

## **Appendix A**

**Letter from the U.S. Senate Committee on Environment and Public Works**

06/05/01 TUE 11:02 FAX 2280341

SENATOR LIEBERMAN-DC

JAMES M. JEFFORDS

VERMONT

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United States Senate

WASHINGTON, DC 20510-4603

May 17, 2001

Lawrence Pettis

Acting Administrator Energy Information Administration  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Dear Acting Administrator Pettis:

We are writing to request that the Energy Information Administration (EIA) analyze the potential costs and benefits of different approaches to multi-pollutant strategies that reduce air pollutants from the nation's electric power plants. In particular, we seek to understand the complementary role of technology and market-based programs as they might lower costs and increase the benefits associated with multi-pollutant strategies. A similar request is being forwarded to the Environmental Protection Agency (EPA). It is our understanding that EIA has the ability to conduct such analysis, including the use of both electricity sector and economy-wide energy models. Such an analysis, utilizing both sectoral and all-economy models, will help inform the Members of Congress about the full costs and benefits of reducing the nation's air pollutants.

We have two primary concerns in making this request, both stemming from the December 2000 release of an EIA report, *Analysis of Strategies for Reducing Multiple Emissions from Power Plants: Sulfur Dioxide, Nitrogen Oxides, and Carbon Dioxide* (SR/OIAF/2000-05). First, EIA's analysis appears to unnecessarily limit the market and technology opportunities that might significantly affect the costs and benefits of emission reductions. In particular, the potential contributions of demand-side efficiency, gas-fired cogeneration and of renewable energy sources appear to be inadequately represented in the analysis, and the learning curve, economy of scale, and other effects of accelerated penetration of these options on their costs and performance appear to be inadequately treated. Moreover, the report did not reflect any of the health or environmental benefits associated with emission reductions.

Second, just prior to the release of the December report, a new assessment by the Department of Energy's national laboratories was completed that describes a broad number of technology and market-based opportunities that might positively affect almost any multi-pollutant strategy. The report by the national laboratories, *Scenarios for a Clean Energy Future*, was released in November 2000. Unfortunately, the findings of the national laboratories were not included in any aspect of the December study. With these important omissions in the report, we believe it would be appropriate to reconsider the analysis with a more complete and updated assessment.

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We therefore request that EIA analyze the cost and benefits, including all sectors of the economy and impacts on both the supply and demand side of the equation, of the following multi-pollutant emission control scenarios for the nation's electricity generators. Where feasible, this should include power plants both within the conventionally defined electric utility sector as well as electricity generated by industrial cogenerators and other independent power producers. To the maximum extent possible, we ask that you coordinate your efforts with EPA so that we might obtain maximum benefit of this review. Please provide results through 2020, in periods of five years or less, using the EIA's Annual Energy Outlook 2001 (AEO2001) as the baseline.

- Scenario A: Assume standard technology characteristics as defined in AEO2001. Further assume a start date of 2002. By 2007 reduce NO<sub>x</sub> emissions 75 percent below 1997 levels, reduce SO<sub>2</sub> emissions to 75 percent below full implementation of the Phase II requirements under title IV, reduce mercury emissions 90 percent below 1999 levels, and reduce CO<sub>2</sub> emissions to 1990 levels.
- Scenario B: Continuing a 2002 start date, but assuming the advanced technology assumptions of both the supply and demand-side perspectives that are referenced in AEO2001, by 2007 reduce NO<sub>x</sub> emissions 75 percent below 1997 levels, reduce SO<sub>2</sub> emissions to 75 percent below full implementation of the Phase II requirements under title IV, reduce mercury emissions 90 percent below 1999 levels, and reduce CO<sub>2</sub> emissions to 1990 levels.
- Scenario C: Continuing a 2002 start date, but assuming the moderate supply and demand-side policy scenario of the Clean Energy Futures study, by 2007 reduce NO<sub>x</sub> emissions 75 percent below 1997 levels, reduce SO<sub>2</sub> emissions to 75 percent below full implementation of the Phase II requirements under title IV, reduce mercury emissions 90 percent below 1999 levels, and reduce CO<sub>2</sub> emissions to 1990 levels.
- Scenario D: Continuing a 2002 start date, but assuming the advanced supply and demand-side policy scenario of the Clean Energy Futures study, by 2007 reduce NO<sub>x</sub> emissions 75 percent below 1997 levels, reduce SO<sub>2</sub> emissions to 75 percent below full implementation of the Phase II requirements under title IV, reduce mercury emissions 90 percent below 1999 levels, and reduce CO<sub>2</sub> emissions to 1990 levels.

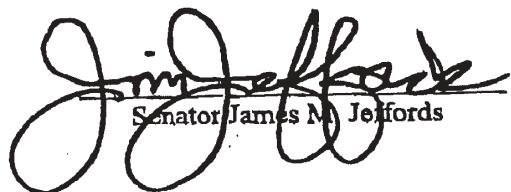
In comparing scenarios A to D, the impact of the expanded methodology of this exercise relative to the previous EIA work on multi-pollutant effects should be clarified.

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Given that the Senate will be debating national energy policy legislation in the coming months, including issues impacting air quality, we ask that the requested information be made available by July 1, 2001. In addition, we request a briefing of your results prior to the release of any written report. If you have any questions about this request, please call Kathryn Parker with Senator Jeffords at 224-3977 or Tim Profeta with Senator Lieberman at 224-5016. Thank you for your attention to this request.

