

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Energy Consumption															
Residential															
Distillate Fuel	0.055	0.056	0.056	0.052	0.050	0.050	0.049	0.048	0.048	0.047	0.046	0.045	0.044	0.043	0.042
Kerosene	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.006	0.006	0.006	0.006	0.006	0.006	0.006
Liquefied Petroleum Gas	0.126	0.129	0.126	0.125	0.125	0.128	0.129	0.131	0.133	0.134	0.135	0.136	0.137	0.138	0.138
Petroleum Subtotal	0.185	0.190	0.187	0.183	0.181	0.183	0.184	0.185	0.186	0.187	0.187	0.187	0.187	0.187	0.186
Natural Gas	1.522	1.432	1.421	1.442	1.434	1.448	1.452	1.459	1.464	1.471	1.467	1.466	1.468	1.473	1.468
Coal	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Renewable Energy 1/	0.076	0.076	0.079	0.084	0.084	0.083	0.082	0.081	0.080	0.080	0.080	0.079	0.079	0.079	0.079
Electricity	0.617	0.626	0.663	0.664	0.670	0.681	0.690	0.700	0.707	0.716	0.721	0.729	0.738	0.746	0.752
Delivered Energy	2.402	2.326	2.353	2.375	2.371	2.397	2.410	2.427	2.440	2.457	2.457	2.464	2.474	2.488	2.487
Electricity Related Losses	1.393	1.423	1.613	1.609	1.648	1.675	1.667	1.707	1.715	1.736	1.754	1.759	1.771	1.778	1.784
Total	3.795	3.750	3.966	3.984	4.018	4.072	4.077	4.134	4.154	4.193	4.210	4.223	4.245	4.266	4.271
Commercial															
Distillate Fuel	0.050	0.052	0.054	0.050	0.050	0.051	0.052	0.052	0.053	0.053	0.053	0.054	0.054	0.054	0.054
Residual Fuel	0.003	0.003	0.003	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
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	0.001	0.001
Liquefied Petroleum Gas	0.021	0.021	0.021	0.020	0.022	0.022	0.021	0.022	0.021	0.022	0.022	0.022	0.022	0.022	0.022
Motor Gasoline 2/	0.008	0.007	0.007	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008
Petroleum Subtotal	0.083	0.085	0.086	0.082	0.083	0.084	0.085	0.086	0.086	0.086	0.087	0.087	0.088	0.088	0.088
Natural Gas	0.764	0.704	0.698	0.680	0.682	0.693	0.704	0.715	0.728	0.740	0.749	0.758	0.770	0.780	0.788
Coal	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Renewable Energy 3/	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
Electricity	0.607	0.620	0.657	0.655	0.667	0.682	0.696	0.709	0.722	0.734	0.745	0.756	0.767	0.779	0.791
Delivered Energy	1.489	1.445	1.477	1.452	1.468	1.496	1.521	1.546	1.572	1.597	1.617	1.637	1.660	1.683	1.704
Electricity Related Losses	1.371	1.410	1.597	1.586	1.641	1.677	1.682	1.729	1.750	1.779	1.810	1.824	1.842	1.855	1.878
Total	2.860	2.855	3.075	3.039	3.109	3.173	3.204	3.275	3.322	3.375	3.427	3.461	3.502	3.537	3.582
Industrial 4/															
Distillate Fuel	0.164	0.168	0.175	0.171	0.170	0.168	0.167	0.167	0.165	0.164	0.163	0.162	0.161	0.161	0.160
Liquefied Petroleum Gas	0.092	0.093	0.091	0.092	0.091	0.090	0.089	0.089	0.089	0.089	0.088	0.088	0.087	0.087	0.087
Petrochemical Feedstocks	0.210	0.228	0.218	0.223	0.226	0.225	0.223	0.223	0.223	0.223	0.222	0.220	0.220	0.219	0.219
Residual Fuel	0.012	0.011	0.012	0.008	0.014	0.020	0.014	0.022	0.021	0.021	0.022	0.019	0.021	0.021	0.021
Motor Gasoline 2/	0.044	0.045	0.045	0.045	0.045	0.045	0.045	0.044	0.044	0.044	0.043	0.043	0.043	0.043	0.043
Other Petroleum 5/	0.626	0.626	0.606	0.610	0.659	0.666	0.670	0.671	0.676	0.676	0.676	0.680	0.675	0.686	0.680
Petroleum Subtotal	1.149	1.171	1.146	1.149	1.204	1.214	1.208	1.215	1.218	1.216	1.213	1.212	1.208	1.217	1.210
Natural Gas	1.184	1.242	1.162	1.199	1.230	1.236	1.262	1.271	1.280	1.291	1.294	1.305	1.320	1.322	1.302
Lease and Plant Fuel 6/	0.010	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Natural Gas Subtotal	1.195	1.253	1.173	1.210	1.241	1.246	1.272	1.281	1.290	1.301	1.304	1.316	1.330	1.332	1.313
Metallurgical Coal	0.300	0.287	0.294	0.276	0.274	0.269	0.265	0.261	0.258	0.254	0.250	0.246	0.243	0.240	0.237
Other Industrial Coal	0.352	0.335	0.345	0.350	0.349	0.349	0.349	0.349	0.349	0.349	0.349	0.348	0.348	0.348	0.348
Coal-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	0.000	0.000
Net Coal Coke Imports	0.396	0.978	0.579	0.152	0.154	0.152	0.151	0.151	0.151	0.150	0.148	0.147	0.147	0.146	0.146
Coal Subtotal	1.048	1.600	1.218	0.778	0.777	0.770	0.765	0.761	0.758	0.753	0.746	0.742	0.739	0.734	0.731
Renewable Energy 7/	0.190	0.202	0.199	0.204	0.209	0.213	0.217	0.220	0.224	0.227	0.229	0.231	0.234	0.237	0.240
Electricity	0.727	0.733	0.736	0.743	0.745	0.750	0.753	0.760	0.767	0.771	0.773	0.777	0.780	0.784	0.785
Delivered Energy	4.308	4.960	4.472	4.083	4.176	4.193	4.215	4.238	4.257	4.268	4.266	4.278	4.291	4.304	4.278
Electricity Related Losses	1.641	1.667	1.789	1.801	1.833	1.843	1.821	1.855	1.859	1.869	1.879	1.875	1.874	1.867	1.863
Total	5.949	6.627	6.260	5.884	6.009	6.036	6.036	6.093	6.116	6.136	6.145	6.154	6.166	6.171	6.141

