. See **Coal coke**.

Combined cycle: An electric generating technology in which electricity is produced from otherwise lost waste heat exiting from one or more gas (combustion) turbines. The exiting heat is routed to a conventional boiler or to a heat recovery steam generator for utilization by a steam turbine in the production of electricity. This process increases the efficiency of the electric generating unit.

Combined-heat-and-power (CHP) plant: A plant designed to produce both heat and electricity from a single heat source. **Note:** This term is being used in place of the term "cogenerator" that was used by EIA in the past. CHP better

describes the facilities because some of the plants included do not produce heat and power in a sequential fashion and, as a result, do not meet the legal definition of cogeneration specified in the Public Utility Regulatory Policies Act (PURPA).

Commercial sector: An energy-consuming sector that consists of service-providing facilities and equipment of: businesses; federal, state, and local governments; and other private and public organizations, such as religious, social, or fraternal groups. The commercial sector includes institutional living quarters. It also includes sewage treatment facilities. Common uses of energy associated with this sector include space heating, water heating, air conditioning, lighting, refrigeration, cooking, and running a wide variety of other equipment. **Note:** This sector includes generators that produce electricity and/or useful thermal output primarily to support the activities of the above-mentioned commercial establishments. See **End-use sectors** and **Energy-use sectors**.

Completion: The installation of permanent equipment for the production of oil or gas. If a well is equipped to produce only oil or gas from one zone or reservoir, the definition of a well (classified as an oil well or gas well) and the definition of a completion are identical. However, if a well is equipped to produce oil and/or gas separately from more than one reservoir, a well is not synonymous with a completion.

Conventional fuel ethanol: Fuel ethanol produced by fermenting cornstarch. Fuel ethanol is typically blended with motor gasoline as an oxygenate or octane enhancer in concentrations of 10% ethanol, but it can be blended up to a 15% concentration in some markets for vehicle models manufactured to use E15. In higher concentrations of 51%–83% fuel ethanol, it is used in alternative or flex-fuel vehicles.

Conventional hydroelectric power: Hydroelectric power generated from flowing water that is not created by hydroelectric pumped storage.

Conventional motor gasoline: See **Motor gasoline conventional**.

Conversion factor: A factor for converting data between one unit of measurement and another (such as between **short tons** and **British thermal units**, or between **barrels** and gallons). (See <http://www.eia.gov/totalenergy/data/monthly/#appendices>. See **Btu conversion factor** and **Thermal conversion factor**.)

Cost, insurance, freight (CIF): A sales transaction in which the seller pays for the transportation and insurance of the goods to the port of destination specified by the buyer.

Crude oil: A mixture of hydrocarbons that exists in liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Depending upon the characteristics of the crude stream, it may also include: (1) small amounts of hydrocarbons that exist in gaseous phase in natural underground reservoirs but are liquid at atmospheric pressure after being recovered from oil well (casing head) gas in lease separators and are subsequently commingled with the crude stream without being separately measured. Lease condensate recovered as a liquid from natural gas wells in lease or field separation facilities and later mixed into the crude stream is also included; (2) small amounts of nonhydrocarbons produced with the oil, such as sulfur and various metals; and (3) drip gases, and liquid hydrocarbons produced from tar sands, oil sands, gilsonite, and oil shale. Liquids produced at natural gas processing plants are excluded. Crude oil is refined to produce a wide array of petroleum products, including heating oils; gasoline, diesel and jet fuels; lubricants; asphalt; ethane, propane, and butane; and many other products used for their energy or chemical content.

Crude oil f.o.b. price: The crude oil price actually charged at the oil-producing country's port of loading. Includes deductions for any rebates and discounts or additions of premiums, where applicable. It is the actual price paid with no adjustment for credit terms.

Crude oil (including lease condensate): A mixture of hydrocarbons that exists in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities. Included are lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil (residual oil) and other unfinished oils are excluded. Where identifiable, liquids produced at natural gas processing plants and mixed with crude oil are likewise excluded.

Crude oil landed cost: The price of crude oil at the port of discharge, including charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. The cost does not include charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage).

Crude oil refinery input: The total crude oil put into processing units at refineries.

Crude oil stocks: Stocks of crude oil and lease condensate held at refineries, in pipelines, at pipeline terminals, and on leases.

Crude oil used directly: Crude oil consumed as fuel by crude oil pipelines and on crude oil leases.

Crude oil well: A well completed for the production of crude oil from one or more oil zones or reservoirs. Wells producing both crude oil and natural gas are classified as oil wells.

Cubic foot (natural gas): The amount of **natural gas** contained at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch) in a cube whose edges are one foot long.

Degree Day Normals: Simple arithmetic averages of monthly or annual degree days over a long period of time (usually the 30-year period 1961–1990). The averages may be simple degree day normals or population-weighted degree day normals.

Degree Days, Cooling (CDD): A measure of how warm a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the base temperature (65 degrees) from the average of the day's high and low temperatures, with negative values set equal to zero. Each day's cooling degree days are summed to create a cooling degree day measure for a specified reference period. Cooling degree days are used in energy analysis as an indicator of air conditioning energy requirements or use.

Degree Days, Heating (HDD): A measure of how cold a location is over a period of time relative to a base temperature, most commonly specified as 65 degrees Fahrenheit. The measure is computed for each day by subtracting the average of the day's high and low temperatures from the base temperature (65 degrees), with negative values set equal to zero. Each day's heating degree days are summed to create a heating degree day measure for a specified reference period. Heating degree days are used in energy analysis as an indicator of space heating energy requirements or use.

Degree Days, Population-weighted: Heating or cooling degree days weighted by the population of the area in which the degree days are recorded. To compute state population-weighted degree days, each state is divided into from one to nine climatically homogeneous divisions, which are assigned weights based on the ratio of the population of the division to the total population of the state. Degree day readings for each division are multiplied by the corresponding population weight for each division and those products are then summed to arrive at the state population-weighted degree day figure. To compute national population-weighted degree days, the nation is divided into nine Census regions, each comprising from three to eight states, which are assigned weights based on the ratio of the population of the region to the total population of the nation. Degree day readings for each region are multiplied by the corresponding population weight for each region and those products are then summed to arrive at the national population-weighted degree day figure.

Denaturant: Petroleum, typically **natural gasoline** or **conventional motor gasoline**, added to **fuel ethanol** to make it unfit for human consumption. Fuel ethanol is denatured, usually prior to transport from the ethanol production facility, by adding 2 to 5 volume percent denaturant. See **Fuel ethanol** and **Fuel ethanol minus denaturant**.

Densified biomass fuel: Raw biomass, primarily wood, that has been condensed into a homogeneously sized, energy-dense product, such as wood pellets, intended for use as fuel. It is mainly used for residential and commercial space heating and electricity generation.

Design electrical rating, net: The nominal net electrical output of a nuclear unit as specified by the electric utility for the purpose of plant design.

Development well: A well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive.

Diesel fuel: A fuel composed of **distillate fuel oils** obtained in petroleum refining operation or blends of such distillate fuel oils with **residual fuel oil** used in motor vehicles. The boiling point and specific gravity are higher for diesel fuels than for gasoline.

Direct use: Use of electricity that (1) is self-generated, (2) is produced by either the same entity that consumes the power or an affiliate, and (3) is used in direct support of a service or industrial process located within the same facility or group of facilities that house the generating equipment. Direct use is exclusive of **station use**.

Direct-use energy: Energy, usually in the form of heat, used by an onsite application.

Distillate fuel oil: A general classification for one of the **petroleum** fractions produced in conventional distillation operations. It includes **diesel fuels** and fuel oils. Products known as No. 1, No. 2, and No. 4 diesel fuel are used in on-highway diesel engines, such as those in trucks and automobiles, as well as off-highway engines, such as those in railroad locomotives and agricultural machinery. Products known as No. 1, No. 2, and No. 4 fuel oils are used primarily for space heating and **electricity generation**.

Dry hole: An exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well.

Dry natural gas production: See **Natural gas (dry) production**.