Sincerely,

  
Senator James M. Jeffords  
Senator Joseph I. Lieberman

**Appendix B**

**Industrial Sector Technology Assumptions**

**Table B1. Nonmanufacturing Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
All Processes	All Fuels	-0.001	-0.002	0.9	-0.002	-0.004

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B2. Nonmanufacturing Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
All Processes	All Fuels	-0.0015	-0.002	0.9	-0.003	-0.004

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B3. Food Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
All Processes	All Fuels	-0.0044	-0.0072	0.9	-0.0049	-0.0145

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B4. Food Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
All Processes	All Fuels	-0.0058	-0.0072	0.9	-0.0097	-0.0145

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B5. Pulp and Paper Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Wood Preparation	Electricity	-0.0037	-0.0043	0.84	-0.0004	-0.0086
Waste Pulp	Electricity	-0.0025	-0.0036	0.93	-0.002	-0.0073
Mechanical Pulp	Electricity	-0.0039	-0.0041	0.84	-0.0009	-0.0082
Semi-Chemical	Electricity	-0.0054	-0.0077	0.73	-0.0019	-0.0153
Kraft Pulp	Electricity	-0.0093	-0.0143	0.73	-0.0082	-0.0287
	Natural Gas	-0.0093	-0.0143	0.73	-0.0082	-0.0287
	Residual	-0.0093	-0.0143	0.73	-0.0082	-0.0287
	Distillate	-0.0093	-0.0143	0.73	-0.0082	-0.0287
	LPG	-0.0093	-0.0143	0.73	-0.0082	-0.0287
	Coal	-0.0093	-0.0143	0.73	-0.0082	-0.0287
Bleaching	Electric	-0.005	-0.0098	0.75	-0.0039	-0.0197
Papermaking	Electric	-0.0104	-0.0166	0.75	-0.0122	-0.0332
	Natural Gas	-0.0104	-0.0166	0.75	-0.0122	-0.0332
	Residual	-0.0104	-0.0166	0.75	-0.0122	-0.0332
	Distillate	-0.0104	-0.0166	0.75	-0.0122	-0.0332
	LPG	-0.0104	-0.0166	0.75	-0.0122	-0.0332
	Coal	-0.0104	-0.0166	0.75	-0.0122	-0.0332

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B6. Pulp and Paper Technology Possibility Curves Derived from CEF**

Process	Fuel <sup>a</sup>	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Wood Preparation	Electricity	-0.00135	-0.0027	0.84	-0.0008	-0.001
Waste Pulp	Electricity	-0.0004	-0.0007	0.93	-0.004	-0.005
Mech Pulp	Electricity	-0.0012	-0.0024	0.84	-0.005	-0.011
Semi-Chemical	Electricity	-0.0028	-0.0049	0.73	-0.0004	-0.0004
Kraft Pulp	Electricity	-0.0028	-0.0049	0.73	-0.0025	-0.0049
	Natural Gas	-0.0029	-0.0057	0.73	-0.006	-0.0122
	Residual	-0.0029	-0.0057	0.73	-0.0062	-0.0124
	Distillate	-0.0029	-0.0057	0.73	-0.0062	-0.0124
	LPG	-0.0029	-0.0057	0.73	-0.0062	-0.0124
	Coal	-0.005	-0.007	0.73	-0.0075	-0.015
Bleaching	Electric	-0.0054	-0.0085	0.75	-0.0006	-0.0006
Papermaking	Electric	-0.0032	-0.0049	0.75	-0.002	0.0015
	Natural Gas	-0.0032	-0.0049	0.75	-0.002	-0.002
	Residual	-0.0032	-0.0049	0.75	-0.002	-0.002
	Distillate	-0.0032	-0.0049	0.75	-0.002	-0.002
	LPG	-0.0032	-0.0049	0.75	-0.002	-0.002
	Coal	-0.0032	-0.0049	0.75	-0.002	-0.002

<sup>a</sup>In some processes, a particular fuel was not represented in the CEF. In such situations, a TPC from the same process was applied.

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B7. Bulk Chemical Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Heat and Power	All Fuels	-0.0044	-0.0056	0.9	-0.0049	-0.0113
Feedstocks	All Fuels	-0.001	-0.002	0.9	-0.001	-0.002

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B8. Bulk Chemical Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Heat and Power	All Fuels	-0.005	-0.008	0.9	-0.007	-0.009
Feedstocks	All Fuels	-0.005	-0.008	0.9	-0.007	-0.009

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B9. Glass Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Batch Preparation Virgin Glass	Electricity	-0.0025	-0.0026	0.882	0	-0.0052
Batch Preparation Recycled Glass	Electricity	-0.0025	-0.0026	0.882	0	-0.0052
Melting/Refining Virgin Glass	Electricity	-0.0094	-0.0165	0.85	-0.016	-0.033
	Fuels	-0.0094	-0.0165	0.85	-0.016	-0.033
Melting/Refining Recycled Glass	Electricity	-0.0094	-0.0153	0.85	-0.016	-0.0306
	Fuels	-0.0094	-0.0153	0.85	-0.016	-0.0306
Forming	Electricity	-0.0035	-0.0054	0.818	-0.004	-0.0108
	Fuels	-0.0035	-0.0054	0.818	-0.004	-0.0108
Post-Forming	Electricity	-0.0053	-0.006	0.78	-0.0011	-0.012
	Fuels	-0.0053	-0.006	0.78	-0.0011	-0.012

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B10. Glass Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Batch Preparation Virgin Glass	Electricity	-0.001	-0.001	0.882	0	0
Batch Preparation Recycled Glass	Electricity	-0.001	-0.001	0.882	0	0
Melting/Refining Virgin Glass	Electricity	-0.00575	-0.0115	0.85	-0.0115	-0.023
	Fuels	-0.0068	-0.0136	0.85	-0.0136	-0.0272
Melting/Refining Recycled Glass	Electricity	-0.00575	-0.0115	0.85	-0.0115	-0.023
	Fuels	-0.0068	-0.0136	0.85	-0.0136	-0.0272
Forming	Electricity	-0.0014	-0.0014	0.818	-0.0015	-0.003
	Fuels	-0.0025	-0.0025	0.818	-0.00205	-0.0041
Post-Forming	Electricity	-0.0021	-0.0021	0.78	-0.0008	-0.0015
	Fuels	-0.0037	-0.0037	0.78	-0.0009	-0.0018

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B11. Cement Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Grinding	Electricity	-0.0041	-0.0088	0.813	0	-0.0177
Dry Process	Electricity	-0.0031	-0.0115	0.79	-0.0031	-0.023
	Natural Gas	-0.0078	-0.0115	0.79	-0.0077	-0.023
	Distillate	-0.0078	-0.0115	0.79	-0.0077	-0.023
	Steam Coal	-0.0078	-0.0115	0.79	-0.0077	-0.023
	Other	-0.0078	-0.0115	0.79	-0.0077	-0.023
Wet Process	Electricity	-0.0025	0	NA	NA	NA
	Natural Gas	-0.0025	0.0006	NA	NA	NA
	Distillate	-0.0025	-0.0045	NA	NA	NA
	Steam Coal	-0.0025	-0.0057	NA	NA	NA
	Other	-0.0025	-0.0057	NA	NA	NA