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Transportation															
Distillate Fuel 8/	0.831	0.867	0.879	0.897	0.917	0.931	0.947	0.962	0.978	0.991	1.001	1.010	1.019	1.029	1.039
Jet Fuel 9/	0.312	0.321	0.322	0.328	0.337	0.343	0.350	0.360	0.371	0.375	0.379	0.382	0.384	0.387	0.391
Motor Gasoline 2/	2.629	2.677	2.686	2.690	2.715	2.739	2.767	2.794	2.818	2.837	2.853	2.871	2.889	2.902	2.918
Residual Fuel	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	0.003	0.003
Liquefied Petroleum Gas	0.004	0.005	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.011	0.011	0.011	0.011	0.012
Other Petroleum 10/	0.023	0.025	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.024	0.023	0.023	0.023	0.023
Petroleum Subtotal	3.801	3.898	3.921	3.950	4.004	4.049	4.099	4.153	4.203	4.240	4.270	4.300	4.329	4.355	4.386
Pipeline Fuel Natural Gas	0.064	0.064	0.074	0.070	0.067	0.065	0.064	0.062	0.062	0.062	0.062	0.063	0.064	0.064	0.064
Compressed Natural Gas	0.003	0.004	0.004	0.005	0.006	0.006	0.007	0.007	0.008	0.008	0.009	0.009	0.010	0.010	0.010
Renewable Energy (E85) 11/	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001
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	0.000	0.000
Electricity	0.013	0.013	0.013	0.013	0.013	0.013	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014
Delivered Energy	3.881	3.979	4.013	4.038	4.091	4.134	4.184	4.236	4.287	4.325	4.356	4.386	4.417	4.444	4.475
Electricity Related Losses	0.030	0.030	0.032	0.032	0.033	0.033	0.033	0.033	0.033	0.033	0.034	0.033	0.033	0.033	0.033
Total	3.911	4.009	4.045	4.070	4.123	4.167	4.216	4.269	4.320	4.358	4.390	4.420	4.451	4.477	4.508
Delivered Energy Consumption, All Sectors															
Distillate Fuel	1.099	1.143	1.164	1.171	1.186	1.199	1.215	1.230	1.244	1.255	1.264	1.271	1.278	1.287	1.296
Kerosene	0.006	0.008	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
Jet Fuel 9/	0.312	0.321	0.322	0.328	0.337	0.343	0.350	0.360	0.371	0.375	0.379	0.382	0.384	0.387	0.391
Liquefied Petroleum Gas	0.243	0.248	0.245	0.245	0.245	0.247	0.249	0.251	0.253	0.255	0.256	0.257	0.258	0.258	0.259
Motor Gasoline 2/	2.681	2.730	2.738	2.742	2.768	2.792	2.819	2.846	2.870	2.889	2.904	2.922	2.940	2.953	2.969
Petrochemical Feedstocks	0.210	0.228	0.218	0.223	0.226	0.225	0.223	0.223	0.223	0.223	0.222	0.220	0.220	0.219	0.219
Residual Fuel	0.018	0.018	0.018	0.014	0.020	0.026	0.020	0.027	0.027	0.027	0.027	0.024	0.027	0.026	0.027
Other Petroleum 12/	0.647	0.649	0.628	0.632	0.681	0.688	0.692	0.693	0.697	0.697	0.697	0.702	0.696	0.707	0.701
