

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Residential</b>													
Liquefied Petroleum Gases	0.079	0.070	0.077	0.078	0.072	0.071	0.071	0.070	0.070	0.069	0.069	0.069	0.068
Kerosene	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Distillate Fuel Oil	0.021	0.019	0.022	0.023	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021	0.021
Liquid Fuels and Other Petroleum Subtotal	0.101	0.089	0.100	0.102	0.094	0.092	0.092	0.092	0.092	0.091	0.091	0.091	0.090
Natural Gas	0.440	0.399	0.437	0.452	0.448	0.443	0.445	0.449	0.449	0.451	0.453	0.455	0.454
Coal	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Renewable Energy 1/	0.037	0.033	0.040	0.043	0.039	0.037	0.037	0.036	0.036	0.035	0.035	0.035	0.034
Electricity	0.342	0.341	0.356	0.353	0.359	0.363	0.364	0.366	0.357	0.356	0.356	0.358	0.359
Delivered Energy	0.922	0.863	0.934	0.952	0.941	0.936	0.939	0.944	0.935	0.935	0.936	0.940	0.939
Electricity Related Losses	0.836	0.823	0.839	0.837	0.881	0.871	0.866	0.869	0.861	0.859	0.855	0.858	0.861
Total	1.757	1.686	1.773	1.789	1.822	1.808	1.805	1.814	1.796	1.794	1.791	1.798	1.800
<b>Commercial</b>													
Liquefied Petroleum Gases	0.012	0.012	0.013	0.013	0.010	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Motor Gasoline 2/	0.008	0.008	0.008	0.008	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Kerosene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Distillate Fuel Oil	0.018	0.017	0.017	0.017	0.015	0.016	0.016	0.016	0.016	0.017	0.017	0.017	0.017
Residual Fuel Oil	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003
Liquid Fuels and Other Petroleum Subtotal	0.041	0.040	0.042	0.041	0.037	0.039	0.040	0.041	0.041	0.041	0.041	0.041	0.042
Natural Gas	0.287	0.270	0.289	0.295	0.280	0.281	0.287	0.292	0.296	0.301	0.305	0.308	0.311
Coal	0.010	0.010	0.008	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Renewable Energy 3/	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Electricity	0.321	0.326	0.334	0.332	0.339	0.342	0.345	0.350	0.356	0.362	0.368	0.374	0.380
Delivered Energy	0.666	0.654	0.681	0.686	0.674	0.680	0.689	0.700	0.710	0.721	0.731	0.741	0.750
Electricity Related Losses	0.786	0.787	0.788	0.786	0.833	0.820	0.823	0.832	0.859	0.874	0.883	0.896	0.911
Total	1.452	1.441	1.469	1.472	1.507	1.500	1.512	1.532	1.569	1.594	1.614	1.637	1.661
<b>Industrial 4/</b>													
Liquefied Petroleum Gases	0.139	0.139	0.142	0.143	0.140	0.138	0.136	0.134	0.131	0.129	0.127	0.125	0.123
Motor Gasoline 2/	0.049	0.048	0.048	0.049	0.047	0.048	0.048	0.048	0.047	0.047	0.047	0.047	0.047
Distillate Fuel Oil	0.189	0.191	0.198	0.204	0.195	0.196	0.196	0.193	0.188	0.187	0.187	0.186	0.185
Residual Fuel Oil	0.014	0.014	0.015	0.014	0.014	0.013	0.012	0.012	0.011	0.011	0.013	0.013	0.012
Petrochemical Feedstocks	0.030	0.030	0.027	0.027	0.028	0.029	0.029	0.030	0.030	0.030	0.030	0.029	0.029
Other Petroleum 5/	0.261	0.250	0.242	0.246	0.207	0.238	0.244	0.243	0.245	0.244	0.243	0.242	0.241
Liquid Fuels and Other Petroleum Subtotal	0.682	0.672	0.671	0.684	0.630	0.662	0.666	0.659	0.652	0.648	0.647	0.643	0.637
Natural Gas	0.422	0.454	0.470	0.497	0.551	0.585	0.606	0.604	0.594	0.602	0.618	0.627	0.638
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lease and Plant Fuel 6/	0.029	0.029	0.030	0.029	0.029	0.030	0.030	0.029	0.029	0.028	0.028	0.028	0.028
Natural Gas Subtotal	0.450	0.483	0.500	0.527	0.580	0.614	0.636	0.633	0.622	0.630	0.646	0.655	0.665
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Industrial Coal	0.146	0.146	0.154	0.162	0.150	0.147	0.144	0.140	0.135	0.134	0.133	0.133	0.132