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B12. Cement Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Grinding	Electricity	-0.0032	-0.0032	0.813	-0.0027	-0.0049
Dry Process	Electricity	0	0	0.79	0	-0.0049
	Natural Gas	0.0002	-0.0035	0.79	0.0039	-0.0027
	Distillate	-0.0032	-0.0045	0.79	-0.0032	-0.0045
	Steam Coal	-0.0032	-0.0042	0.79	-0.00323	-0.0042
	Other	-0.0033	-0.043	0.79	-0.0033	-0.0043
Wet Process	Electricity	0	0	NA	NA	NA
	Natural Gas	-0.0023	0.0006	NA	NA	NA
	Distillate	-0.0045	-0.0045	NA	NA	NA
	Steam Coal	-0.0051	-0.0057	NA	NA	NA
	Other	-0.0051	-0.0057	NA	NA	NA

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B13. Steel Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Cold Rolling	Electricity	-0.0101	-0.022	0.84	-0.0162	-0.044
	Fuels	-0.0101	-0.022	0.84	-0.0162	-0.044
Hot Rolling	Electricity	-0.0152	-0.0532	0.5	-0.0104	-0.1065
	Fuels	-0.0152	-0.0532	0.5	-0.0104	-0.1065
Ingot	Electricity	0	0	NA	NA	NA
	Fuels	0	0	NA	NA	NA
Continuous Cast	Electricity	0	0	1	0	0
	Fuels	0	0	1	0	0
Blast Furnace/ Basic Oxygen Furnace	Electricity	-0.0041	-0.0155	1	-0.0086	-0.031
	Natural Gas	0.005	-0.0155	1	0.02	-0.031
	Coke	-0.002	-0.0155	1	-0.004	-0.031
	Steam Coal	-0.0041	-0.0155	1	0.002	-0.031
	Other Fuels	-0.0041	-0.0067	1	-0.0086	-0.031
Electric Arc Furnace	Electricity	-0.0032	-0.0056	0.96	-0.0051	-0.0112
	Fuels	-0.0032	-0.0056	0.96	-0.0051	-0.0112
Coke Plant	Electricity	-0.0039	-0.0078	0.84	-0.0012	-0.0024
	Fuels	-0.0039	-0.0078	0.84	-0.0009	-0.0018

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B14. Steel Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Cold Rolling	Electricity	-0.0055	-0.0058	0.84	-0.0013	-0.0013
	Fuels	0	-0.0025	0.84	-0.015	-0.015
Hot Rolling	Electricity	-0.0002	-0.0002	0.5	-0.0098	-0.0426
	Fuels	-0.0153	-0.0173	0.5	-0.0221	-0.117
Ingot	Electricity	0	0	NA	NA	NA
	Fuels	0	0	NA	NA	NA
Continuous Cast	Electricity	0	0	1	-0.0263	-0.0263
	Fuels	-0.0111	-0.0111	1	-0.011	-0.011
Blast Furnace/ Basic Oxygen Furnace	Electricity	-0.0053	-0.0053	1	-0.0227	0.0086
	Natural Gas	0	0	1	0	0
	Other Fuels	-0.0067	-0.0067	1	-0.0041	0.0006
	Electricity	-0.0086	-0.0102	0.96	-0.0107	-0.0107
	Fuels	0.0056	0.0056	0.96	-0.0054	-0.0054
Electric Arc Furnace	Electricity	0	0	0.84	-0.0401	-0.1215
	Fuels	-0.0004	-0.0004	0.84	-0.0026	-0.2731

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B15. Aluminum Industry Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
All Processes	Electricity	-0.005	-0.0087	0.76	-0.005	-0.0174
	Fuels	-0.005	-0.0087	0.76	-0.005	-0.0174

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B16. Aluminum Industry Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
All Processes	Electricity	-0.0074	-0.012	0.76	-0.0025	-0.0038
	Fuels	-0.004	-0.0058	0.76	-0.0035	-0.0048

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B17. Metal-Based Durables Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Refrigeration	Electricity	-0.0055	-0.0043	0.9	-0.0052	-0.0086
Machine Drive	Electricity	-0.0021	-0.0024	0.9	-0.0049	-0.0049
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135
Electrochemical	Electricity	-0.0008	-0.0041	0.9	-0.0046	-0.0082
Other	Electricity	-0.0008	-0.0049	0.9	-0.0046	-0.0098
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135
Heating	Electricity	-0.0044	-0.0121	0.9	-0.0049	-0.0242
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B18. Metal-Based Durables Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Refrigeration	Electricity	-0.0083	-0.011	0.9	-0.0078	-0.0104
Machine Drive	Electricity	-0.0032	-0.0042	0.9	-0.0074	-0.0098
	Fossil	-0.0066	-0.0088	0.9	-0.0074	-0.0098
Electrochemical	Electricity	-0.0012	-0.0041	0.9	-0.0069	-0.0082
Other	Electricity	-0.0012	-0.0049	0.9	-0.0069	-0.0098
	Fossil	-0.0066	-0.0067	0.9	-0.0074	-0.0135
Heating	Electricity	-0.0066	-0.0088	0.9	-0.0074	-0.0098
	Fossil	-0.0066	-0.0067	0.9	-0.0074	-0.0098

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B19. Other Manufacturing Technology Possibility Curves from AEO2001**

Process	Fuel	Existing Equipment		New Equipment		
		Reference	High Technology	REI 1994	Reference	High Technology
Refrigeration	Electricity	-0.0055	-0.0043	0.9	-0.0052	-0.0086
Machine Drive	Electricity	-0.0021	-0.0024	0.9	-0.0049	-0.0049
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135
Electrochemical	Electricity	-0.0008	-0.0041	0.9	-0.0046	-0.0082
Other	Electricity	-0.0008	-0.0049	0.9	-0.0046	-0.0098
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135
Heating	Electricity	-0.0044	-0.0121	0.9	-0.0049	-0.0242
	Fossil	-0.0044	-0.0067	0.9	-0.0049	-0.0135

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

**Table B20. Other Manufacturing Technology Possibility Curves Derived from CEF**

Process	Fuel	Existing Equipment		New Equipment		
		Moderate	Advanced	REI 1994	Moderate	Advanced
Refrigeration	Electricity	-0.0083	-0.011	0.9	-0.0078	-0.0104
Machine Drive	Electricity	-0.0032	-0.0042	0.9	-0.0074	-0.0098
	Fossil	-0.0066	-0.0088	0.9	-0.0074	-0.0098
Electrochemical	Electricity	-0.0012	-0.0041	0.9	-0.0069	-0.0082
Other	Electricity	-0.0012	-0.0049	0.9	-0.0069	-0.0098
	Fossil	-0.0066	-0.0067	0.9	-0.0074	-0.0135
Heating	Electricity	-0.0066	-0.0088	0.9	-0.0074	-0.0098
	Fossil	-0.0066	-0.0067	0.9	-0.0074	-0.0098

REI 1994 = Relative Energy Intensity of new equipment in 1994 compared with the average existing intensity. Note that in most cases, the energy intensity of new 1994 equipment is less than that of existing equipment. Hence, the TPC for new equipment occasionally is not as rapid as for existing equipment.