Petroleum Subtotal	5.217	5.344	5.341	5.363	5.472	5.529	5.576	5.639	5.693	5.730	5.757	5.786	5.812	5.847	5.870
Natural Gas	3.473	3.381	3.286	3.326	3.351	3.383	3.425	3.453	3.480	3.511	3.518	3.539	3.567	3.585	3.569
Lease and Plant Fuel 6/	0.010	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Pipeline Natural Gas	0.064	0.064	0.074	0.070	0.067	0.065	0.064	0.062	0.062	0.062	0.062	0.063	0.064	0.064	0.064
Natural Gas Subtotal	3.548	3.457	3.370	3.406	3.429	3.458	3.498	3.524	3.552	3.583	3.591	3.612	3.641	3.660	3.644
Metallurgical Coal	0.300	0.287	0.294	0.276	0.274	0.269	0.265	0.261	0.258	0.254	0.250	0.246	0.243	0.240	0.237
Other Coal	0.372	0.356	0.366	0.370	0.369	0.369	0.369	0.369	0.370	0.370	0.369	0.369	0.369	0.369	0.369
Coal-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	0.000	0.000
Net Coal Coke Imports	0.396	0.978	0.579	0.152	0.154	0.152	0.151	0.151	0.151	0.150	0.148	0.147	0.147	0.146	0.146
Coal Subtotal	1.068	1.621	1.239	0.798	0.797	0.791	0.786	0.781	0.779	0.774	0.767	0.762	0.759	0.755	0.751
Renewable Energy 13/	0.284	0.296	0.296	0.307	0.311	0.315	0.317	0.320	0.322	0.325	0.327	0.329	0.332	0.334	0.337
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	0.000	0.000
Electricity	1.964	1.993	2.069	2.075	2.096	2.127	2.152	2.182	2.209	2.235	2.253	2.275	2.299	2.323	2.342
Delivered Energy	12.080	12.711	12.315	11.949	12.105	12.219	12.329	12.446	12.555	12.647	12.696	12.766	12.843	12.919	12.944
Electricity Related Losses	4.435	4.530	5.031	5.028	5.154	5.228	5.204	5.325	5.357	5.417	5.477	5.492	5.520	5.533	5.559
Total	16.515	17.241	17.346	16.977	17.259	17.447	17.533	17.771	17.912	18.063	18.172	18.257	18.363	18.452	18.503
Electric Power 14/															
Distillate Fuel	0.036	0.031	0.038	0.038	0.038	0.039	0.039	0.038	0.036	0.034	0.033	0.033	0.035	0.037	
Residual Fuel	0.002	0.001	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Petroleum Subtotal	0.037	0.032	0.040	0.039	0.038	0.039	0.040	0.038	0.037	0.034	0.034	0.033	0.035	0.037	
Natural Gas	0.208	0.207	0.475	0.439	0.429	0.434	0.433	0.442	0.461	0.501	0.539	0.568	0.601	0.626	0.634
Steam Coal	4.584	4.664	5.005	5.006	5.074	5.181	5.170	5.315	5.363	5.400	5.435	5.436	5.415	5.414	5.444
Nuclear Power	1.487	1.536	1.499	1.523	1.593	1.594	1.597	1.597	1.597	1.597	1.597	1.597	1.601	1.601	1.601
Renewable Energy/Other 15/	0.095	0.095	0.103	0.113	0.125	0.124	0.137	0.137	0.132	0.144	0.148	0.156	0.193	0.201	0.202
Electricity Imports	-0.013	-0.011	-0.023	-0.016	-0.009	-0.017	-0.021	-0.022	-0.023	-0.023	-0.022	-0.022	-0.024	-0.021	-0.018
Total	6.399	6.523	7.100	7.104	7.250	7.355	7.356	7.507	7.566	7.652	7.730	7.767	7.819	7.857	7.901