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.046	0.046	0.046	0.064	0.081	0.098
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	0.146	0.146	0.154	0.162	0.150	0.147	0.190	0.186	0.182	0.181	0.197	0.214	0.231
Biofuels Heat and Coproducts	0.182	0.223	0.300	0.458	0.319	0.405	0.442	0.442	0.478	0.508	0.548	0.567	0.603
Renewable Energy 7/	0.072	0.071	0.072	0.073	0.070	0.071	0.072	0.073	0.073	0.073	0.074	0.075	0.075
Electricity	0.279	0.289	0.294	0.304	0.280	0.290	0.296	0.297	0.296	0.297	0.300	0.302	0.303
Delivered Energy	1.812	1.885	1.993	2.208	2.030	2.189	2.302	2.290	2.303	2.337	2.412	2.456	2.513
Electricity Related Losses	0.682	0.697	0.693	0.721	0.687	0.695	0.704	0.705	0.715	0.718	0.720	0.723	0.727
Total	2.493	2.582	2.685	2.928	2.717	2.884	3.007	2.995	3.018	3.055	3.132	3.178	3.241

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Transportation</b>													
Liquefied Petroleum Gases	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
E85 8/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.097	0.097	0.107
Motor Gasoline 2/	1.266	1.279	1.288	1.288	1.292	1.299	1.304	1.313	1.320	1.325	1.229	1.218	1.205
Jet Fuel 9/	0.165	0.132	0.134	0.137	0.140	0.143	0.147	0.150	0.151	0.153	0.155	0.158	0.160
Distillate Fuel Oil 10/	0.530	0.547	0.555	0.553	0.559	0.575	0.591	0.601	0.607	0.612	0.619	0.626	0.631
Residual Fuel Oil	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Petroleum 11/	0.014	0.013	0.013	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013
Liquid Fuels and Other Petroleum Subtotal	1.979	1.975	1.993	1.995	2.007	2.034	2.058	2.080	2.095	2.107	2.105	2.114	2.118
Pipeline Fuel Natural Gas	0.091	0.090	0.099	0.098	0.102	0.103	0.103	0.103	0.101	0.101	0.101	0.101	0.100
Compressed Natural Gas	0.001	0.002	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.006
Electricity	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Delivered Energy	2.072	2.067	2.094	2.096	2.112	2.140	2.165	2.188	2.202	2.213	2.212	2.221	2.224
Electricity Related Losses	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Total	2.072	2.068	2.095	2.096	2.113	2.140	2.166	2.188	2.202	2.214	2.212	2.221	2.224
<b>Delivered Energy Consumption, All Sectors</b>													
Liquefied Petroleum Gases	0.230	0.222	0.233	0.235	0.224	0.223	0.221	0.218	0.215	0.212	0.210	0.208	0.205
E85 8/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.097	0.097	0.107
Motor Gasoline 2/	1.322	1.335	1.344	1.345	1.348	1.355	1.361	1.369	1.376	1.380	1.284	1.274	1.260
Jet Fuel 9/	0.165	0.132	0.134	0.137	0.140	0.143	0.147	0.150	0.151	0.153	0.155	0.158	0.160
Kerosene	0.002	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001
Distillate Fuel Oil	0.759	0.773	0.791	0.797	0.791	0.807	0.824	0.831	0.833	0.837	0.843	0.850	0.853
Residual Fuel Oil	0.019	0.019	0.020	0.020	0.019	0.018	0.017	0.017	0.016	0.016	0.018	0.018	0.017
Petrochemical Feedstocks	0.030	0.030	0.027	0.027	0.028	0.029	0.029	0.030	0.030	0.030	0.030	0.029	0.029
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Petroleum 12/	0.275	0.263	0.255	0.258	0.219	0.251	0.256	0.255	0.257	0.257	0.256	0.255	0.253
Liquid Fuels and Other Petroleum Subtotal	2.803	2.777	2.805	2.822	2.769	2.827	2.856	2.872	2.879	2.887	2.884	2.889	2.886
Natural Gas	1.150	1.125	1.198	1.247	1.282	1.312	1.342	1.349	1.344	1.359	1.381	1.396	1.409
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lease and Plant Fuel 6/	0.029	0.029	0.030	0.029	0.029	0.030	0.030	0.029	0.029	0.028	0.028	0.028	0.028