Source: Energy Information Administration, Office of Integrated Analysis and Forecasting.

## **Appendix C**

### **Tables for the Reference and Advanced Technology Cases**

**Table C1. Total Energy Supply and Disposition Summary**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Production</b>									
Crude Oil and Lease Condensate . . . . .	12.45	12.04	12.00	12.30	12.27	11.23	11.19	11.73	11.71
Natural Gas Plant Liquids . . . . .	2.62	3.11	3.18	3.05	3.14	3.36	3.54	3.22	3.57
Dry Natural Gas . . . . .	19.16	21.88	22.41	21.46	22.12	23.97	25.27	22.98	25.52
Coal . . . . .	23.06	25.43	21.54	25.24	21.68	26.49	16.81	26.08	17.24
Nuclear Power . . . . .	7.79	7.90	7.90	7.90	7.90	7.69	7.91	7.95	7.95
Renewable Energy <sup>1</sup> . . . . .	6.52	7.09	8.60	7.44	8.30	7.86	9.58	8.23	9.77
Other <sup>2</sup> . . . . .	1.65	0.35	0.35	0.34	0.58	0.30	0.30	0.52	0.29
<b>Total</b> . . . . .	<b>73.26</b>	<b>77.79</b>	<b>75.99</b>	<b>77.74</b>	<b>75.99</b>	<b>80.90</b>	<b>74.59</b>	<b>80.70</b>	<b>76.04</b>
<b>Imports</b>									
Crude Oil <sup>3</sup> . . . . .	18.96	21.42	21.36	21.25	21.25	22.49	22.44	22.05	22.07
Petroleum Products <sup>4</sup> . . . . .	4.14	6.11	5.78	5.47	5.04	8.52	8.20	6.71	6.52
Natural Gas . . . . .	3.63	5.14	5.10	5.09	5.00	5.55	6.88	5.33	5.69
Other Imports <sup>5</sup> . . . . .	0.64	1.11	1.01	1.08	0.99	0.96	0.88	0.89	0.81
<b>Total</b> . . . . .	<b>27.37</b>	<b>33.78</b>	<b>33.26</b>	<b>32.89</b>	<b>32.28</b>	<b>37.52</b>	<b>38.40</b>	<b>34.98</b>	<b>35.09</b>
<b>Exports</b>									
Petroleum <sup>6</sup> . . . . .	1.98	1.73	1.77	1.77	1.80	1.73	1.71	1.79	1.79
Natural Gas . . . . .	0.17	0.33	0.33	0.33	0.33	0.43	0.12	0.43	0.43
Coal . . . . .	1.48	1.51	1.52	1.51	1.52	1.45	1.50	1.46	1.52
<b>Total</b> . . . . .	<b>3.62</b>	<b>3.56</b>	<b>3.61</b>	<b>3.61</b>	<b>3.64</b>	<b>3.61</b>	<b>3.32</b>	<b>3.68</b>	<b>3.74</b>
<b>Discrepancy<sup>7</sup></b> . . . . .	<b>0.67</b>	<b>0.44</b>	<b>0.42</b>	<b>0.44</b>	<b>0.55</b>	<b>0.06</b>	<b>0.05</b>	<b>0.27</b>	<b>0.07</b>
<b>Consumption</b>									
Petroleum Products <sup>8</sup> . . . . .	37.92	41.21	40.83	40.55	40.28	44.30	44.10	42.35	42.44
Natural Gas . . . . .	22.32	26.38	26.87	25.92	26.48	28.94	31.85	27.72	30.59
Coal . . . . .	21.40	24.37	20.40	24.15	20.49	25.57	15.66	25.11	16.05
Nuclear Power . . . . .	7.79	7.90	7.90	7.90	7.90	7.69	7.91	7.95	7.95
Renewable Energy <sup>1</sup> . . . . .	6.53	7.10	8.61	7.45	8.30	7.87	9.58	8.24	9.78
Other <sup>9</sup> . . . . .	0.35	0.61	0.61	0.61	0.61	0.38	0.51	0.38	0.51
<b>Total</b> . . . . .	<b>96.33</b>	<b>107.56</b>	<b>105.22</b>	<b>106.59</b>	<b>104.07</b>	<b>114.74</b>	<b>109.61</b>	<b>111.74</b>	<b>107.32</b>
<b>Net Imports - Petroleum</b> . . . . .	<b>21.12</b>	<b>25.80</b>	<b>25.38</b>	<b>24.95</b>	<b>24.50</b>	<b>29.28</b>	<b>28.93</b>	<b>26.97</b>	<b>26.80</b>
<b>Prices (1999 dollars per unit)</b>									
World Oil Price (dollars per barrel) <sup>10</sup> ..	17.22	20.83	20.83	20.83	20.83	21.37	21.37	21.37	21.37
Gas Wellhead Price (dollars per Mcf) <sup>11</sup> ..	2.08	2.99	3.01	2.86	2.87	2.82	3.41	2.39	2.95
Coal Minemouth Price (dollars per ton) ..	17.13	15.22	14.47	14.30	13.77	14.19	14.63	12.73	13.40
Average Electric Price (cents per Kwh)	6.7	6.4	7.3	6.3	7.0	6.1	8.0	5.9	7.4

<sup>1</sup>Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal solid waste; other biomass; wind; photovoltaic and solar thermal sources; non-electric energy from renewable sources, such as active and passive solar systems, and wood; and both the ethanol and gasoline components of E85, but not the ethanol components of blends less than 85 percent. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table C18 for selected nonmarketed residential and commercial renewable energy.