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Energy Consumption															
Distillate Fuel	1.135	1.174	1.202	1.209	1.224	1.238	1.254	1.268	1.280	1.289	1.297	1.304	1.311	1.322	1.332
Kerosene	0.006	0.008	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
Jet Fuel 9/	0.312	0.321	0.322	0.328	0.337	0.343	0.350	0.360	0.371	0.375	0.379	0.382	0.384	0.387	0.391
Liquefied Petroleum Gas	0.243	0.248	0.245	0.245	0.245	0.247	0.249	0.251	0.253	0.255	0.256	0.257	0.258	0.258	0.259
Motor Gasoline 2/	2.681	2.730	2.738	2.742	2.768	2.792	2.819	2.846	2.870	2.889	2.904	2.922	2.940	2.953	2.969
Petrochemical Feedstocks	0.210	0.228	0.218	0.223	0.226	0.225	0.223	0.223	0.223	0.223	0.222	0.220	0.220	0.219	0.219
Residual Fuel	0.020	0.019	0.020	0.015	0.020	0.026	0.020	0.028	0.027	0.027	0.027	0.025	0.027	0.026	0.027
Other Petroleum 12/	0.647	0.649	0.628	0.632	0.681	0.688	0.692	0.693	0.697	0.697	0.697	0.702	0.696	0.707	0.701
Petroleum Subtotal	5.254	5.377	5.381	5.402	5.510	5.568	5.615	5.677	5.730	5.763	5.791	5.819	5.845	5.882	5.907
Natural Gas	3.682	3.588	3.761	3.765	3.781	3.817	3.858	3.895	3.941	4.012	4.057	4.107	4.168	4.211	4.203
Lease and Plant Fuel 6/	0.010	0.011	0.011	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Pipeline Natural Gas	0.064	0.064	0.074	0.070	0.067	0.065	0.064	0.062	0.062	0.062	0.062	0.063	0.064	0.064	0.064
Natural Gas Subtotal	3.756	3.664	3.846	3.845	3.858	3.892	3.932	3.966	4.013	4.084	4.129	4.180	4.242	4.286	4.278
Metallurgical Coal	0.300	0.287	0.294	0.276	0.274	0.269	0.265	0.261	0.258	0.254	0.250	0.246	0.243	0.240	0.237
Other Coal	4.956	5.020	5.371	5.376	5.443	5.550	5.539	5.684	5.733	5.770	5.804	5.805	5.784	5.783	5.813
Coal-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	0.000	0.000
Net Coal Coke Imports	0.396	0.978	0.579	0.152	0.154	0.152	0.151	0.151	0.151	0.150	0.148	0.147	0.147	0.146	0.146
Coal Subtotal	5.652	6.285	6.244	5.804	5.871	5.972	5.955	6.096	6.142	6.174	6.202	6.198	6.174	6.169	6.196
Nuclear Power	1.487	1.536	1.499	1.523	1.593	1.594	1.597	1.597	1.597	1.597	1.597	1.597	1.601	1.601	1.601
Renewable Energy 16/	0.379	0.391	0.399	0.420	0.436	0.439	0.455	0.457	0.454	0.469	0.475	0.485	0.525	0.535	0.539
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	0.000	0.000
Electricity Imports	-0.013	-0.011	-0.023	-0.016	-0.009	-0.017	-0.021	-0.022	-0.023	-0.023	-0.022	-0.022	-0.024	-0.021	-0.018
Total	16.515	17.241	17.346	16.977	17.259	17.447	17.533	17.771	17.912	18.063	18.172	18.257	18.363	18.452	18.503