E85 (Flex fuel): High-level ethanol-gasoline blend containing 51 to 83 volume percent ethanol, depending on geography and season. Also includes ethanol-gasoline blends containing greater than 83 volume percent and not greater than 85 volume percent ethanol where such blends exist.

Electric power plant: A station containing prime movers, electric generators, and auxiliary equipment for converting mechanical, chemical, and/or fission energy into electric energy.

Electric power sector: An energy-consuming sector that consists of electricity only and combined-heat-and-power (CHP) plants whose primary business is to sell electricity, or electricity and heat, to the public--i.e., North American Industry Classification System 22 plants. See **combined-heat-and-power (CHP) plant**, **electricity-only plant**, **electric utility**, and **independent power producer**. The electric power sector consumes **primary energy** to generate electricity and heat (forms of secondary energy). Electricity is sold to the four **end-use sectors** (residential, commercial, industrial, and transportation), stored for future use, and exported to other countries.

Electric utility: Any entity that generates, transmits, or distributes **electricity** and recovers the cost of its generation, transmission or distribution assets and operations, either directly or indirectly, through cost-based rates set by a separate regulatory authority (e.g., State Public Service Commission), or is owned by a governmental unit or the consumers that the entity serves. Examples of these entities include: investor-owned entities, public power districts, public utility districts, municipalities, rural electric cooperatives, and state and federal agencies. Electric utilities may have Federal Energy Regulatory Commission approval for interconnection agreements and wholesale trade tariffs covering either cost-of-service and/or market-based rates under the authority of the Federal Power Act. See **Electric power sector**.

Electric vehicle (EV): A general term for any on-road licensed vehicle that can plug into an electric power source and uses electric power to move. EVs plug into a source of electricity and store power in a battery pack for all or part of their power needs. Includes **Battery electric vehicles (BEVs)** and **Plug-in hybrid vehicles (PHEVs)**. Can also be referred to as Plug-in Electric Vehicles (PEV).

Electric Vehicle charging location: A geographically distinct place, based on latitude and longitude with one or more Electric Vehicle (EV) charging ports. One charging location can include co-located public and private EV charging ports, networked and non-networked EV charging ports, and EV charging ports of various speeds such as Level 2 and DC fast chargers. Multiple EV charging locations can be associated with a common development area, such as a parking lot or parking garage serving a shopping center or office building.

Electric Vehicle charging port: The electric vehicle (EV) charging equipment that connects to and charges an EV. The number of ports is the total number of vehicles that can charge simultaneously at an EV charging location. A single EV charging port can connect to and charge one vehicle at a time. If the EV charging equipment can connect to and charge more than one vehicle simultaneously than that would count as multiple charging ports.

Electrical system energy losses: The amount of energy lost during generation, transmission, and distribution of electricity, including plant and unaccounted-for uses.

Electricity: A form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change.

Electricity generation: The process of producing electric energy, or the amount of electric energy produced by transforming other forms of energy, commonly expressed in **kilowatthours** (kWh) or megawatthours (MWh).

Electricity generation, gross: The total amount of electric energy produced by generating units and measured at the generating terminal in **kilowatthours** (kWh) or megawatthours (MWh).

Electricity generation, net: The amount of **gross electricity generation** less **station use** (the **electric energy** consumed at the generating station(s) for station service or auxiliaries). **Note:** Electricity required for pumping at **hydroelectric pumped-storage** plants is regarded as electricity for station service and is deducted from gross generation.

Electricity only plant: A plant designed to produce electricity only. See also **Combined heat and power (CHP) plant**.

Electricity sales to ultimate customers: Electricity sales that are consumed by the customer and not available for resale. Includes electric sales to end users by third-party owners of behind-the-meter PV solar systems.

End-use energy consumption: End-use sector (residential, commercial, industrial, and transportation) consumption of primary energy plus electricity sales to ultimate customers. The energy associated with electrical system energy losses is not included.

End-use sectors: The **residential**, **commercial**, **industrial**, and **transportation** sectors of the economy.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible and can be changed to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatthours, while heat energy is usually measured in British thermal units.

Energy-consuming sectors: The **residential**, **commercial**, **industrial**, **transportation**, and **electric power** sectors of the economy.

Energy consumption: The use of energy as a source of heat or power or as an input in the manufacturing process.

Energy service provider: An energy entity that provides service to a retail or end-use customer.

Energy-use-sectors: A group of major energy-consuming components of U.S. society developed to measure and analyze energy use. The sectors most commonly referred to in EIA are: **residential**, **commercial**, **industrial**, **transportation**, and **electric power**.

Ethane (C₂H₆): A straight-chain saturated (paraffinic) **hydrocarbon** extracted predominantly from the natural gas stream, which is gaseous at standard temperature and pressure. It is a colorless gas that boils at a temperature of -127 degrees Fahrenheit. See **Paraffinic hydrocarbons**.

Ethanol (C₂H₅OH): A clear, colorless, flammable **alcohol**. Ethanol is typically produced biologically from **biomass** feedstocks such as agricultural crops and cellulosic residues from agricultural crops or wood. Ethanol can also be produced chemically from **ethylene**. See **Biomass**, **Fuel ethanol**, and **Fuel ethanol minus denaturant**.

Ether: A generic term applied to a group of organic chemical compounds composed of carbon, **hydrogen**, and oxygen, characterized by an oxygen atom attached to two carbon atoms (e.g., **methyl tertiary butyl ether**).

Ethylene (C₂H₄): An olefinic **hydrocarbon** recovered from refinery or petrochemical processes, which is gaseous at standard temperature and pressure. Ethylene is used as a petrochemical feedstock for many chemical applications and the production of consumer goods. See **Olefinic hydrocarbons (olefins)**.

Exploratory well: A well drilled to find and produce oil or gas in an area previously considered an unproductive area, to find a new reservoir in a known field (i.e., one previously found to be producing oil or gas in another reservoir), or to extend the limit of a known oil or gas reservoir.

Exports: Shipments of goods from within the 50 states and the District of Columbia to U.S. possessions and territories or to foreign countries.

Federal Energy Administration (FEA): A predecessor of the U.S. Energy Information Administration.

Federal Energy Regulatory Commission (FERC): The Federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, oil pipeline rates, and gas pipeline certification.

FERC is an independent regulatory agency within the U.S. Department of Energy and is the successor to the Federal Power Commission.

Federal Power Commission (FPC): The predecessor agency of the Federal Energy Regulatory Commission. The Federal Power Commission was created by an Act of Congress under the Federal Water Power Act on June 10, 1920. It was charged originally with regulating the electric power and natural gas industries. It was abolished on September 30, 1977, when the U.S. Department of Energy was created. Its functions were divided between the U.S. Department of Energy and the Federal Energy Regulatory Commission, an independent regulatory agency.

First purchase price: The price for domestic crude oil reported by the company that owns the crude oil the first time it is removed from the lease boundary.

Flared natural gas: Natural gas burned in flares on the base site or at gas processing plants.

F.O.B. (free on board): A sales transaction in which the seller makes the product available for pick up at a specified port or terminal at a specified price and the buyer pays for the subsequent transportation and insurance.

Footage drilled: Total footage for wells in various categories, as reported for any specified period, includes (1) the deepest total depth (length of well bores) of all wells drilled from the surface, (2) the total of all bypassed footage drilled in connection with reported wells, and (3) all new footage drilled for directional sidetrack wells. Footage reported for directional sidetrack wells does not include footage in the common bore, which is reported as footage for the original well. In the case of old wells drilled deeper, the reported footage is that which was drilled below the total depth of the old well.

Former U.S.S.R.: See **Union of Soviet Socialist Republics (U.S.S.R.)**.

Fossil fuel: An energy source formed in the Earth's crust from decayed organic material, such as **petroleum, coal,** and **natural gas**.

Fossil fueled steam electric power plant: An electricity generation plant in which the prime mover is a turbine rotated by high-pressure steam produced in a boiler by heat from burning fossil fuels.

Fuel cell electric vehicle (FCEV): An electric vehicle that generates on-board electricity with a fuel cell powered by hydrogen rather than relying on electricity from a high capacity battery.