Pipeline Natural Gas	0.091	0.090	0.099	0.098	0.102	0.103	0.103	0.103	0.101	0.101	0.101	0.101	0.100
Natural Gas Subtotal	1.270	1.244	1.327	1.374	1.414	1.445	1.475	1.481	1.474	1.488	1.510	1.525	1.536
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Coal	0.158	0.157	0.164	0.173	0.162	0.159	0.155	0.151	0.147	0.145	0.144	0.144	0.143
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.046	0.046	0.064	0.081	0.098
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	0.158	0.157	0.164	0.173	0.162	0.159	0.201	0.197	0.193	0.192	0.208	0.225	0.242
Biofuels Heat and Coproducts	0.182	0.223	0.300	0.458	0.319	0.405	0.442	0.442	0.478	0.508	0.548	0.567	0.603
Renewable Energy 13/	0.117	0.112	0.120	0.124	0.116	0.116	0.116	0.117	0.116	0.117	0.117	0.117	0.117
Electricity	0.942	0.957	0.985	0.990	0.978	0.994	1.005	1.013	1.009	1.015	1.024	1.035	1.042
Delivered Energy	5.471	5.469	5.701	5.941	5.757	5.945	6.096	6.122	6.149	6.206	6.291	6.358	6.426
Electricity Related Losses	2.304	2.307	2.321	2.345	2.401	2.387	2.394	2.407	2.435	2.451	2.459	2.477	2.501
Total	7.775	7.777	8.022	8.286	8.158	8.332	8.490	8.529	8.585	8.656	8.750	8.835	8.926

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Electric Power 14/</b>													
Distillate Fuel Oil	0.015	0.005	0.017	0.017	0.018	0.018	0.016	0.016	0.016	0.015	0.015	0.015	0.015
Residual Fuel Oil	0.010	0.004	0.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Liquid Fuels and Other Petroleum Subtotal	0.025	0.009	0.029	0.018	0.018	0.019	0.016	0.016	0.016	0.015	0.015	0.015	0.015
Natural Gas	0.106	0.110	0.038	0.052	0.071	0.076	0.076	0.080	0.078	0.081	0.082	0.084	0.085
Steam Coal	2.486	2.452	2.502	2.497	2.517	2.517	2.540	2.551	2.568	2.592	2.618	2.635	2.662
Nuclear Power	0.480	0.478	0.481	0.480	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
Renewable Energy 15/	0.114	0.180	0.208	0.240	0.254	0.263	0.262	0.263	0.268	0.267	0.269	0.274	0.274
Electricity Imports	0.030	0.030	0.043	0.043	0.037	0.025	0.023	0.028	0.032	0.029	0.018	0.021	0.025
Total 16/	3.246	3.264	3.305	3.335	3.379	3.381	3.399	3.420	3.444	3.466	3.483	3.511	3.543
<b>Total Energy Consumption</b>													
Liquefied Petroleum Gases	0.230	0.222	0.233	0.235	0.224	0.223	0.221	0.218	0.215	0.212	0.210	0.208	0.205
E85 8/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.086	0.097	0.107
Motor Gasoline 2/	1.322	1.335	1.344	1.345	1.348	1.355	1.361	1.369	1.376	1.380	1.284	1.274	1.260
Jet Fuel 9/	0.165	0.132	0.134	0.137	0.140	0.143	0.147	0.150	0.151	0.153	0.155	0.158	0.160
Kerosene	0.002	0.001	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001
Distillate Fuel Oil	0.774	0.778	0.808	0.814	0.809	0.826	0.839	0.847	0.849	0.852	0.858	0.865	0.868
Residual Fuel Oil	0.029	0.023	0.032	0.020	0.019	0.018	0.017	0.017	0.016	0.016	0.018	0.018	0.017
Petrochemical Feedstocks	0.030	0.030	0.027	0.027	0.028	0.029	0.029	0.030	0.030	0.030	0.030	0.029	0.029
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Petroleum 12/	0.275	0.263	0.255	0.258	0.219	0.251	0.256	0.255	0.257	0.257	0.256	0.255	0.253
Liquid Fuels and Other Petroleum Subtotal	2.828	2.786	2.834	2.839	2.787	2.846	2.872	2.888	2.896	2.902	2.899	2.904	2.901
Natural Gas	1.256	1.235	1.236	1.298	1.353	1.388	1.418	1.428	1.422	1.440	1.463	1.481	1.494

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(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Lease and Plant Fuel 6/	0.029	0.029	0.030	0.029	0.029	0.030	0.030	0.029	0.029	0.028	0.028	0.028	0.028