Energy Use and Related Statistics

Delivered Energy Use	12.080	12.711	12.315	11.949	12.105	12.219	12.329	12.446	12.555	12.647	12.696	12.766	12.843	12.919	12.944
Total Energy Use	16.515	17.241	17.346	16.977	17.259	17.447	17.533	17.771	17.912	18.063	18.172	18.257	18.363	18.452	18.503
Population (millions)	45.937	46.101	46.285	46.462	46.632	46.794	46.955	47.110	47.260	47.404	47.541	47.670	47.791	47.903	48.006
US GDP (billion 2000 dollars)	10321	10756	11147	11513	11875	12288	12671	13043	13417	13793	14191	14622	15082	15575	16092
Carbon Dioxide Emissions (million metric tons)	5795	5900	5967	5978	6080	6182	6281	6365	6440	6536	6595	6654	6718	6794	6869

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Energy Consumption														
Residential														
Distillate Fuel	0.041	0.039	0.038	0.037	0.035	0.034	0.033	0.031	0.030	0.028	0.027	0.026	0.024	-3.2%
Kerosene	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.006	0.9%
Liquefied Petroleum Gas	0.139	0.139	0.140	0.140	0.140	0.141	0.142	0.142	0.142	0.142	0.142	0.142	0.143	0.4%
Petroleum Subtotal	0.185	0.185	0.184	0.183	0.181	0.180	0.180	0.178	0.177	0.176	0.175	0.174	0.173	-0.4%
Natural Gas	1.464	1.458	1.457	1.447	1.441	1.435	1.433	1.421	1.414	1.407	1.405	1.394	1.386	-0.1%
Coal	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	-0.4%
Renewable Energy 1/	0.079	0.078	0.078	0.078	0.078	0.077	0.077	0.076	0.076	0.075	0.075	0.074	0.074	-0.1%
Electricity	0.759	0.766	0.775	0.778	0.784	0.789	0.797	0.800	0.807	0.813	0.821	0.825	0.831	1.1%
Delivered Energy	2.489	2.489	2.496	2.488	2.486	2.484	2.489	2.479	2.477	2.474	2.479	2.470	2.467	0.2%
Electricity Related Losses	1.793	1.799	1.807	1.802	1.795	1.788	1.790	1.800	1.786	1.780	1.782	1.774	1.779	0.9%
Total	4.281	4.287	4.303	4.290	4.281	4.272	4.279	4.279	4.263	4.254	4.261	4.244	4.246	0.5%
Commercial														
Distillate Fuel	0.055	0.055	0.055	0.055	0.056	0.056	0.056	0.056	0.057	0.057	0.057	0.058	0.058	0.4%
Residual Fuel	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	-1.0%
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	1.1%
Liquefied Petroleum Gas	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.3%
Motor Gasoline 2/	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	0.4%
Petroleum Subtotal	0.089	0.089	0.089	0.089	0.090	0.090	0.090	0.091	0.091	0.091	0.091	0.092	0.093	0.3%
Natural Gas	0.794	0.799	0.806	0.812	0.818	0.825	0.831	0.836	0.842	0.849	0.855	0.862	0.868	0.8%
Coal	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	-0.1%