Fuel ethanol: Ethyl alcohol for fuel use that is produced by the fermentation of sugars. Fuel ethanol is denatured with petroleum products (for example, natural gasoline) to render it unfit for human consumption.

Fuel ethanol minus denaturant: An unobserved quantity of anhydrous, **biomass**-derived, undenatured **ethanol** for fuel use. The quantity is obtained by subtracting the estimated **denaturant** volume from **fuel ethanol** volume. Fuel ethanol minus denaturant is counted as **renewable energy**, while denaturant is counted as **nonrenewable fuel**. See **Denaturant, Ethanol, Fuel ethanol, Nonrenewable fuels, Oxygenates,** and **Renewable energy**.

Full power operation: Operation of a nuclear generating unit at 100 percent of its design capacity. Full-power operation precedes commercial operation.

Gasohol: A blend of finished motor gasoline containing alcohol (generally ethanol but sometimes methanol) at a concentration between 5.7 percent and 10 percent by volume. See **Motor gasoline, oxygenated**.

Gas turbine plant: A plant in which the prime mover is a gas turbine. A gas turbine consists typically of an axial-flow air compressor and one or more combustion chambers where liquid or gaseous fuel is burned and the hot gases are passed to the turbine and where the hot gases expand drive the generator and are then used to run the compressor.

Gas well: A well completed for production of natural gas from one or more gas zones or reservoirs. Such wells contain no completions for the production of crude oil.

Geothermal energy: Hot water or steam extracted from geothermal reservoirs in the earth's crust and used for geothermal heat pumps, water heating, or electricity generation.

Global warming: An increase in the near-surface temperature of the Earth. Global warming has occurred in the distant past as the result of natural influences, but the term is today most often used to refer to the warming some scientists predict will occur as a result of increased anthropogenic emissions of **greenhouse gases**. See **Climate change**.

Global warming potential (GWP): An index used to compare the relative radiative forcing of different gases without directly calculating the changes in atmospheric concentrations. GWPs are calculated as the ratio of the radiative forcing that would result from the emission of one kilogram of a **greenhouse gas** to that from the emission of one kilogram of **carbon dioxide** over a fixed period of time, such as 100 years.

Greenhouse gases: Those gases, such as water vapor, **carbon dioxide**, nitrous oxide, **methane**, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride, that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

Gross domestic product (GDP): The total value of goods and services produced by labor and property located in the United States. As long as the labor and property are located in the United States, the supplier (that is, the workers and, for property, the owners) may be either U.S. residents or residents of foreign countries.

Heat content: The amount of heat energy available to be released by the transformation or use of a specified physical unit of an energy form (e.g., a ton of coal, a barrel of oil, a kilowatthour of electricity, a cubic foot of natural gas, or a pound of steam). The amount of heat energy is commonly expressed in **British thermal units (Btu)**. **Note:** Heat content of combustible energy forms can be expressed in terms of either gross heat content (higher or upper heating value) or net heat content (lower heating value), depending upon whether or not the available heat energy includes or excludes the energy used to vaporize water (contained in the original energy form or created during the combustion process). The U.S. Energy Information Administration typically uses gross heat content values.

Heat rate: A measure of generating station thermal efficiency commonly stated as **Btu per kilowatthour**. **Note:** Heat rates can be expressed as either gross or net heat rates, depending whether the electricity output is gross or net generation. Heat rates are typically expressed as net heat rates.

Hybrid electric vehicle (HEV): A vehicle that combines an **internal combustion engine (ICE)** with a battery pack, regenerative braking, and an electric motor to provide high fuel economy. HEVs rely on gasoline or diesel fuel for power and cannot be plugged into an electric power source. The battery packs are charged by the ICE and regenerative braking.

Hydrocarbon: An organic chemical compound of **hydrogen** and carbon in the gaseous, liquid, or solid phase. The molecular structure of hydrocarbon compounds varies from the simplest (methane, the primary constituent of **natural gas**) to the very heavy and very complex.

Hydrocarbon gas liquids (HGL): A group of **hydrocarbons** including **ethane**, **propane**, **normal butane**, **isobutane**, and **natural gasoline**, and their associated **olefins**, including **ethylene**, **propylene**, **butylene**, and **isobutylene**. As marketed products, HGL represents all **natural gas liquids** (NGL) and olefins. EIA reports production of HGL from refineries (**liquefied refinery gases**, or LRG) and natural gas plants (**natural gas plant liquids**, or NGPL). Excludes liquefied natural gas (LNG). See **Olefinic hydrocarbons (olefins)**.

Hydroelectric power: The production of electricity from the kinetic energy of falling water.

Hydroelectric power plant: A plant in which the turbine generators are driven by falling water.

Hydroelectric pumped storage: Hydroelectricity that is generated during peak load periods by using water previously pumped into an elevated storage reservoir during off-peak periods when excess generating capacity is available to do so. When additional generating capacity is needed, the water can be released from the reservoir through a conduit to turbine generators located in a power plant at a lower level.

Hydrogen (H): The lightest of all gases, hydrogen occurs chiefly in combination with oxygen in water. It also exists in acids, bases, **alcohols**, **petroleum**, and **other hydrocarbons**.

Imports: Receipts of goods into the 50 states and the District of Columbia from U.S. possessions and territories or from foreign countries.

Independent power producer: A corporation, person, agency, authority, or other legal entity or instrumentality that owns or operates facilities for the generation of electricity for use primarily by the public, and that is not an **electric utility**.

Industrial sector: An **energy**-consuming sector that consists of all facilities and equipment used for producing, processing, or assembling goods. The industrial sector encompasses the following types of activity: manufacturing (**NAICS** codes 31-33); agriculture, forestry, fishing and hunting (**NAICS** code 11); mining, including oil and gas extraction (**NAICS** code 21); and construction (**NAICS** code 23). Overall energy use in this sector is largely for process heat and cooling and powering machinery, with lesser amounts used for facility heating, air conditioning, and lighting. Fossil fuels are also used as raw material inputs to manufactured products. **Note:** This sector includes **generators** that produce **electricity** and/or **useful thermal output** primarily to support the above-mentioned industrial activities. See **End-use sectors** and **Energy use sectors**.

Injections (natural gas): **Natural gas** injected into storage reservoirs.

Internal combustion engine (ICE): Generates mechanical power by burning a liquid, such as gasoline, diesel, or biofuels, or a gaseous fuel, such as compressed natural gas.

Internal combustion plant: A plant in which the prime mover is an **internal combustion engine**. An **internal combustion engine** has one or more cylinders in which the process of combustion takes place, converting energy released from the rapid burning of a fuel-air mixture into mechanical energy. Diesel or gas-fired engines are the principal types used in electric plants. The plant is usually operated during periods of high demand for electricity.

Isobutane (C₄H₁₀): A branch-chain saturated (paraffinic) **hydrocarbon** extracted from both **natural gas** and **refinery gas** streams, which is gaseous at standard temperature and pressure. It is a colorless gas that boils at a temperature of 11 degrees Fahrenheit. See **Paraffinic hydrocarbons**.

Isobutylene (C₄H₈): A branch-chain olefinic **hydrocarbon** recovered from refinery or petrochemical processes, which is gaseous at standard temperature and pressure. Isobutylene is used in the production of gasoline and various petrochemical products. See **Olefinic hydrocarbons (olefins)**.

Isopentane (C₅H₁₂): A saturated branched-chain **hydrocarbon** obtained by fractionation of **natural gasoline** or isomerization of normal pentane.

Jet fuel: A refined **petroleum** product used in jet aircraft engines. See **Jet fuel**, **Kerosene-type**, and **Jet fuel, Naphtha-type**.

Jet fuel, kerosene-type: A **kerosene**-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5 and JP-8). It is used for commercial and military turbo jet and turbo prop aircraft engines.

Jet fuel, naphtha-type: A fuel in the heavy **naphtha** boiling range having an average gravity of 52.8 degrees API, 20% to 90% distillation temperatures of 290 degrees to 470 degrees Fahrenheit, and meeting Military Specification MIL-T-5624L (Grade JP-4). It is used primarily for military turbojet and turboprop aircraft engines because it has a lower freeze point than other aviation fuels and meets engine requirements at high altitudes and speeds.