<sup>2</sup>Includes liquid hydrogen, methanol, supplemental natural gas, and some domestic inputs to refineries.

<sup>3</sup>Includes imports of crude oil for the Strategic Petroleum Reserve.

<sup>4</sup>Includes imports of finished petroleum products, imports of unfinished oils, alcohols, ethers, and blending components.

<sup>5</sup>Includes coal, coal coke (net), and electricity (net).

<sup>6</sup>Includes crude oil and petroleum products.

<sup>7</sup>Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.

<sup>8</sup>Includes natural gas plant liquids, crude oil consumed as a fuel, and nonpetroleum based liquids for blending, such as ethanol.

<sup>9</sup>Includes net electricity imports, methanol, and liquid hydrogen.

<sup>10</sup>Average refiner acquisition cost for imported crude oil.

<sup>11</sup>Represents lower 48 onshore and offshore supplies.

Btu = British thermal unit.

Mcf = Thousand cubic feet.

Kwh = Kilowatthour.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 natural gas values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 petroleum values: EIA, *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). Other 1999 values: EIA, *Annual Energy Review 1999*, DOE/EIA-0384(99) (Washington, DC, July 2000) and EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000). **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
11.08	11.25	11.75	11.93	11.06	11.35	11.62	11.94
3.76	3.94	3.56	3.91	4.14	4.33	3.87	4.25
27.19	28.50	25.62	28.28	30.10	31.46	28.05	30.91
26.84	15.46	26.19	16.26	27.10	14.43	25.91	15.35
6.98	7.68	7.84	7.91	6.51	7.15	7.18	7.69
8.16	9.97	8.66	10.19	8.37	10.44	9.06	10.63
0.31	0.31	0.53	0.29	0.33	0.33	0.61	0.38
<b>84.31</b>	<b>77.12</b>	<b>84.14</b>	<b>78.78</b>	<b>87.61</b>	<b>79.48</b>	<b>86.31</b>	<b>81.14</b>
25.27	24.82	23.40	23.01	25.91	25.74	24.30	24.03
8.67	8.58	6.69	6.65	10.70	10.25	7.26	7.09
6.11	7.71	5.61	6.15	6.55	8.16	5.88	6.38
0.88	0.77	0.79	0.68	0.96	0.81	0.83	0.69
<b>40.93</b>	<b>41.88</b>	<b>36.49</b>	<b>36.48</b>	<b>44.11</b>	<b>44.96</b>	<b>38.28</b>	<b>38.18</b>
1.73	1.73	1.83	1.86	1.82	1.79	1.84	1.91
0.53	0.12	0.53	0.53	0.63	0.12	0.63	0.63
1.40	1.52	1.44	1.52	1.41	1.59	1.41	1.56
<b>3.67</b>	<b>3.36</b>	<b>3.80</b>	<b>3.92</b>	<b>3.87</b>	<b>3.50</b>	<b>3.89</b>	<b>4.10</b>
<b>0.23</b>	<b>0.19</b>	<b>0.30</b>	<b>0.02</b>	<b>0.18</b>	<b>0.08</b>	<b>0.28</b>	<b>0.05</b>
47.33	47.19	43.98	44.07	50.36	50.30	45.71	45.85
32.60	35.92	30.55	33.73	35.88	39.32	33.16	36.49
26.03	14.32	25.25	15.05	26.30	13.27	25.05	14.13
6.98	7.68	7.84	7.91	6.51	7.15	7.18	7.69
8.17	9.98	8.67	10.20	8.38	10.45	9.08	10.64
0.24	0.36	0.24	0.37	0.25	0.38	0.25	0.38
<b>121.34</b>	<b>115.45</b>	<b>116.53</b>	<b>111.33</b>	<b>127.68</b>	<b>120.86</b>	<b>120.42</b>	<b>115.18</b>
<b>32.21</b>	<b>31.67</b>	<b>28.26</b>	<b>27.80</b>	<b>34.78</b>	<b>34.20</b>	<b>29.72</b>	<b>29.21</b>
21.89	21.89	21.89	21.89	22.41	22.41	22.41	22.41
2.92	3.35	2.30	2.73	3.10	3.72	2.20	2.60
13.40	13.58	11.63	12.01	12.93	12.61	10.76	10.97
6.1	8.0	5.7	7.1	6.1	8.1	5.5	6.7