Pipeline Natural Gas	0.091	0.090	0.099	0.098	0.102	0.103	0.103	0.103	0.101	0.101	0.101	0.101	0.100
Natural Gas Subtotal	1.376	1.354	1.366	1.426	1.485	1.521	1.551	1.560	1.552	1.569	1.592	1.609	1.621
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Coal	2.643	2.609	2.665	2.670	2.678	2.676	2.695	2.702	2.715	2.737	2.762	2.779	2.806
Coal-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.046	0.046	0.046	0.046	0.064	0.081	0.098
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Coal Subtotal	2.643	2.609	2.665	2.671	2.678	2.676	2.742	2.749	2.761	2.783	2.826	2.860	2.904
Nuclear Power	0.480	0.478	0.481	0.480	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477
Biofuels Heat and Coproducts	0.182	0.223	0.300	0.458	0.319	0.405	0.442	0.442	0.478	0.508	0.548	0.567	0.603
Renewable Energy 17/	0.231	0.292	0.328	0.363	0.370	0.379	0.379	0.380	0.384	0.384	0.386	0.391	0.391
Electricity Imports	0.030	0.030	0.043	0.043	0.037	0.025	0.023	0.028	0.032	0.029	0.018	0.021	0.025
Total	7.775	7.777	8.022	8.286	8.158	8.332	8.490	8.529	8.585	8.656	8.750	8.835	8.926
Energy Use & Related Statistics													
Delivered Energy Use	5.471	5.469	5.701	5.941	5.757	5.945	6.096	6.122	6.149	6.206	6.291	6.358	6.426
Total Energy Use	7.775	7.777	8.022	8.286	8.158	8.332	8.490	8.529	8.585	8.656	8.750	8.835	8.926
Population (millions)	19.939	20.054	20.162	20.269	20.373	20.476	20.578	20.677	20.775	20.870	20.962	21.050	21.136
Carbon Dioxide Emissions (million metric tons)	511.17	502.71	511.12	514.05	514.08	518.65	527.91	530.47	532.16	535.45	536.95	541.24	545.71

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	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Residential</b>														
Liquefied Petroleum Gases	0.068	0.067	0.067	0.067	0.066	0.066	0.066	0.065	0.065	0.064	0.064	0.064	0.064	-0.4%
Kerosene	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.2%
Distillate Fuel Oil	0.021	0.020	0.020	0.020	0.020	0.019	0.019	0.019	0.019	0.019	0.018	0.018	0.018	-0.1%
Liquid Fuels and Other Petroleum Subtotal	0.089	0.089	0.088	0.087	0.087	0.086	0.086	0.085	0.085	0.084	0.084	0.083	0.083	-0.3%
Natural Gas	0.454	0.454	0.456	0.456	0.456	0.455	0.455	0.452	0.451	0.449	0.448	0.445	0.443	0.4%
Coal	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.1%
Renewable Energy 1/	0.034	0.034	0.034	0.034	0.034	0.033	0.033	0.033	0.033	0.033	0.033	0.033	0.032	-0.1%
Electricity	0.361	0.362	0.363	0.363	0.366	0.368	0.372	0.374	0.377	0.381	0.385	0.387	0.391	0.6%
Delivered Energy	0.939	0.940	0.943	0.942	0.943	0.944	0.947	0.945	0.947	0.948	0.951	0.949	0.949	0.4%
Electricity Related Losses	0.873	0.887	0.904	0.914	0.921	0.930	0.944	0.953	0.961	0.971	0.987	0.981	0.987	0.8%
Total	1.812	1.827	1.846	1.855	1.864	1.874	1.891	1.898	1.908	1.918	1.938	1.930	1.936	0.6%
<b>Commercial</b>														
Liquefied Petroleum Gases	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.3%
Motor Gasoline 2/	0.008	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.4%
Kerosene	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0%
Distillate Fuel Oil	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.1%
Residual Fuel Oil	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	-0.4%
Liquid Fuels and Other Petroleum Subtotal	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.2%
Natural Gas	0.313	0.316	0.319	0.323	0.325	0.328	0.329	0.331	0.333	0.335	0.336	0.338	0.340	1.0%
Coal	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.0%
Renewable Energy 3/	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.0%