Renewable Energy 3/	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.0%
Electricity	0.803	0.815	0.828	0.841	0.854	0.867	0.878	0.889	0.902	0.915	0.929	0.943	0.958	1.7%
Delivered Energy	1.722	1.740	1.759	1.778	1.798	1.818	1.835	1.853	1.872	1.891	1.912	1.934	1.954	1.2%
Electricity Related Losses	1.898	1.915	1.931	1.946	1.955	1.963	1.972	2.000	1.998	2.004	2.016	2.028	2.050	1.4%
Total	3.621	3.655	3.690	3.724	3.753	3.781	3.807	3.853	3.870	3.895	3.928	3.961	4.004	1.3%
Industrial 4/														
Distillate Fuel	0.160	0.159	0.158	0.157	0.157	0.156	0.155	0.155	0.156	0.156	0.156	0.157	0.157	-0.2%
Liquefied Petroleum Gas	0.087	0.087	0.086	0.086	0.086	0.086	0.085	0.085	0.085	0.085	0.085	0.085	0.085	-0.4%
Petrochemical Feedstocks	0.218	0.218	0.217	0.217	0.217	0.216	0.215	0.214	0.213	0.213	0.212	0.211	0.210	-0.3%
Residual Fuel	0.019	0.021	0.018	0.020	0.022	0.022	0.022	0.020	0.018	0.018	0.017	0.021	0.021	2.4%
Motor Gasoline 2/	0.043	0.042	0.042	0.042	0.042	0.042	0.042	0.042	0.043	0.043	0.043	0.043	0.043	-0.2%
Other Petroleum 5/	0.686	0.692	0.697	0.697	0.702	0.693	0.706	0.712	0.721	0.725	0.728	0.739	0.752	0.7%
Petroleum Subtotal	1.213	1.219	1.219	1.220	1.226	1.215	1.226	1.229	1.236	1.240	1.241	1.256	1.268	0.3%
Natural Gas	1.308	1.310	1.311	1.319	1.323	1.335	1.339	1.351	1.361	1.366	1.371	1.374	1.374	0.4%
Lease and Plant Fuel 6/	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	-0.2%
Natural Gas Subtotal	1.318	1.320	1.321	1.330	1.334	1.346	1.350	1.362	1.372	1.377	1.382	1.385	1.385	0.4%
Metallurgical Coal	0.234	0.230	0.226	0.222	0.219	0.216	0.213	0.210	0.208	0.206	0.203	0.201	0.198	-1.4%
Other Industrial Coal	0.348	0.348	0.348	0.348	0.348	0.348	0.348	0.348	0.348	0.349	0.349	0.349	0.350	0.2%
Coal-to-Liquids Heat and Power	0.000	0.000	0.156	0.312	0.442	0.533	0.634	0.693	0.781	0.837	0.875	0.955	0.955	42.1%
Net Coal Coke Imports	0.145	0.143	0.142	0.140	0.138	0.137	0.136	0.135	0.134	0.134	0.133	0.132	0.131	-7.4%
Coal Subtotal	0.727	0.721	0.872	1.022	1.147	1.233	1.330	1.386	1.472	1.525	1.560	1.637	1.633	0.1%
Renewable Energy 7/	0.243	0.245	0.247	0.249	0.252	0.254	0.256	0.258	0.261	0.263	0.265	0.268	0.270	1.1%
Electricity	0.789	0.790	0.790	0.791	0.790	0.791	0.793	0.794	0.797	0.800	0.803	0.805	0.807	0.4%
Delivered Energy	4.290	4.296	4.450	4.612	4.749	4.839	4.956	5.030	5.139	5.206	5.251	5.350	5.363	0.3%
Electricity Related Losses	1.863	1.856	1.844	1.831	1.810	1.792	1.782	1.786	1.766	1.752	1.742	1.731	1.727	0.1%
Total	6.153	6.153	6.294	6.443	6.559	6.631	6.738	6.816	6.904	6.958	6.993	7.081	7.090	0.3%