**Table C2. Energy Consumption by Sector and Source**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Energy Consumption</b>										
<b>Residential</b>										
Distillate Fuel .....	0.86	0.87	0.87	0.84	0.84	0.80	0.81	0.75	0.75	
Kerosene .....	0.10	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	
Liquefied Petroleum Gas .....	0.46	0.46	0.46	0.44	0.45	0.43	0.43	0.40	0.40	
Petroleum Subtotal .....	1.42	1.41	1.41	1.37	1.37	1.30	1.31	1.21	1.22	
Natural Gas .....	4.88	5.55	5.56	5.41	5.42	5.54	5.46	5.28	5.20	
Coal .....	0.04	0.05	0.05	0.04	0.04	0.05	0.05	0.05	0.05	
Renewable Energy <sup>1</sup> .....	0.41	0.42	0.42	0.40	0.40	0.42	0.42	0.39	0.38	
Electricity .....	3.91	4.56	4.44	4.54	4.43	4.91	4.58	4.85	4.58	
<b>Delivered Energy</b> .....	<b>10.66</b>	<b>11.99</b>	<b>11.87</b>	<b>11.76</b>	<b>11.66</b>	<b>12.22</b>	<b>11.83</b>	<b>11.77</b>	<b>11.43</b>	
Electricity Related Losses .....	8.44	9.66	8.96	9.67	8.87	10.00	8.54	9.87	8.52	
<b>Total</b> .....	<b>19.10</b>	<b>21.65</b>	<b>20.83</b>	<b>21.43</b>	<b>20.54</b>	<b>22.22</b>	<b>20.36</b>	<b>21.65</b>	<b>19.95</b>	
<b>Commercial</b>										
Distillate Fuel .....	0.36	0.37	0.37	0.37	0.37	0.38	0.39	0.37	0.37	
Residual Fuel .....	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Kerosene .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Liquefied Petroleum Gas .....	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Motor Gasoline <sup>2</sup> .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Petroleum Subtotal .....	0.60	0.61	0.61	0.61	0.61	0.62	0.63	0.61	0.61	
Natural Gas .....	3.14	3.99	3.99	4.00	4.00	4.19	4.12	4.22	4.15	
Coal .....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
Renewable Energy <sup>3</sup> .....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
Electricity .....	3.66	4.40	4.28	4.38	4.27	4.92	4.63	4.85	4.62	
<b>Delivered Energy</b> .....	<b>7.55</b>	<b>9.15</b>	<b>9.02</b>	<b>9.14</b>	<b>9.03</b>	<b>9.88</b>	<b>9.53</b>	<b>9.84</b>	<b>9.54</b>	
Electricity Related Losses .....	7.91	9.33	8.64	9.32	8.55	10.02	8.62	9.87	8.60	
<b>Total</b> .....	<b>15.46</b>	<b>18.48</b>	<b>17.66</b>	<b>18.45</b>	<b>17.58</b>	<b>19.90</b>	<b>18.15</b>	<b>19.71</b>	<b>18.14</b>	
<b>Industrial<sup>4</sup></b>										
Distillate Fuel .....	1.13	1.21	1.20	1.20	1.20	1.30	1.29	1.28	1.28	
Liquefied Petroleum Gas .....	2.32	2.44	2.44	2.42	2.42	2.51	2.56	2.47	2.52	
Petrochemical Feedstock .....	1.29	1.36	1.35	1.35	1.35	1.53	1.52	1.52	1.52	
Residual Fuel .....	0.22	0.16	0.16	0.16	0.16	0.25	0.26	0.24	0.25	
Motor Gasoline <sup>2</sup> .....	0.21	0.23	0.23	0.23	0.22	0.25	0.24	0.24	0.24	
Other Petroleum <sup>5</sup> .....	4.29	4.41	4.43	4.37	4.41	4.68	4.72	4.42	4.61	
Petroleum Subtotal .....	9.45	9.81	9.82	9.73	9.76	10.51	10.60	10.17	10.41	
Natural Gas <sup>6</sup> .....	9.80	10.42	10.44	10.35	10.37	11.27	11.34	11.22	11.24	
Metallurgical Coal .....	0.75	0.67	0.67	0.66	0.66	0.61	0.61	0.58	0.58	
Steam Coal .....	1.73	1.80	1.81	1.79	1.80	1.82	1.79	1.79	1.75	
Net Coal Coke Imports .....	0.06	0.11	0.11	0.08	0.08	0.15	0.15	0.09	0.09	
Coal Subtotal .....	2.54	2.59	2.59	2.54	2.54	2.58	2.54	2.46	2.43	
Renewable Energy <sup>7</sup> .....	2.15	2.40	2.40	2.48	2.47	2.63	2.62	2.81	2.81	
Electricity .....	3.61	3.88	3.78	3.83	3.73	4.16	3.88	4.03	3.79	
<b>Delivered Energy</b> .....	<b>27.56</b>	<b>29.10</b>	<b>29.03</b>	<b>28.92</b>	<b>28.89</b>	<b>31.14</b>	<b>30.98</b>	<b>30.69</b>	<b>30.67</b>	
Electricity Related Losses .....	7.80	8.21	7.64	8.16	7.47	8.47	7.22	8.20	7.05	
<b>Total</b> .....	<b>35.36</b>	<b>37.31</b>	<b>36.67</b>	<b>37.08</b>	<b>36.36</b>	<b>39.61</b>	<b>38.21</b>	<b>38.90</b>	<b>37.72</b>	

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
0.78	0.78	0.70	0.70	0.76	0.77	0.66	0.67
0.07	0.07	0.06	0.06	0.07	0.07	0.06	0.06
0.41	0.42	0.38	0.39	0.41	0.42	0.36	0.38
1.26	1.28	1.14	1.15	1.23	1.26	1.08	1.10
5.78	5.73	5.44	5.37	6.08	6.01	5.67	5.60
0.05	0.05	0.04	0.04	0.05	0.05	0.04	0.04
0.43	0.42	0.38	0.37	0.43	0.43	0.38	0.37
5.27	4.92	5.18	4.89	5.69	5.27	5.58	5.30
<b>12.79</b>	<b>12.40</b>	<b>12.18</b>	<b>11.83</b>	<b>13.48</b>	<b>13.01</b>	<b>12.75</b>	<b>12.41</b>
10.28	8.64	10.13	8.58	10.65	8.71	10.19	8.63
<b>23.08</b>	<b>21.04</b>	<b>22.31</b>	<b>20.41</b>	<b>24.14</b>	<b>21.72</b>	<b>22.94</b>	<b>21.04</b>
0.38	0.39	0.37	0.37	0.37	0.39	0.35	0.36
0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.62	0.64	0.61	0.62	0.62	0.64	0.60	0.61
4.36	4.40	4.42	4.43	4.47	4.67	4.58	4.68
0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
5.35	4.98	5.24	4.96	5.64	5.17	5.52	5.21
<b>10.48</b>	<b>10.18</b>	<b>10.43</b>	<b>10.16</b>	<b>10.88</b>	<b>10.63</b>	<b>10.86</b>	<b>10.66</b>
10.43	8.75	10.24	8.70	10.56	8.55	10.08	8.47
<b>20.91</b>	<b>18.92</b>	<b>20.67</b>	<b>18.86</b>	<b>21.44</b>	<b>19.18</b>	<b>20.94</b>	<b>19.13</b>
1.39	1.39	1.36	1.35	1.49	1.49	1.43	1.43
2.67	2.72	2.60	2.61	2.85	2.90	2.74	2.80
1.61	1.60	1.59	1.59	1.69	1.69	1.67	1.67
0.26	0.27	0.21	0.24	0.27	0.29	0.21	0.25
0.26	0.26	0.26	0.26	0.28	0.28	0.28	0.28
4.81	4.85	4.51	4.71	5.00	5.10	4.64	4.78
11.01	11.10	10.53	10.77	11.58	11.75	10.97	11.21
12.03	12.32	11.88	12.09	12.71	13.21	12.39	12.78
0.55	0.55	0.52	0.52	0.50	0.50	0.46	0.46
1.84	1.82	1.79	1.77	1.86	1.87	1.78	1.76
0.19	0.19	0.09	0.09	0.22	0.22	0.10	0.10
2.58	2.56	2.40	2.38	2.59	2.59	2.34	2.32
2.85	2.85	3.17	3.17	3.07	3.07	3.55	3.55
4.43	3.98	4.24	3.85	4.76	4.14	4.50	4.02
<b>32.90</b>	<b>32.80</b>	<b>32.22</b>	<b>32.26</b>	<b>34.72</b>	<b>34.76</b>	<b>33.76</b>	<b>33.88</b>
8.64	6.99	8.30	6.77	8.91	6.85	8.22	6.54
<b>41.54</b>	<b>39.79</b>	<b>40.52</b>	<b>39.03</b>	<b>43.63</b>	<b>41.61</b>	<b>41.98</b>	<b>40.42</b>