Kerosene: A light **petroleum** distillate that is used in space heaters, cook stoves, and water heaters and is suitable for use as a light source when burned in wick-fed lamps. Kerosene has a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point, a final boiling point of 572 degrees Fahrenheit, and a minimum flash point of 100 degrees Fahrenheit. Included are No. 1-K and No. 2-K, the two grades recognized by ASTM Specification D 3699 as well as all other grades of kerosene called range or stove oil, which have properties similar to those of No. 1 fuel oil. See **Jet fuel, kerosene-type**.

Kilowatt: A unit of electrical power equal to 1,000 **watts**.

Kilowatthour (kWh): A measure of electricity defined as a unit of work or energy, measured as 1 **kilowatt** (1,000 watts) of power expended for 1 hour. One kilowatthour is equivalent to 3,412 Btu. See **Watthour**.

Landed costs: The dollar-per-barrel price of crude oil at the port of discharge. Included are the charges associated with the purchase, transporting, and insuring of a cargo from the purchase point to the port of discharge. Not included are charges incurred at the discharge port (e.g., import tariffs or fees, wharfage charges, and demurrage charges).

Lease and plant fuel: Natural gas used in well, field, and lease operations (such as gas used in drilling operations, heaters, dehydrators, and field compressors) and used as fuel in natural gas processing plants.

Lease condensate: Light liquid **hydrocarbons** recovered from lease separators or field facilities at associated and non-associated **natural gas** wells. Mostly pentanes and heavier hydrocarbons. Normally enters the **crude oil** stream after production.

Lignite: The lowest rank of coal, often referred to as brown **coal**, used almost exclusively as fuel for steam-electric power generation. It is brownish-black and has a high inherent moisture content, sometimes as high as 45 percent. The heat content of lignite ranges from 9 to 17 million **Btu** per **short ton** on a moist, mineral-matter-free basis. The heat content of lignite consumed in the United States averages 13 million Btu per short ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Liquefied natural gas (LNG): Natural gas (primarily methane) that has been liquefied by reducing its temperature to -260 degrees Fahrenheit at atmospheric pressure.

Liquefied petroleum gases (LPG): A group of **hydrocarbon** gases, primarily **propane**, **normal butane**, and **isobutane**, derived from crude oil refining or **natural gas** processing. These gases may be marketed individually or mixed. They can be liquefied through pressurization (without requiring cryogenic refrigeration) for convenience of transportation or storage. Excludes **ethane** and **olefins**. **Note:** In some EIA publications, LPG includes ethane and marketed refinery olefin streams, in accordance with definitions used prior to January 2014.

Liquefied refinery gases (LRG): Hydrocarbon gas liquids produced in refineries from processing of **crude oil** and **unfinished oils**. They are retained in the liquid state through pressurization and/or refrigeration. The reported categories include **ethane**, **propane**, **normal butane**, **isobutane**, and refinery **olefins (ethylene, propylene, butylene, and isobutylene)**.

Low power testing: The period of time between a nuclear generating unit's initial fuel loading date and the issuance of its operating (full-power) license. The maximum level of operation during that period is 5 percent of the unit's design thermal rating.

Lubricants: Substances used to reduce friction between bearing surfaces or as process materials either incorporated into other materials used as processing aids in the manufacturing of other products or as carriers of other materials. Petroleum lubricants may be produced either from distillates or residues. Other substances may be added to impart or improve certain required properties. Excluded are byproducts of lubricating oil refining, such as aromatic extracts derived from solvent extraction or tars derived from deasphalting. Included are all grades of lubricating oils from spindle oil to cylinder oil and those used in greases. Lubricant categories are paraffinic and naphthenic.

Marketed production (natural gas): See **Natural gas marketed production**.

Methane (CH₄): A colorless, flammable, odorless **hydrocarbon** gas which is the major component of **natural gas**. It is also an important source of hydrogen in various industrial processes. Methane is a greenhouse gas. See **Greenhouse gases**.

Methanol (CH₃OH): A light, volatile alcohol eligible for gasoline blending. See **Motor gasoline blending** and **Oxygenates**.

Methyl tertiary butyl ether (MTBE) ((CH₃)₃COCH₃): An **ether** intended for gasoline blending. See **Motor gasoline blending** and **Oxygenates**.

Miscellaneous petroleum products: All finished petroleum products not classified elsewhere—for example, petrolatum, lube refining byproducts (aromatic extracts and tars), absorption oils, ram-jet fuel, petroleum rocket fuels, synthetic natural gas feedstocks, and specialty oils.

Motor gasoline blending components: Naphtha (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock (RBOB) but exclude oxygenates (alcohols, ethers), butane, and natural gasoline. **Note:** Oxygenates are reported as individual components and are included in the total for other hydrocarbons, hydrogens, and oxygenates.

Motor gasoline, conventional: **Finished motor gasoline** not included in the **oxygenated** or **reformulated** motor gasoline categories. **Note:** This category excludes reformulated gasoline blendstock for oxygenate blending (RBOB) as well as other blendstock. Conventional motor gasoline can be leaded or unleaded; regular, midgrade, or premium. See **Motor gasoline grades**.

Motor gasoline (finished): A complex mixture of relatively volatile **hydrocarbons** with or without small quantities of additives, blended to form a fuel suitable for use in spark-ignition engines. Motor gasoline, as defined in ASTM Specification D 4814 or Federal Specification VV-G-1690C, is characterized as having a boiling range of 122 to 158 degrees Fahrenheit at the 10 percent recovery point to 365 to 374 degrees Fahrenheit at the 90 percent recovery point. Motor gasoline includes conventional gasoline; all types of oxygenated gasoline, including **gasohol**; and reformulated gasoline, but excludes aviation gasoline. **Note:** Volumetric data on blending components, such as **oxygenates**, are not counted in data on finished motor gasoline until the blending components are blended into the gasoline. See **Motor gasoline, conventional**; **Motor gasoline, oxygenated**; and **Motor gasoline, reformulated**.

Motor gasoline grades: The classification of gasoline by octane ratings. Each type of gasoline (conventional, oxygenated, and reformulated) is classified by three grades: regular, midgrade, and premium. **Note:** Gasoline sales are reported by grade in accordance with their classification at the time of sale. In general, automotive octane requirements are lower at high altitudes. Therefore, in some areas of the United States, such as the Rocky Mountain States, the octane ratings for the gasoline grades may be 2 or more octane points lower.

Regular Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than or equal to 85 and less than **88**. **Note:** Octane requirements may vary by altitude. See **Motor gasoline grades**.

Midgrade Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than or equal to **88** and less than or equal to 90. **Note:** Octane requirements may vary by altitude. See **Motor gasoline grades**.

Premium Gasoline: Gasoline having an antiknock index, i.e., octane rating, greater than 90. **Note:** Octane requirements may vary by altitude. See **Motor gasoline grades**.

Motor gasoline, oxygenated: Finished motor gasoline, other than reformulated gasoline, having an oxygen content of 2.7 percent or higher by weight and required by the U.S. Environmental Protection Agency (EPA) to be sold in areas designated by EPA as carbon monoxide (CO) nonattainment areas. **Note:** Oxygenated gasoline excludes oxygenated fuels program reformulated gasoline (OPRG) and reformulated gasoline blendstock for oxygenate blending (RBOB). Data on gasohol that has at least 2.7 percent oxygen, by weight, and is intended for sale inside CO nonattainment areas are included in data on oxygenated gasoline. Other data on gasohol are included in data on conventional gasoline.

Motor gasoline, reformulated: Finished motor gasoline formulated for use in motor vehicles, the composition and properties of which meet the requirements of the reformulated gasoline regulations promulgated by the U.S. Environmental Protection Agency under Section 211(k) of the Clean Air Act. **Note:** This category includes oxygenated fuels program reformulated gasoline (OPRG) but excludes reformulated gasoline blendstock for oxygenate blending (RBOB).