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030	
Transportation															
Distillate Fuel 8/	1.049	1.058	1.068	1.080	1.091	1.104	1.117	1.131	1.146	1.162	1.178	1.195	1.212	1.3%	
Jet Fuel 9/	0.393	0.395	0.393	0.392	0.390	0.388	0.386	0.384	0.383	0.382	0.382	0.382	0.383	0.7%	
Motor Gasoline 2/	2.935	2.947	2.957	2.966	2.973	2.981	2.988	2.995	3.004	3.012	3.019	3.027	3.033	0.5%	
Residual Fuel	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	-0.6%	
Liquefied Petroleum Gas	0.012	0.012	0.013	0.013	0.013	0.013	0.014	0.014	0.014	0.014	0.014	0.014	0.014	4.3%	
Other Petroleum 10/	0.023	0.023	0.023	0.023	0.023	0.022	0.022	0.022	0.022	0.022	0.022	0.022	0.022	-0.5%	
Petroleum Subtotal	4.415	4.438	4.457	4.475	4.493	4.512	4.530	4.549	4.572	4.595	4.618	4.642	4.667	0.7%	
Pipeline Fuel Natural Gas	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.063	0.063	-0.1%	
Compressed Natural Gas	0.011	0.011	0.011	0.011	0.012	0.012	0.012	0.012	0.012	0.012	0.012	0.013	0.013	4.8%	
Renewable Energy (E85) 11/	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	5.7%	
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	N/A	
Electricity	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.014	0.3%	
Delivered Energy	4.505	4.528	4.547	4.566	4.583	4.602	4.621	4.640	4.662	4.686	4.709	4.733	4.758	0.7%	
Electricity Related Losses	0.033	0.033	0.033	0.033	0.032	0.032	0.032	0.032	0.032	0.031	0.031	0.031	0.031	0.1%	
Total	4.538	4.561	4.580	4.598	4.616	4.634	4.653	4.672	4.694	4.717	4.740	4.764	4.789	0.7%	
Delivered Energy Consumption, All Sectors															
Distillate Fuel	1.305	1.312	1.320	1.329	1.339	1.349	1.361	1.373	1.388	1.404	1.419	1.435	1.452	0.9%	
Kerosene	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.7%	
Jet Fuel 9/	0.393	0.395	0.393	0.392	0.390	0.388	0.386	0.384	0.383	0.382	0.382	0.382	0.383	0.7%	
Liquefied Petroleum Gas	0.260	0.260	0.261	0.261	0.261	0.262	0.263	0.263	0.264	0.264	0.264	0.264	0.264	0.3%	
Motor Gasoline 2/	2.985	2.998	3.007	3.016	3.023	3.031	3.039	3.046	3.054	3.063	3.070	3.078	3.085	0.5%	
Petrochemical Feedstocks	0.218	0.218	0.217	0.217	0.217	0.216	0.215	0.214	0.213	0.213	0.212	0.211	0.210	-0.3%	
Residual Fuel	0.025	0.027	0.023	0.026	0.028	0.028	0.027	0.025	0.024	0.023	0.023	0.026	0.026	1.5%	
Other Petroleum 12/	0.707	0.713	0.718	0.718	0.723	0.713	0.726	0.732	0.741	0.745	0.747	0.759	0.772	0.7%	
Petroleum Subtotal	5.902	5.931	5.949	5.967	5.990	5.997	6.026	6.047	6.076	6.103	6.125	6.164	6.201	0.6%	
Natural Gas	3.577	3.578	3.584	3.590	3.595	3.607	3.615	3.621	3.630	3.635	3.643	3.642	3.641	0.3%	
Lease and Plant Fuel 6/	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	-0.2%	
Pipeline Natural Gas	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.063	0.063	-0.1%	
Natural Gas Subtotal	3.651	3.653	3.659	3.664	3.669	3.682	3.689	3.696	3.704	3.709	3.716	3.718	3.715	0.3%	
Metallurgical Coal	0.234	0.230	0.226	0.222	0.219	0.216	0.213	0.210	0.208	0.206	0.206	0.203	0.201	0.198	-1.4%
Other Coal	0.369	0.369	0.369	0.368	0.368	0.368	0.368	0.368	0.368	0.369	0.369	0.370	0.370	0.1%	
Coal-to-Liquids Heat and Power	0.000	0.000	0.156	0.312	0.442	0.533	0.634	0.693	0.781	0.837	0.875	0.955	0.955	42.1%	
Net Coal Coke Imports	0.145	0.143	0.142	0.140	0.138	0.137	0.136	0.135	0.134	0.134	0.133	0.132	0.131	-7.4%	
Coal Subtotal	0.747	0.742	0.892	1.043	1.167	1.254	1.351	1.406	1.492	1.545	1.581	1.657	1.654	0.1%	
Renewable Energy 13/	0.340	0.342	0.344	0.346	0.348	0.350	0.352	0.354	0.356	0.357	0.359	0.361	0.362	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	0.001	0.001	N/A	
Electricity	2.365	2.385	2.407	2.424	2.442	2.461	2.482	2.498	2.520	2.542	2.568	2.589	2.610	1.0%	
Delivered Energy	13.006	13.053	13.252	13.444	13.616	13.744	13.901	14.002	14.149	14.257	14.351	14.487	14.542	0.5%	
Electricity Related Losses	5.587	5.603	5.615	5.611	5.592	5.576	5.576	5.619	5.582	5.568	5.572	5.563	5.586	0.8%	
Total	18.593	18.656	18.867	19.055	19.209	19.319	19.477	19.621	19.731	19.825	19.922	20.051	20.128	0.6%	
Electric Power 14/															
Distillate Fuel	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.035	0.035	0.035	0.035	0.035	0.4%	
Residual Fuel	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	-7.3%	
Petroleum Subtotal	0.037	0.036	0.036	0.036	0.036	0.036	0.036	0.035	0.035	0.035	0.035	0.035	0.035	0.3%	
Natural Gas	0.658	0.680	0.698	0.712	0.726	0.733	0.747	0.748	0.740	0.750	0.756	0.762	0.761	5.1%	
Steam Coal	5.455	5.462	5.476	5.475	5.465	5.466	5.476	5.553	5.547	5.541	5.564	5.570	5.615	0.7%	
Nuclear Power	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	0.2%	
Renewable Energy/Other 15/	0.219	0.222	0.226	0.225	0.220	0.217	0.212	0.195	0.193	0.197	0.197	0.198	0.198	2.9%	
Electricity Imports	-0.018	-0.013	-0.015	-0.014	-0.015	-0.017	-0.014	-0.015	-0.015	-0.014	-0.014	-0.014	-0.014	0.9%	
Total	7.952	7.989	8.022	8.035	8.034	8.037	8.058	8.118	8.102	8.110	8.139	8.152	8.196	0.9%	