**Table C2. Energy Consumption by Sector and Source (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Transportation</b>									
Distillate Fuel .....	5.13	6.25	6.20	6.10	6.06	6.98	6.88	6.57	6.50
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.87	3.89	3.88	4.49	4.49	4.49	4.49
Motor Gasoline <sup>2</sup> .....	15.92	17.64	17.62	17.30	17.29	18.94	18.90	17.86	17.87
Residual Fuel .....	0.74	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Liquefied Petroleum Gas .....	0.02	0.03	0.03	0.06	0.06	0.04	0.04	0.09	0.09
Other Petroleum <sup>9</sup> .....	0.26	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31
Petroleum Subtotal .....	25.54	28.95	28.87	28.48	28.43	31.62	31.47	30.16	30.10
Pipeline Fuel Natural Gas .....	0.66	0.82	0.84	0.81	0.83	0.90	0.96	0.87	0.97
Compressed Natural Gas .....	0.02	0.05	0.05	0.07	0.07	0.09	0.09	0.13	0.13
Renewable Energy (E85) <sup>10</sup> .....	0.01	0.02	0.02	0.03	0.03	0.03	0.03	0.05	0.05
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity .....	0.06	0.09	0.09	0.07	0.07	0.12	0.12	0.09	0.09
<b>Delivered Energy</b> .....	<b>26.28</b>	<b>29.94</b>	<b>29.88</b>	<b>29.47</b>	<b>29.44</b>	<b>32.77</b>	<b>32.67</b>	<b>31.30</b>	<b>31.34</b>
Electricity Related Losses .....	0.13	0.19	0.18	0.16	0.15	0.24	0.22	0.19	0.17
<b>Total</b> .....	<b>26.41</b>	<b>30.12</b>	<b>30.05</b>	<b>29.63</b>	<b>29.59</b>	<b>33.01</b>	<b>32.89</b>	<b>31.49</b>	<b>31.51</b>
<b>Delivered Energy Consumption for All Sectors</b>									
Distillate Fuel .....	7.48	8.70	8.65	8.52	8.47	9.46	9.37	8.97	8.90
Kerosene .....	0.15	0.13	0.13	0.13	0.13	0.12	0.13	0.12	0.12
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.87	3.89	3.88	4.49	4.49	4.49	4.49
Liquefied Petroleum Gas .....	2.88	3.02	3.01	3.00	3.01	3.07	3.12	3.05	3.11
Motor Gasoline <sup>2</sup> .....	16.17	17.90	17.87	17.55	17.55	19.22	19.17	18.13	18.14
Petrochemical Feedstock .....	1.29	1.36	1.35	1.35	1.35	1.53	1.52	1.52	1.52
Residual Fuel .....	1.05	1.10	1.10	1.10	1.10	1.20	1.21	1.18	1.19
Other Petroleum <sup>12</sup> .....	4.53	4.68	4.70	4.64	4.67	4.96	5.00	4.71	4.89
Petroleum Subtotal .....	37.01	40.77	40.70	40.18	40.16	44.05	44.00	42.15	42.34
Natural Gas <sup>6</sup> .....	18.50	20.84	20.88	20.65	20.71	21.99	21.96	21.73	21.68
Metallurgical Coal .....	0.75	0.67	0.67	0.66	0.66	0.61	0.61	0.58	0.58
Steam Coal .....	1.84	1.92	1.93	1.90	1.91	1.94	1.91	1.90	1.87
Net Coal Coke Imports .....	0.06	0.11	0.11	0.08	0.08	0.15	0.15	0.09	0.09
Coal Subtotal .....	2.65	2.70	2.71	2.65	2.66	2.70	2.67	2.58	2.54
Renewable Energy <sup>13</sup> .....	2.65	2.93	2.93	2.99	2.98	3.17	3.16	3.33	3.32
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity .....	11.24	12.93	12.58	12.82	12.51	14.10	13.21	13.82	13.08
<b>Delivered Energy</b> .....	<b>72.05</b>	<b>80.17</b>	<b>79.80</b>	<b>79.29</b>	<b>79.02</b>	<b>86.01</b>	<b>85.01</b>	<b>83.61</b>	<b>82.98</b>
Electricity Related Losses .....	24.28	27.39	25.42	27.30	25.04	28.73	24.60	28.13	24.34
<b>Total</b> .....	<b>96.33</b>	<b>107.56</b>	<b>105.22</b>	<b>106.59</b>	<b>104.07</b>	<b>114.74</b>	<b>109.61</b>	<b>111.74</b>	<b>107.32</b>
<b>Electric Generators<sup>14</sup></b>									
Distillate Fuel .....	0.05	0.06	0.02	0.06	0.02	0.06	0.02	0.05	0.01
Residual Fuel .....	0.86	0.37	0.11	0.31	0.10	0.20	0.09	0.14	0.08
Petroleum Subtotal .....	0.91	0.43	0.13	0.37	0.12	0.25	0.10	0.19	0.10
Natural Gas .....	3.83	5.54	5.99	5.27	5.77	6.96	9.88	6.00	8.91
Steam Coal .....	18.75	21.67	17.69	21.51	17.83	22.87	12.99	22.53	13.50
Nuclear Power .....	7.79	7.90	7.90	7.90	7.90	7.69	7.91	7.95	7.95
Renewable Energy <sup>15</sup> .....	3.88	4.17	5.68	4.46	5.32	4.70	6.42	4.91	6.46
Electricity Imports <sup>16</sup> .....	0.35	0.61	0.61	0.61	0.61	0.37	0.50	0.37	0.50
<b>Total</b> .....	<b>35.52</b>	<b>40.32</b>	<b>38.00</b>	<b>40.12</b>	<b>37.55</b>	<b>42.83</b>	<b>37.81</b>	<b>41.95</b>	<b>37.42</b>