Motor gasoline retail prices: Motor gasoline prices calculated each month by the Bureau of Labor Statistics (BLS) in conjunction with the construction of the Consumer Price Index (CPI). Those prices are collected in 85 urban areas selected to represent all urban consumers-about 80 percent of the total U.S. population. The service stations are selected initially, and on a replacement basis, in such a way that they represent the purchasing habits of the CPI population. Service stations in the current sample include those providing all types of service (i.e., full-, mini-, and self-service).

Motor gasoline (total): For stock level data, a sum including finished motor gasoline stocks plus stocks of motor gasoline blending components but excluding stocks of oxygenates.

MTBE: See **Methyl tertiary butyl ether**.

NAICS (North American Industry Classification System): A coding system developed jointly by the United States, Canada, and Mexico to classify businesses and industries according to the type of economic activity in which they are engaged. NAICS replaces the Standard Industrial Classification (SIC) codes. For additional information on NAICS, go to <http://www.census.gov/eos/www/naics/>.

Naphtha: A generic term applied to a refined or partially refined **petroleum** fraction with an approximate boiling range between 122 degrees and 400 degrees Fahrenheit.

Natural Gas: A gaseous mixture of **hydrocarbon** compounds, primarily **methane**, used as a fuel for **electricity generation** and in a variety of ways in buildings, and as raw material input and fuel for industrial processes.

Natural gas, dry: **Natural gas** which remains after: (1) the liquefiable **hydrocarbon** portion has been removed from the gas stream (i.e., gas after lease, field, and/or plant separation); and (2) any volumes of **nonhydrocarbon gases** have been removed where they occur in sufficient quantity to render the gas unmarketable. **Note:** Dry natural gas is also known as consumer-grade natural gas. The parameters for measurement are cubic feet at 60 degrees Fahrenheit and 14.73 pounds per square inch absolute.

Natural gas (dry) production: The process of producing consumer-grade **natural gas**. Natural gas withdrawn from reservoirs is reduced by volumes used at the production (lease) site and by processing losses. Volumes used at the production site include (1) the volume returned to reservoirs in cycling, **repressuring** of oil reservoirs, and conservation operations; and (2) **vented natural gas** and **flared natural gas**. Processing losses include (1) **nonhydrocarbon gases** (e.g., water vapor, carbon dioxide, helium, hydrogen sulfide, and nitrogen) removed from the gas stream; and (2) gas converted to liquid form, such as **lease condensate** and **natural gas plant liquids**. Volumes of dry gas withdrawn from gas storage reservoirs are not considered part of production. Dry natural gas production equals **natural gas marketed production** less **natural gas plant liquids** production.

Natural gas liquids (NGL): A group of **hydrocarbons** including **ethane**, **propane**, **normal butane**, **isobutane**, and **natural gasoline**. Generally include **natural gas plant liquids** and all **liquefied refinery gases** except **olefins**. See **Paraffinic hydrocarbons**.

Natural gas marketed production: Gross withdrawals of **natural gas** from production reservoirs, less gas used for reservoir **repressuring**; **nonhydrocarbon gases** removed in treating and processing operations; and quantities of **vented natural gas** and **flared natural gas**.

Natural gas plant liquids (NGPL): Those **hydrocarbons** in **natural gas** that are separated as liquids at natural gas processing, fractionating, and cycling plants. Products obtained include **ethane**, **liquefied petroleum gases** (**propane**, **normal butane** and **isobutane**), and **natural gasoline**. Component products may be fractionated or mixed. **Lease condensate** and **plant condensate** are excluded. **Note:** Some EIA publications categorize NGPL production as field production, in accordance with definitions used prior to January 2014.

Natural gas wellhead price: The **wellhead price** of **natural gas** is calculated by dividing the total reported value at the wellhead by the total quantity produced as reported by the appropriate agencies of individual producing states and the U.S. Minerals Management Service. The price includes all costs prior to shipment from the lease, including gathering and compression costs, in addition to state production, severance, and similar charges.

Natural gasoline: A commodity product commonly traded in **natural gas liquids** (NGL) markets that comprises liquid **hydrocarbons** (mostly pentanes and hexanes) and generally remains liquid at ambient temperatures and atmospheric pressure. Natural gasoline is equivalent to **pentanes plus**.

Net summer capacity: The maximum output, commonly expressed in **kilowatts** (kW) or megawatts (MW), that generating equipment can supply to system load, as demonstrated by a multi-hour test, at the time of summer peak demand (period of June 1 through September 30). This output reflects a reduction in capacity due to electricity use for station service or auxiliaries.

Neutral zone: A 6,200 square-mile area shared equally between Kuwait and Saudi Arabia under a 1992 agreement. The Neutral zone contains an estimated 5 billion barrels of oil and 8 trillion cubic feet of natural gas.

Nominal dollars: A measure used to express **nominal price**.

Nominal price: The price paid for a product or service at the time of the transaction. Nominal prices are those that have not been adjusted to remove the effect of changes in the purchasing power of the dollar; they reflect buying power in the year in which the transaction occurred.

Non-biomass waste: Material of non-biological origin that is a byproduct or a discarded product. "Non-biomass waste" includes municipal solid waste from non-biogenic sources, such as plastics, and tire-derived fuels.

Non-combustion use: **Fossil fuels** (coal, natural gas, and petroleum products) that are not burned to release energy and instead used directly as construction materials, chemical feedstocks, lubricants, solvents, waxes, and other products. Sometimes used synonymously with "nonfuel use (of energy)."

Nonhydrocarbon gases: Typical nonhydrocarbon gases that may be present in reservoir **natural gas** are **carbon dioxide**, helium, hydrogen sulfide, and nitrogen.

Nonrenewable fuels: Fuels that cannot be easily made or "renewed," such as **crude oil**, **natural gas**, and **coal**.

Normal butane (C₄H₁₀): A straight-chain saturated (paraffinic) **hydrocarbon** extracted from both **natural gas** and **refinery gas** streams, which is gaseous at standard temperature and pressure. It is a colorless gas that boils at a temperature of 31 degrees Fahrenheit. See **Paraffinic hydrocarbons**.

Nuclear electric power (nuclear power): Electricity generated by the use of the thermal energy released from the fission of nuclear fuel in a reactor.

Nuclear electric power plant: A single-unit or multiunit facility in which heat produced in one or more reactors by the fissioning of nuclear fuel is used to drive one or more steam turbines.

Nuclear reactor: An apparatus in which a nuclear fission chain reaction can be initiated, controlled, and sustained at a specific rate. A reactor includes fuel (fissionable material), moderating material to control the rate of fission, a heavy-walled pressure vessel to house reactor components, shielding to protect personnel, a system to conduct heat away from the reactor, and instrumentation for monitoring and controlling the reactor's systems.

OECD: See **Organization for Economic Cooperation and Development**.

Offshore: That geographic area that lies seaward of the coastline. In general, the coastline is the line of ordinary low water along with that portion of the coast that is in direct contact with the open sea or the line marking the seaward limit of inland water.

Oil: See **Crude oil**.

Oil from algae: Oil processed from unicellular and multicellular algae harvested specifically to produce biofuel.

Olefinic hydrocarbons (olefins): Unsaturated **hydrocarbon** compounds with the general formula C_nH_{2n} containing at least one carbon-to-carbon double-bond. Olefins are produced at crude oil refineries and petrochemical plants and are not naturally occurring constituents of oil and natural gas. Sometimes referred to as alkenes or unsaturated hydrocarbons. Excludes aromatics.

Olefins: See **Olefinic hydrocarbons (olefins)**.

OPEC: See **Organization of the Petroleum Exporting Countries**.

Operable unit (nuclear): In the United States, a nuclear generating unit that has completed low-power testing and been issued a full-power operating license by the Nuclear Regulatory Commission, or equivalent permission to operate.

Organization for Economic Cooperation and Development (OECD): An international organization helping governments tackle the economic, social and governance challenges of a globalized economy. Its membership comprises about 30 member countries. With active relationships with some 70 other countries, non-governmental organizations (NGOs) and civil society, it has a global reach. For details about the organization, see <http://www.oecd.org>.