Table 3. Energy Consumption by Sector and Source
(quadrillion Btu, unless otherwise noted)

East North Central	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2004-2030
Total Energy Consumption														
Distillate Fuel	1.341	1.348	1.356	1.365	1.374	1.385	1.397	1.409	1.424	1.439	1.453	1.470	1.486	0.9%
Kerosene	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.009	0.7%
Jet Fuel 9/	0.393	0.395	0.393	0.392	0.390	0.388	0.386	0.384	0.383	0.382	0.382	0.382	0.383	0.7%
Liquefied Petroleum Gas	0.260	0.260	0.261	0.261	0.261	0.262	0.263	0.263	0.264	0.264	0.264	0.264	0.264	0.3%
Motor Gasoline 2/	2.985	2.998	3.007	3.016	3.023	3.031	3.039	3.046	3.054	3.063	3.070	3.078	3.085	0.5%
Petrochemical Feedstocks	0.218	0.218	0.217	0.217	0.217	0.216	0.215	0.214	0.213	0.213	0.212	0.211	0.210	-0.3%
Residual Fuel	0.025	0.027	0.024	0.026	0.028	0.028	0.027	0.025	0.024	0.023	0.023	0.026	0.026	1.2%
Other Petroleum 12/	0.707	0.713	0.718	0.718	0.723	0.713	0.726	0.732	0.741	0.745	0.747	0.759	0.772	0.7%
Petroleum Subtotal	5.939	5.967	5.985	6.003	6.026	6.033	6.062	6.082	6.112	6.138	6.160	6.199	6.235	0.6%
Natural Gas	4.235	4.258	4.282	4.302	4.321	4.341	4.362	4.369	4.371	4.386	4.400	4.405	4.403	0.8%
Lease and Plant Fuel 6/	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	0.011	-0.2%
Pipeline Natural Gas	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.063	0.063	0.063	0.063	0.063	0.063	-0.1%
Natural Gas Subtotal	4.310	4.333	4.357	4.377	4.396	4.415	4.437	4.444	4.445	4.460	4.474	4.479	4.476	0.8%
Metallurgical Coal	0.234	0.230	0.226	0.222	0.219	0.216	0.213	0.210	0.208	0.206	0.203	0.201	0.198	-1.4%
Other Coal	5.824	5.831	5.845	5.843	5.834	5.834	5.844	5.921	5.916	5.909	5.933	5.939	5.985	0.7%
Coal-to-Liquids Heat and Power	0.000	0.000	0.156	0.312	0.442	0.533	0.634	0.693	0.781	0.837	0.875	0.955	0.955	42.1%
Net Coal Coke Imports	0.145	0.143	0.142	0.140	0.138	0.137	0.136	0.135	0.134	0.134	0.133	0.132	0.131	-7.4%
Coal Subtotal	6.202	6.204	6.369	6.518	6.633	6.720	6.826	6.959	7.039	7.086	7.144	7.227	7.269	0.6%
Nuclear Power	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	1.601	0.2%
Renewable Energy 16/	0.559	0.564	0.570	0.571	0.568	0.567	0.564	0.549	0.549	0.554	0.557	0.559	0.561	1.4%
Liquid Hydrogen	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	N/A
Electricity Imports	-0.018	-0.013	-0.015	-0.014	-0.015	-0.017	-0.014	-0.015	-0.015	-0.014	-0.014	-0.014	-0.014	0.9%
Total	18.593	18.656	18.867	19.055	19.209	19.319	19.477	19.621	19.731	19.825	19.922	20.051	20.128	0.6%
Energy Use and Related Statistics														
Delivered Energy Use	13.006	13.053	13.252	13.444	13.616	13.744	13.901	14.002	14.149	14.257	14.351	14.487	14.542	0.5%
Total Energy Use	18.593	18.656	18.867	19.055	19.209	19.319	19.477	19.621	19.731	19.825	19.922	20.051	20.128	0.6%
Population (millions)	48.099	48.183	48.257	48.322	48.379	48.429	48.472	48.509	48.543	48.576	48.608	48.638	48.668	0.2%
US GDP (billion 2000 dollars)	16599	17064	17541	18021	18515	19026	19562	20123	20701	21286	21871	22482	23112	3.0%
Carbon Dioxide Emissions (million metric tons)	6952	7030	7119	7206	7296	7387	7494	7587	7690	7799	7912	8019	8114	1.2%

Table 3. Energy Consumption by Sector and Source

(quadrillion Btu, unless otherwise noted)

East North Central

1/ Includes wood used for residential heating. See Annual Energy Outlook 2006 Appendix A 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. See Annual Energy Outlook 2006 Appendix A Table 17 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

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 the field gathering and processing plant machinery.

7/ Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

8/ Diesel fuel for on- and off-road use.

9/ Includes only kerosene type.

10/ Includes aviation gasoline and lubricants.

11/ 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 actually varies seasonally. The annual average ethanol content of 74 percent is used for this forecast.

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, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes net electricity imports.

16/ Includes hydroelectric, geothermal, wood and wood waste, 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.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2003 and 2004 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: 2003 and 2004 consumption based on: Energy Information Administration (EIA), Annual Energy Review 2004, DOE/EIA-0384(2004) (Washington, DC, August 2005). 2003 and 2004 population and gross domestic product: Global Insight macroeconomic model CTL0805. 2003 and 2004 carbon dioxide emissions: EIA, Emissions of Greenhouse Gases in the United States 2004, DOE/EIA-0573(2004) (Washington, DC, December 2005). Projections: EIA, AEO2006 National Energy Modeling System run aeo2006.d111905a.