Electricity	0.385	0.391	0.396	0.402	0.407	0.413	0.419	0.424	0.430	0.436	0.441	0.447	0.452	1.4%
Delivered Energy	0.758	0.765	0.774	0.784	0.792	0.800	0.807	0.815	0.822	0.830	0.837	0.844	0.851	1.1%
Electricity Related Losses	0.932	0.957	0.986	1.010	1.026	1.044	1.064	1.081	1.096	1.111	1.130	1.131	1.142	1.6%
Total	1.690	1.722	1.760	1.794	1.819	1.844	1.871	1.896	1.918	1.940	1.967	1.975	1.993	1.4%
<b>Industrial 4/</b>														
Liquefied Petroleum Gases	0.121	0.118	0.116	0.115	0.114	0.112	0.111	0.110	0.109	0.108	0.107	0.105	0.104	-1.2%
Motor Gasoline 2/	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	0.046	-0.2%
Distillate Fuel Oil	0.183	0.182	0.180	0.179	0.177	0.176	0.175	0.175	0.175	0.174	0.174	0.174	0.174	-0.4%
Residual Fuel Oil	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.009	0.009	-1.8%
Petrochemical Feedstocks	0.029	0.028	0.028	0.027	0.027	0.027	0.027	0.026	0.026	0.026	0.025	0.025	0.025	-0.8%
Other Petroleum 5/	0.239	0.237	0.236	0.236	0.236	0.237	0.236	0.238	0.241	0.243	0.243	0.245	0.247	0.0%
Liquid Fuels and Other Petroleum Subtotal	0.630	0.622	0.616	0.613	0.610	0.608	0.605	0.605	0.606	0.607	0.605	0.604	0.605	-0.4%
Natural Gas	0.644	0.643	0.639	0.645	0.644	0.643	0.640	0.632	0.630	0.627	0.625	0.622	0.619	1.3%
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Lease and Plant Fuel 6/	0.028	0.027	0.026	0.025	0.026	0.026	0.026	0.027	0.027	0.027	0.028	0.028	0.028	-0.1%
Natural Gas Subtotal	0.672	0.671	0.665	0.670	0.670	0.669	0.666	0.659	0.657	0.655	0.652	0.650	0.647	1.2%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Other Industrial Coal	0.131	0.131	0.131	0.131	0.131	0.130	0.130	0.130	0.129	0.129	0.129	0.129	0.128	-0.5%
Coal-to-Liquids Heat and Power	0.146	0.157	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	48.0%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Coal Subtotal	0.277	0.288	0.289	0.289	0.289	0.289	0.288	0.288	0.288	0.287	0.287	0.287	0.286	2.9%
Biofuels Heat and Coproducts	0.636	0.674	0.693	0.774	0.870	0.915	0.979	1.026	1.049	1.057	1.037	1.043	1.029	6.6%
Renewable Energy 7/	0.076	0.076	0.076	0.077	0.077	0.078	0.078	0.078	0.079	0.079	0.079	0.080	0.080	0.5%
Electricity	0.303	0.303	0.301	0.301	0.299	0.298	0.297	0.295	0.294	0.293	0.291	0.290	0.288	0.0%
Delivered Energy	2.593	2.634	2.641	2.724	2.815	2.856	2.913	2.951	2.973	2.978	2.953	2.953	2.936	1.9%
Electricity Related Losses	0.734	0.742	0.750	0.757	0.754	0.753	0.754	0.752	0.750	0.748	0.747	0.734	0.728	0.2%
Total	3.328	3.375	3.392	3.481	3.569	3.609	3.667	3.703	3.723	3.726	3.700	3.687	3.664	1.5%

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
<b>Transportation</b>														
Liquefied Petroleum Gases	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.4%
E85 8/	0.116	0.121	0.131	0.138	0.146	0.151	0.154	0.160	0.162	0.165	0.167	0.169	0.171	35.5%
Motor Gasoline 2/	1.189	1.173	1.150	1.131	1.114	1.100	1.089	1.074	1.065	1.057	1.049	1.044	1.038	-0.9%
Jet Fuel 9/	0.162	0.164	0.166	0.168	0.170	0.172	0.174	0.176	0.178	0.180	0.181	0.183	0.185	1.4%
Distillate Fuel Oil 10/	0.636	0.642	0.650	0.657	0.664	0.672	0.679	0.687	0.696	0.705	0.713	0.722	0.731	1.2%
Residual Fuel Oil	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	-0.1%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	44.6%
Other Petroleum 11/	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	0.013	-0.2%
Liquid Fuels and Other Petroleum Subtotal	2.119	2.117	2.112	2.111	2.110	2.110	2.112	2.113	2.117	2.122	2.127	2.133	2.141	0.3%