Organization of the Petroleum Exporting Countries (OPEC): An intergovernmental organization whose stated objective is to "coordinate and unify the petroleum policies of member countries." It was created at the Baghdad Conference on September 10–14, 1960. Current and former members (with years of membership) include Algeria (1969 forward), Angola (2007 forward), Congo-Brazzaville (2018 forward), Ecuador (1973–1992 and 2007–2019), Equatorial Guinea (2017 forward), Gabon (1974–1994 and 2016 forward), Indonesia (1962–2008 and 2016), Iran (1960 forward), Iraq (1960 forward), Kuwait (1960 forward), Libya (1962 forward), Nigeria (1971 forward), Qatar (1961–2018), Saudi Arabia (1960 forward), United Arab Emirates (1967 forward), and Venezuela (1960 forward).

Other biofuels: Fuels and fuel blending components, except **biodiesel**, **renewable diesel fuel**, and **fuel ethanol**, produced from renewable biomass.

Other energy losses: Energy losses throughout the energy system as they are consumed, usually in the form of heat, that are not separately identified by U.S. Energy Information Administration. Examples include heat lost in the process of burning motor gasoline to move vehicles or in electricity used to power a lightbulb.

Other fossil gases: Includes manufactured gas, coke-oven gas, blast-furnace gas, and refinery gas. Manufactured gas is obtained by distillation of coal, by the thermal decomposition of oil, or by the reaction of steam passing through a bed of heated coal or coke.

Other fuel alcohol: Alcohols intended for fuel use that are not elsewhere specified.

Other hydrocarbons: Materials received by a refinery and consumed as a raw material. Includes hydrogen, coal tar derivatives, gilsonite. Excludes **natural gas** used for fuel or **hydrogen** feedstock.

Oxygenates: Substances which, when added to gasoline, increase the amount of oxygen in that gasoline blend. **Ethanol**, **Methyl Tertiary Butyl Ether (MTBE)**, **Ethyl Tertiary Butyl Ether (ETBE)**, and **methanol** are common oxygenates.

PAD Districts or PADD: Petroleum Administration for Defense Districts. Geographic aggregations of the 50 states and the District of Columbia into five districts for the Petroleum Administration for Defense in 1950. The districts were originally instituted for economic and geographic reasons as Petroleum Administration for War (PAW) Districts, which were established in 1942.

Petroleum Administration for Defense District (PADD): The 50 U.S. states and the District of Columbia are divided into five districts, with PADD 1 further split into three subdistricts. PADDs 6 and 7 encompass U.S. territories. The PADDs include the states and territories listed below:

PADD 1 (East Coast).

PADD 1A (New England): Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

PADD 1B (Central Atlantic): Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania.

PADD 1C (Lower Atlantic): Florida, Georgia, North Carolina, South Carolina, Virginia, and West Virginia.

PADD 2 (Midwest): Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, Oklahoma, South Dakota, Tennessee, and Wisconsin.

PADD 3 (Gulf Coast): Alabama, Arkansas, Louisiana, Mississippi, New Mexico, and Texas.

PADD 4 (Rocky Mountain): Colorado, Idaho, Montana, Utah, and Wyoming.

PADD 5 (West Coast): Alaska, Arizona, California, Hawaii, Nevada, Oregon, and Washington.

PADD 6: U.S. Virgin Islands and Puerto Rico.

PADD 7: Guam, American Samoa and the Northern Mariana Islands Territory.

Paraffinic hydrocarbons: Saturated **hydrocarbon** compounds with the general formula C_nH_{2n+2} containing only single bonds. Sometimes referred to as alkanes or **natural gas liquids**.

Pentanes plus: A mixture of liquid **hydrocarbons**, mostly pentanes and heavier, extracted from **natural gas** in a gas processing plant. Pentanes plus is equivalent to **natural gasoline**.

Petrochemical feedstocks: Chemical feedstocks derived from refined or partially refined **petroleum** fractions, principally for use in the manufacturing of chemicals, synthetic rubber, and a variety of plastics.

Petroleum: A broadly defined class of liquid hydrocarbon mixtures. Included are crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. **Note:** Volumes of finished petroleum products include nonhydrocarbon compounds, such as additives and detergents, after they have been blended into the products.

Petroleum coke: A residue high in carbon content and low in **hydrogen** that is the final product of thermal decomposition in the condensation process in cracking. This product is reported as marketable coke or catalyst coke. The conversion is 5 barrels (of 42 U.S. gallons each) per short ton. See **Petroleum coke, Catalyst** and **Petroleum coke, marketable**.

Petroleum coke, catalyst: The carbonaceous residue that is deposited on the catalyst used in many catalytic operations (e.g., catalytic cracking). Carbon is deposited on the catalyst, thus deactivating the catalyst. The catalyst is reactivated by burning off the carbon producing heat and **carbon dioxide (CO₂)**. The carbonaceous residue is not recoverable as a product. See **Petroleum coke**.

Petroleum coke, marketable: Those grades of coke produced in delayed or fluid cokers that may be recovered as relatively pure carbon. Marketable petroleum coke may be sold as is or further purified by calcining. See **Petroleum coke**.

Petroleum consumption: See **Products supplied (petroleum)**.

Petroleum imports: Imports of petroleum into the 50 states and the District of Columbia from foreign countries and from Puerto Rico, the Virgin Islands, and other U.S. territories and possessions. Included are imports for the Strategic Petroleum Reserve and withdrawals from bonded warehouses for onshore consumption, offshore bunker use, and military use. Excluded are receipts of foreign petroleum into bonded warehouses and into U.S. territories and U.S. Foreign Trade Zones.

Petroleum products: Products obtained from the processing of crude oil (including lease condensate), natural gas, and other hydrocarbon compounds. Petroleum products include unfinished oils, hydrocarbon gas liquids, aviation gasoline, motor gasoline, naphtha-type jet fuel, kerosene-type jet fuel, kerosene, distillate fuel oil, residual fuel oil, petrochemical feedstocks, special naphthas, lubricants, waxes, petroleum coke, asphalt, road oil, still gas, and miscellaneous products.

Petroleum stocks, primary: For individual products, quantities that are held at refineries, in pipelines, and at bulk terminals that have a capacity of 50,000 barrels or more, or that are in transit thereto. Stocks held by product retailers and resellers, as well as tertiary stocks held at the point of consumption, are excluded. Stocks of individual products held at gas processing plants are excluded from individual product estimates but are included in other oils estimates and total.

Pipeline fuel: Gas consumed in the operation of pipelines, primarily in compressors.

Plant condensate: Liquid **hydrocarbons** recovered at inlet separators or scrubbers in **natural gas** processing plants at atmospheric pressure and ambient temperatures. Mostly pentanes and heavier hydrocarbons.

Plug-in hybrid electric vehicle (PHEV): A vehicle that can both (1) plug into an electric power source and store power in a battery pack and (2) use petroleum-based or other liquid- or gas-based fuel to power an internal combustion engine (ICE).

Primary energy: Energy in the form that it is first accounted for in a statistical energy balance, before any transformation to secondary or tertiary forms of energy. For example, **coal** can be converted to synthetic gas, which can be converted to **electricity**; in this example, coal is primary energy, synthetic gas is secondary energy, and electricity is tertiary energy. See **Primary energy production** and **Primary energy consumption**.

Primary energy consumption: Consumption of **primary energy**. EIA includes the following in U.S. primary energy consumption: coal; coal coke net imports; **petroleum consumption** (equal to **petroleum products supplied**, excluding **biofuels**); **dry natural gas**—excluding **supplemental gaseous fuels**; **nuclear electricity net generation** (converted to Btu using the average annual **heat rate** of nuclear plants); **conventional hydroelectricity** net generation (converted to Btu using the heat content of electricity); **geothermal** electricity net generation (converted to Btu using the heat content of electricity), geothermal heat pump energy, and geothermal direct-use thermal energy; **solar thermal** and **photovoltaic** electricity net generation (converted to Btu using the heat content of electricity), and solar thermal direct-use energy; **wind** electricity net generation (converted to Btu using the heat content of electricity); **wood and wood-derived fuels**; **biomass waste**; biofuels (**fuel ethanol**, **biodiesel**, **renewable diesel**, and **other biofuels**); losses and co-products from the production of biofuels; electricity net imports (converted to Btu using the electricity heat content of 3,412 Btu per kilowatthour). Primary energy consumption includes all **non-combustion use of fossil fuels**. Primary energy consumption also includes **other energy losses** throughout the energy system. See **Total energy consumption**. Energy sources produced from other energy sources—e.g. coal coke from coal—are included in primary energy consumption only if their energy content has not already been included as part of the original energy source. As a result, U.S. primary energy consumption does include net imports of coal coke, but it does not include the coal coke produced from domestic coal.