Pipeline Fuel Natural Gas	0.099	0.098	0.099	0.101	0.102	0.102	0.103	0.103	0.103	0.102	0.103	0.102	0.102	0.5%
Compressed Natural Gas	0.006	0.007	0.007	0.007	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	6.5%
Electricity	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-0.2%
Delivered Energy	2.225	2.222	2.218	2.219	2.219	2.220	2.222	2.224	2.228	2.232	2.238	2.244	2.251	0.4%
Electricity Related Losses	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0%
Total	2.226	2.223	2.219	2.220	2.220	2.223	2.225	2.228	2.233	2.239	2.244	2.252	2.252	0.4%
<b>Delivered Energy Consumption, All Sectors</b>														
Liquefied Petroleum Gases	0.202	0.199	0.197	0.195	0.194	0.192	0.191	0.189	0.188	0.186	0.185	0.183	0.182	-0.8%
E85 8/	0.116	0.121	0.131	0.138	0.146	0.151	0.154	0.160	0.162	0.165	0.167	0.169	0.171	35.5%
Motor Gasoline 2/	1.244	1.227	1.204	1.186	1.169	1.154	1.143	1.129	1.120	1.111	1.104	1.098	1.092	-0.8%
Jet Fuel 9/	0.162	0.164	0.166	0.168	0.170	0.172	0.174	0.176	0.178	0.180	0.181	0.183	0.185	1.4%
Kerosene	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.1%
Distillate Fuel Oil	0.858	0.862	0.867	0.873	0.878	0.884	0.891	0.899	0.907	0.915	0.923	0.931	0.940	0.8%
Residual Fuel Oil	0.016	0.016	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.014	0.014	0.014	-1.3%
Petrochemical Feedstocks	0.029	0.028	0.028	0.027	0.027	0.027	0.027	0.026	0.026	0.026	0.025	0.025	0.025	-0.8%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	44.6%
Other Petroleum 12/	0.252	0.250	0.248	0.248	0.248	0.249	0.249	0.251	0.253	0.255	0.256	0.257	0.260	-0.1%
Liquid Fuels and Other Petroleum Subtotal	2.880	2.869	2.858	2.853	2.849	2.846	2.844	2.845	2.850	2.855	2.858	2.862	2.871	0.1%
Natural Gas	1.418	1.420	1.421	1.430	1.432	1.432	1.431	1.423	1.421	1.419	1.417	1.413	1.413	0.9%
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Lease and Plant Fuel 6/	0.028	0.027	0.026	0.025	0.026	0.026	0.026	0.027	0.027	0.027	0.028	0.028	0.028	-0.1%
Pipeline Natural Gas	0.099	0.098	0.099	0.101	0.102	0.102	0.103	0.103	0.103	0.102	0.103	0.102	0.102	0.5%
Natural Gas Subtotal	1.545	1.546	1.546	1.556	1.560	1.560	1.560	1.552	1.551	1.549	1.548	1.543	1.539	0.9%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Other Coal	0.143	0.142	0.142	0.142	0.142	0.142	0.142	0.141	0.141	0.140	0.140	0.140	0.139	-0.5%
Coal-to-Liquids Heat and Power	0.146	0.157	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	48.0%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Coal Subtotal	0.288	0.300	0.300	0.300	0.300	0.300	0.300	0.299	0.299	0.298	0.298	0.298	0.297	2.7%
Biofuels Heat and Coproducts	0.636	0.674	0.693	0.774	0.870	0.915	0.979	1.026	1.049	1.057	1.037	1.043	1.029	6.6%
Renewable Energy 13/	0.117	0.118	0.118	0.118	0.118	0.119	0.119	0.119	0.119	0.120	0.120	0.120	0.120	0.3%
Electricity	1.049	1.056	1.061	1.067	1.073	1.079	1.087	1.094	1.102	1.110	1.118	1.124	1.131	0.7%
Delivered Energy	6.516	6.561	6.576	6.669	6.770	6.819	6.889	6.935	6.970	6.988	6.979	6.989	6.988	1.0%
Electricity Related Losses	2.540	2.586	2.640	2.681	2.701	2.727	2.763	2.786	2.808	2.829	2.865	2.847	2.858	0.9%
Total	9.055	9.148	9.217	9.350	9.471	9.547	9.652	9.721	9.778	9.817	9.844	9.836	9.845	1.0%

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Electric Power 14/														
Distillate Fuel Oil	0.015	0.016	0.018	0.018	0.020	0.021	0.022	0.022	0.023	0.023	0.023	0.023	0.023	6.1%
Residual Fuel Oil	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	-15.0%
Liquid Fuels and Other Petroleum Subtotal	0.015	0.016	0.018	0.018	0.020	0.022	0.022	0.022	0.023	0.023	0.023	0.023	0.023	3.8%
Natural Gas	0.083	0.075	0.084	0.093	0.083	0.076	0.077	0.074	0.070	0.071	0.086	0.070	0.072	-1.8%
Steam Coal	2.705	2.759	2.813	2.852	2.887	2.924	2.964	2.997	3.030	3.057	3.083	3.079	3.098	1.0%
Nuclear Power	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.0%
Renewable Energy 15/	0.280	0.283	0.283	0.281	0.279	0.279	0.279	0.279	0.280	0.281	0.283	0.283	0.277	1.8%
Electricity Imports	0.024	0.028	0.022	0.023	0.023	0.025	0.027	0.026	0.026	0.026	0.026	0.035	0.037	1.0%
Total 16/	3.589	3.642	3.701	3.748	3.774	3.807	3.850	3.880	3.910	3.939	3.983	3.971	3.988	0.8%
Total Energy Consumption														
Liquefied Petroleum Gases	0.202	0.199	0.197	0.195	0.194	0.192	0.191	0.189	0.188	0.186	0.185	0.183	0.182	-0.8%
E85 8/	0.116	0.121	0.131	0.138	0.146	0.151	0.154	0.160	0.162	0.165	0.167	0.169	0.171	35.5%
Motor Gasoline 2/	1.244	1.227	1.204	1.186	1.169	1.154	1.143	1.129	1.120	1.111	1.104	1.098	1.092	-0.8%
Jet Fuel 9/	0.162	0.164	0.166	0.168	0.170	0.172	0.174	0.176	0.178	0.180	0.181	0.183	0.185	1.4%
Kerosene	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	-0.1%
Distillate Fuel Oil	0.872	0.878	0.885	0.891	0.898	0.906	0.913	0.921	0.929	0.938	0.946	0.953	0.962	0.9%
Residual Fuel Oil	0.016	0.016	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.014	0.014	0.014	-2.0%
Petrochemical Feedstocks	0.029	0.028	0.028	0.027	0.027	0.027	0.027	0.026	0.026	0.026	0.025	0.025	0.025	-0.8%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	44.6%
Other Petroleum 12/	0.252	0.250	0.248	0.248	0.248	0.249	0.249	0.251	0.253	0.255	0.256	0.257	0.260	-0.1%
Liquid Fuels and Other Petroleum Subtotal	2.895	2.885	2.876	2.871	2.869	2.868	2.866	2.868	2.872	2.877	2.881	2.885	2.894	0.2%
Natural Gas	1.501	1.495	1.505	1.523	1.515	1.508	1.508	1.496	1.491	1.490	1.503	1.482	1.481	0.8%

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2006-2030
Natural-Gas-to-Liquids Heat and Power	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Lease and Plant Fuel 6/	0.028	0.027	0.026	0.025	0.026	0.026	0.026	0.027	0.027	0.027	0.028	0.028	0.028	-0.1%
Pipeline Natural Gas	0.099	0.098	0.099	0.101	0.102	0.102	0.103	0.103	0.103	0.102	0.103	0.102	0.102	0.5%
Natural Gas Subtotal	1.628	1.620	1.630	1.649	1.643	1.637	1.637	1.626	1.621	1.620	1.634	1.612	1.611	0.7%
Metallurgical Coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Other Coal	2.848	2.901	2.955	2.993	3.029	3.066	3.105	3.138	3.170	3.197	3.223	3.219	3.237	0.9%
Coal-to-Liquids Heat and Power	0.146	0.157	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	0.158	48.0%
Net Coal Coke Imports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	--
Coal Subtotal	2.994	3.058	3.113	3.152	3.187	3.224	3.264	3.296	3.328	3.355	3.381	3.377	3.396	1.1%
Nuclear Power	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.477	0.0%
Biofuels Heat and Coproducts	0.636	0.674	0.693	0.774	0.870	0.915	0.979	1.026	1.049	1.057	1.037	1.043	1.029	6.6%
Renewable Energy 17/	0.397	0.401	0.401	0.399	0.397	0.397	0.398	0.398	0.399	0.400	0.403	0.402	0.397	1.3%
Electricity Imports	0.024	0.028	0.022	0.023	0.023	0.025	0.027	0.026	0.026	0.026	0.026	0.035	0.037	1.0%
Total	9.055	9.148	9.217	9.350	9.471	9.547	9.652	9.721	9.778	9.817	9.844	9.836	9.845	1.0%
<b>Energy Use &amp; Related Statistics</b>														
Delivered Energy Use	6.516	6.561	6.576	6.669	6.770	6.819	6.889	6.935	6.970	6.988	6.979	6.989	6.988	1.0%
Total Energy Use	9.055	9.148	9.217	9.350	9.471	9.547	9.652	9.721	9.778	9.817	9.844	9.836	9.845	1.0%