Primary energy production: Production of **primary energy**. The U.S. Energy Information Administration includes the following in U.S. primary energy production: coal production, **waste coal** supplied, and coal refuse recovery; **crude oil** and **lease condensate** production; **natural gas plant liquids** production; **dry natural gas**—excluding **supplemental gaseous fuels**—production; **nuclear electricity net generation** (converted to Btu using the nuclear plants **heat rate**); **conventional hydroelectricity** net generation (converted to Btu using the heat content of electricity); **geothermal** electricity net generation (converted to Btu using the heat content of electricity), and geothermal heat pump energy and geothermal direct-use energy; **solar thermal** and **photovoltaic** electricity net generation (converted to Btu using the heat content of electricity), and solar thermal direct-use energy; **wind** electricity net generation (converted to Btu using the heat content of electricity); **wood and wood-derived fuels** production; **biomass waste** consumption; and **fuel ethanol** and **biodiesel** feedstock; and **renewable diesel fuel** and **other biofuels** production.

Prime mover: The engine, turbine, water wheel, or similar machine that drives an electric generator; or, for reporting purposes, a device that converts energy to electricity directly.

Product supplied (petroleum): Approximately represents consumption of petroleum products because it measures the disappearance of these products from primary sources, i.e., refineries, natural gas-processing plants, blending plants, pipelines, and bulk terminals. In general, product supplied of each product in any given period is computed as follows: field production, plus refinery production, plus imports, plus unaccounted-for crude oil (plus net receipts when calculated on a PAD District basis) minus stock change, minus crude oil losses, minus refinery inputs, and minus exports.

Propane (C₃H₈): A straight-chain saturated (paraffinic) **hydrocarbon** extracted from **natural gas** or **refinery gas** streams, which is gaseous at standard temperature and pressure. It is a colorless gas that boils at a temperature of -44 degrees Fahrenheit. It includes all products designated in ASTM Specification D1835 and Gas Processors Association specifications for commercial (HD-5) propane. See **Paraffinic hydrocarbons**.

Propylene (C₃H₆): An olefinic **hydrocarbon** recovered from refinery or petrochemical processes, which is gaseous at standard temperature and pressure. Propylene is an important petrochemical feedstock. See **Olefinic hydrocarbons (olefins)**.

Real dollars: These are dollars that have been adjusted for inflation.

Real price: A price that has been adjusted to remove the effect of changes in the purchasing power of the dollar. Real prices, which are expressed in constant dollars, usually reflect buying power relative to a base year.

Refiner acquisition cost of crude oil: The cost of crude oil to the refiner, including transportation and fees. The composite cost is the weighted average of domestic and imported crude oil costs.

Refinery and blender net inputs: Raw materials, **unfinished oils**, and blending components processed at refineries, or blended at refineries or petroleum storage terminals to produce finished **petroleum products**. Included are gross inputs of **crude oil**, **natural gas liquids**, other **hydrocarbon** raw materials, **hydrogen**, **oxygenates** (excluding **fuel ethanol**), and

renewable fuels (including fuel ethanol). Also included are net inputs of unfinished oils, **motor gasoline blending components**, and **aviation gasoline blending components**. Net inputs are calculated as gross inputs minus gross production. Negative net inputs indicate gross inputs are less than gross production. Examples of negative net inputs include reformulated gasoline blendstock for oxygenate blending (RBOB) produced at refineries for shipment to blending terminals, and unfinished oils produced and added to inventory in advance of scheduled maintenance of a refinery crude oil distillation unit.

Refinery and blender net production: Liquefied refinery gases, and finished **petroleum products** produced at a **refinery** or petroleum storage terminal blending facility. Net production equals gross production minus gross inputs. Negative net production indicates gross production is less than gross inputs for a finished petroleum product. Examples of negative net production include reclassification of one finished product to another finished product, or reclassification of a finished product to **unfinished oils** or blending components.

Refinery gas: **Still gas** consumed as refinery fuel.

Refinery (petroleum): An installation that manufactures finished petroleum products from crude oil, unfinished oils, natural gas liquids, other hydrocarbons, and alcohol.

Refuse mine: A surface site where **coal** is recovered from previously mined coal. It may also be known as a silt bank, culm bank, refuse bank, slurry dam, or dredge operation.

Refuse recovery: The recapture of **coal** from a **refuse mine** or the coal recaptured by that process. The resulting product has been cleaned to reduce the concentration of noncombustible materials.

Renewable diesel fuel: Renewable fuel consisting of hydrocarbon molecules, produced through the hydrotreating of animal fats, vegetable oils, and recycled grease feedstocks. It is considered a drop-in replacement to **petroleum-based diesel fuel** (for example, it can be used in diesel engines without modification). Renewable diesel fuel reported on the EIA-819 is produced at dedicated biorefineries or co-processed at petroleum refineries

Renewable energy: Energy obtained from sources that are essentially inexhaustible (unlike, for example, the **fossil fuels**, of which there is a finite supply). Renewable sources of energy include **conventional hydroelectric power**, **biomass**, **geothermal**, **solar**, and **wind**.

Renewable fuels except fuel ethanol: See **Biodiesel**, **Other biofuels**, and **Renewable diesel fuel**.

Repressuring: The injection of a pressurized fluid (such as air, gas, or water) into oil and gas reservoir formations to effect greater ultimate recovery.

Residential sector: An energy-consuming sector that consists of living quarters for private households. Common uses of energy associated with this sector include space heating, water heating, air conditioning, and lighting, refrigeration, cooking, and running a variety of other appliances. The residential sector excludes institutional living quarters. See **End-use sectors** and **Energy-use sectors**.

Residual fuel oil: A general classification for the heavier oils, known as No. 5 and No. 6 fuel oils, that remain after the **distillate fuel oils** and lighter **hydrocarbons** are distilled away in refinery operations. It conforms to ASTM Specifications D 396 and D 975 and Federal Specification VV-F-815C. No. 5, a residual fuel oil of medium viscosity, is also known as Navy Special and is defined in Military Specification MIL-F-859E, including Amendment 2 (NATO Symbol F-770). It is used in steam-powered vessels in government service and inshore power plants. No. 6 fuel oil includes Bunker C fuel oil and is used for the production of electric power, space heating, vessel bunkering, and various industrial purposes.

Road oil: Any heavy petroleum oil, including residual asphaltic oil used as a dust palliative and surface treatment on roads and highways. It is generally produced in six grades, from 0, the most liquid, to 5, the most viscous.

Rotary rig: A machine used for drilling wells that employs a rotating tube attached to a bit for boring holes through rock.

Short ton (coal): A unit of weight equal to 2,000 pounds.

SIC (Standard Industrial Classification): A set of codes developed by the U.S. Office of Management and Budget which categorizes industries into groups with similar economic activities. Replaced by **NAICS (North American Industry Classification System)**.

Small-scale: Generators at a site that has a total generating nameplate capacity of less than 1 megawatt (MW).

Solar energy: See **Solar photovoltaic (PV) energy** and **Solar thermal energy**.

Solar photovoltaic (PV) energy: **Energy**, radiated by the sun that is converted into direct-current electricity by solar photovoltaic cells. Examples of solar PV technologies include solar panels on residential and commercial rooftops (generally small-scale solar PV energy) and mirrors or dishes that concentrate solar rays onto solar PV panels (concentrating PV or CPV). Utility-scale solar PV electric generation typically relies on installations of solar PV panels on or near the ground (solar farms).

Solar thermal direct-use energy: Heat from the sun used by an onsite application, such as a solar thermal water heating system.