Population (millions)	21.217	21.295	21.369	21.439	21.507	21.572	21.634	21.693	21.752	21.810	21.867	21.923	21.979	0.4%
Carbon Dioxide Emissions (million metric tons)	554.02	559.29	564.17	567.98	570.88	574.01	577.81	580.21	583.33	586.16	589.56	588.15	590.46	0.7%

Table 4. Energy Consumption by Sector and Source  
(quadrillion Btu, unless otherwise noted)-West North Central - 04

- 1/ Includes wood used for residential heating. See Table 4 and/or Table 17 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.
- 2/ Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.
- 3/ Includes commercial sector consumption of wood and wood waste, landfill gas, municipal solid waste, and other biomass for combined heat and power.
- 4/ Includes energy for combined heat and power plants, except those whose primary business is to sell electricity, or electricity and heat, to the public.
- 5/ Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.
- 6/ Represents natural gas used in well, field, and lease operations, and in natural gas processing plant machinery.
- 7/ Includes consumption of energy produced from hydroelectric, wood and wood waste, municipal solid waste, and other biomass sources.
- 8/ E85 refers to a blend of 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable). To address cold starting issues, the percentage of ethanol varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.
- 9/ Includes only kerosene type.
- 10/ Diesel fuel for on- and off- road use.
- 11/ Includes aviation gasoline and lubricants.
- 12/ Includes unfinished oils, natural gasoline, motor gasoline blending components, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.
- 13/ Includes electricity generated for sale to the grid and for own use from renewable sources, and non-electric energy from renewable sources. Excludes nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.
- 14/ Includes consumption of energy by electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public. Includes small power producers and exempt wholesale generators.
- 15/ Includes conventional hydroelectric, geothermal, wood and wood waste, biogenic municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.
- 16/ Includes non-biogenic municipal waste not included above.
- 17/ Includes hydroelectric, geothermal, wood and wood waste, biogenic municipal solid waste, other biomass, wind, photovoltaic and solar thermal sources. Includes ethanol components of E85; excludes ethanol blends (10 percent or less) in motor gasoline. Excludes net electricity imports and nonmarketed renewable energy consumption for geothermal heat pumps, buildings photovoltaic systems, and solar thermal hot water heaters.

Btu = British thermal unit.

-- = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2005 and 2006 are model results and may differ slightly from official EIA data reports. Consumption values of 0.00 are values that round to 0.00, because they are less than 0.005.

Sources: 2005 and 2006 consumption based on: Energy Information Administration (EIA), Annual Energy Review 2006, DOE/EIA-0384(2006) (Washington, DC, June 2007). 2005 and 2006 population and gross domestic product: Global Insight, Global Insight Industry and Employment models, July 2007. 2005 and 2006 carbon dioxide emissions: EIA, Emissions of Greenhouse Gases in the United States 2006, DOE/EIA-0573(2006) (Washington, DC, December 2007). Projections: EIA, AEO2008 National Energy Modeling System run aeo2008.d030208f.