Solar thermal energy: Energy, radiated by the sun that is converted into electricity or heat by means of solar concentrating collectors. Examples of solar thermal energy technologies include pool heaters, dark water bladders, or thermal panels (generally small-scale solar thermal energy). Utility-scale solar thermal electric generation typically relies on a large array of mirrors to heat fluids and turn a turbine, which generates electricity.

Special naphthas: All finished products within the naphtha boiling range that are used as paint thinners, cleaners, or solvents. These products are refined to a specified flash point. Special naphthas include all commercial hexane and cleaning solvents conforming to ASTM Specification D1836 and D484, respectively. Naphthas to be blended or marketed as motor gasoline or aviation gasoline, or that are to be used as petrochemical and synthetic natural gas (SNG) feedstocks are excluded.

Station use: Energy that is used to operate an **electric power plant**. It includes energy consumed for plant lighting, power, and auxiliary facilities, regardless of whether the energy is produced at the plant or comes from another source.

Steam coal: All nonmetallurgical coal.

Steam-electric power plant: A plant in which the prime mover is a steam turbine. The steam used to drive the turbine is produced in a boiler where fossil fuels are burned.

Still gas: Any form or mixture of gases produced in refineries by distillation, cracking, reforming, and other processes. The principal constituents are **methane** and **ethane**. May contain **hydrogen** and small/trace amounts of other gases. Still gas is typically consumed as refinery fuel or used as petrochemical feedstock. Still gas burned for refinery fuel may differ in composition from marketed still gas sold to other users. See **Refinery gas**.

Stocks: See **Coal stocks**, **Crude oil stocks**, or **Petroleum stocks, primary**.

Strategic Petroleum Reserve (SPR): Petroleum stocks maintained by the federal Government for use during periods of major supply interruption.

Subbituminous coal: A **coal** whose properties range from those of **lignite** to those of **bituminous coal** and used primarily as fuel for steam-electric power generation. It may be dull, dark brown to black, soft and crumbly, at the lower end of the range, to bright, jet black, hard, and relatively strong, at the upper end. Subbituminous coal contains 20 to 30 percent inherent moisture by weight. The heat content of subbituminous coal ranges from 17 to 24 million **Btu** per **short ton** on a moist, mineral-matter-free basis. The heat content of subbituminous coal consumed in the United States averages 17 to 18 million Btu per ton, on the as-received basis (i.e., containing both inherent moisture and mineral matter).

Supplemental gaseous fuels: Synthetic **natural gas**, **propane-air**, coke oven gas, **still gas (refinery gas)**, **biomass gas**, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

Synthetic natural gas (SNG): (Also referred to as substitute natural gas) A manufactured product, chemically similar in most respects to **natural gas**, resulting from the conversion or reforming of **hydrocarbons** that may easily be substituted for or interchanged with pipeline-quality natural gas.

Thermal conversion factor: A factor for converting data between physical units of measure (such as **barrels**, **cubic feet**, or **short tons**) and thermal units of measure (such as **British thermal units**, calories, or joules); or for converting data between different thermal units of measure. See **Btu conversion factor**.

Total energy consumption: **Primary energy consumption** in the **end-use sectors**, plus **electricity sales to ultimate customers** and **electrical system energy losses**. Also includes **other energy losses** throughout the energy system.

Transportation sector: An energy-consuming sector that consists of all vehicles whose primary purpose is transporting people and/or goods from one physical location to another. Included are automobiles; trucks; buses; motorcycles; trains, subways, and other rail vehicles; aircraft; and ships, barges, and other waterborne vehicles. Vehicles whose primary purpose is not transportation (e.g., construction cranes and bulldozers, farming vehicles, and warehouse tractors and forklifts) are classified in the sector of their primary use. See **End-use sectors** and **Energy-use sectors**.

Underground storage: The storage of **natural gas** in underground reservoirs at a different location from which it was produced.

Unfinished oils: All oils requiring further processing, except those requiring only mechanical blending. Unfinished oils are produced by partial refining of **crude oil** and include **naphthas** and lighter oils, **kerosene** and light gas oils, heavy gas oils, and residuum.

Unfractionated streams: Mixtures of unsegregated **natural gas liquids** components, excluding those in **plant condensate**. This product is extracted from **natural gas**.

Union of Soviet Socialist Republics (U.S.S.R.): A political entity that consisted of 15 constituent republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. The U.S.S.R. ceased to exist as of December 31, 1991.

United States: The 50 states and the District of Columbia. **Note:** The United States has varying degrees of jurisdiction over a number of territories and other political entities outside the 50 states and the District of Columbia, including Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, Johnston Atoll, Midway Islands, Wake Island, and the Northern Mariana Islands. EIA data programs may include data from some or all of these areas in U.S. totals. For these programs, data products will contain notes explaining the extent of geographic coverage included under the term "United States."

Uranium: A heavy, naturally radioactive, metallic element (atomic number 92). Its two principally occurring isotopes are uranium-235 and uranium-238. Uranium-235 is indispensable to the nuclear industry because it is the only isotope existing in nature, to any appreciable extent, that is fissionable by thermal neutrons. Uranium-238 is also important because it absorbs neutrons to produce a radioactive isotope that subsequently decays to the isotope plutonium-239, which also is fissionable by thermal neutrons.

Uranium concentrate: A yellow or brown powder obtained by the milling of uranium ore, processing of in situ leach mining solutions, or as a byproduct of phosphoric acid production. See **Uranium oxide**.

Uranium ore: Rock containing uranium mineralization in concentrations that can be mined economically, typically one to four pounds of uranium oxide (U₃O₈) per ton or 0.05 percent to 0.2 percent U₃O₈.

Uranium oxide (U₃O₈): **Uranium concentrate** or **yellowcake**.

Useful thermal output: The thermal energy made available in a combined-heat-and-power system for use in any industrial or commercial process, heating or cooling application, or delivered to other end users, i.e., total thermal energy made available for processes and applications other than electrical generation.

U.S.S.R.: See **Union of Soviet Socialist Republics (U.S.S.R.)**.

Utility-scale: Generators at a site that has a total generating nameplate capacity of 1 megawatt (MW) or more.

Vented natural gas: **Natural gas** released into the air on the production site or at processing plants.

Vessel bunkering: Includes sales for the fueling of commercial or private boats, such as pleasure craft, fishing boats, tugboats, and ocean-going vessels, including vessels operated by oil companies. Excluded are volumes sold to the U.S. Armed Forces.

Waste: See **Biomass waste** and **Non-biomass waste**.

Waste coal: Usable material that is a byproduct of previous **coal** processing operations. Waste coal is usually composed of mixed coal, soil, and rock (mine waste). Most waste coal is burned as-is in unconventional fluidized-bed combustors. For some uses, waste coal may be partially cleaned by removing some extraneous noncombustible constituents. Examples of waste coal include fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous gob, and lignite waste.

Watt (W): The unit of electrical power equal to one ampere under a pressure of one volt. A watt is equal to 1/746 horsepower.

Watthour (Wh): The electrical energy unit of measure equal to one watt of power supplied to, or taken from, an electric circuit steadily for one hour.

Wax: A solid or semi-solid material consisting of a mixture of **hydrocarbons** obtained or derived from **petroleum** fractions, or through a Fischer-Tropsch type process, in which the straight-chained paraffin series predominates. This includes all marketable wax, whether crude or refined, with a congealing point (ASTM D 938) between 100 and 200 degrees Fahrenheit and a maximum oil content (ASTM D 3235) of 50 weight percent.

Wellhead price: The value of **crude oil** or **natural gas** at the mouth of the well.

Wind energy: Kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.

Wood and wood-derived fuels: Wood and products derived from wood that are used as fuel, including round wood (cord wood), limb wood, wood chips, bark, sawdust, forest residues, charcoal, paper pellets, railroad ties, utility poles, **black liquor**, red liquor, sludge wood, spent sulfite liquor, **densified biomass** (including wood pellets), and other wood-based solids and liquids.

Working gas: The quantity of **natural gas** in the reservoir that is in addition to the cushion or **base gas**. It may or may not be completely withdrawn during any particular withdrawal season. Conditions permitting, the total working capacity could be used more than once during any season. Volumes of working gas are reported in thousand cubic feet at standard temperature and pressure.