Projections							
Reference	2015			2020			
	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
7.61	7.51	6.92	6.84	8.21	8.11	7.33	7.25
5.22	5.21	5.14	5.14	5.96	5.96	5.84	5.84
20.14	20.11	18.16	18.16	21.25	21.20	18.38	18.41
0.86	0.86	0.85	0.85	0.86	0.86	0.85	0.85
0.05	0.05	0.11	0.11	0.06	0.06	0.14	0.14
0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35
34.20	34.07	31.52	31.44	36.70	36.55	32.90	32.85
1.01	1.06	0.95	1.05	1.10	1.15	1.02	1.13
0.13	0.13	0.18	0.18	0.16	0.15	0.22	0.21
0.04	0.04	0.06	0.06	0.04	0.04	0.07	0.07
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.15	0.15	0.11	0.11	0.17	0.17	0.12	0.12
<b>35.53</b>	<b>35.44</b>	<b>32.82</b>	<b>32.84</b>	<b>38.16</b>	<b>38.07</b>	<b>34.34</b>	<b>34.39</b>
0.28	0.25	0.21	0.19	0.31	0.27	0.23	0.20
<b>35.81</b>	<b>35.69</b>	<b>33.03</b>	<b>33.03</b>	<b>38.47</b>	<b>38.35</b>	<b>34.56</b>	<b>34.59</b>
10.15	10.07	9.35	9.27	10.82	10.75	9.78	9.70
0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.11
5.22	5.21	5.14	5.14	5.96	5.96	5.84	5.84
3.23	3.29	3.19	3.21	3.41	3.48	3.34	3.42
20.43	20.40	18.45	18.45	21.56	21.51	18.69	18.71
1.61	1.60	1.59	1.59	1.69	1.69	1.67	1.67
1.21	1.22	1.16	1.19	1.23	1.24	1.16	1.19
5.12	5.16	4.82	5.02	5.33	5.43	4.97	5.11
47.09	47.08	43.80	43.98	50.13	50.19	45.55	45.77
23.30	23.63	22.87	23.12	24.52	25.19	23.88	24.41
0.55	0.55	0.52	0.52	0.50	0.50	0.46	0.46
1.97	1.94	1.90	1.88	1.99	2.00	1.89	1.88
0.19	0.19	0.09	0.09	0.22	0.22	0.10	0.10
2.71	2.68	2.52	2.50	2.71	2.72	2.46	2.44
3.40	3.39	3.69	3.68	3.64	3.63	4.08	4.07
0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15.19	14.02	14.77	13.80	16.25	14.74	15.73	14.65
<b>91.70</b>	<b>90.82</b>	<b>87.65</b>	<b>87.09</b>	<b>97.25</b>	<b>96.47</b>	<b>91.70</b>	<b>91.34</b>
29.64	24.64	28.89	24.24	30.43	24.38	28.72	23.84
<b>121.34</b>	<b>115.45</b>	<b>116.53</b>	<b>111.33</b>	<b>127.68</b>	<b>120.86</b>	<b>120.42</b>	<b>115.18</b>
0.06	0.02	0.05	0.02	0.06	0.02	0.05	0.01
0.18	0.09	0.13	0.08	0.17	0.09	0.11	0.07
0.24	0.11	0.18	0.10	0.23	0.10	0.16	0.09
9.29	12.28	7.68	10.61	11.36	14.13	9.28	12.08
23.33	11.64	22.73	12.55	23.59	10.55	22.59	11.69
6.98	7.68	7.84	7.91	6.51	7.15	7.18	7.69
4.76	6.59	4.98	6.53	4.75	6.82	5.00	6.57
0.23	0.36	0.23	0.36	0.24	0.37	0.24	0.37
<b>44.83</b>	<b>38.66</b>	<b>43.65</b>	<b>38.05</b>	<b>46.68</b>	<b>39.12</b>	<b>44.45</b>	<b>38.49</b>

**Table C2. Energy Consumption by Sector and Source (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Total Energy Consumption</b>									
Distillate Fuel .....	7.53	8.77	8.67	8.58	8.49	9.51	9.39	9.02	8.91
Kerosene .....	0.15	0.13	0.13	0.13	0.13	0.12	0.13	0.12	0.12
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.87	3.89	3.88	4.49	4.49	4.49	4.49
Liquefied Petroleum Gas .....	2.88	3.02	3.01	3.00	3.01	3.07	3.12	3.05	3.11
Motor Gasoline <sup>2</sup> .....	16.17	17.90	17.87	17.55	17.55	19.22	19.17	18.13	18.14
Petrochemical Feedstock .....	1.29	1.36	1.35	1.35	1.35	1.53	1.52	1.52	1.52
Residual Fuel .....	1.92	1.48	1.21	1.41	1.19	1.39	1.29	1.32	1.27
Other Petroleum <sup>12</sup> .....	4.53	4.68	4.70	4.64	4.67	4.96	5.00	4.71	4.89
Petroleum Subtotal .....	37.92	41.21	40.83	40.55	40.28	44.30	44.10	42.35	42.44
Natural Gas .....	22.32	26.38	26.87	25.92	26.48	28.94	31.85	27.72	30.59
Metallurgical Coal .....	0.75	0.67	0.67	0.66	0.66	0.61	0.61	0.58	0.58
Steam Coal .....	20.59	23.59	19.62	23.41	19.75	24.81	14.90	24.43	15.37
Net Coal Coke Imports .....	0.06	0.11	0.11	0.08	0.08	0.15	0.15	0.09	0.09
Coal Subtotal .....	21.40	24.37	20.40	24.15	20.49	25.57	15.66	25.11	16.05
Nuclear Power .....	7.79	7.90	7.90	7.90	7.90	7.69	7.91	7.95	7.95
Renewable Energy <sup>17</sup> .....	6.53	7.10	8.61	7.45	8.30	7.87	9.59	8.24	9.78
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electricity Imports <sup>16</sup> .....	0.35	0.61	0.61	0.61	0.61	0.37	0.50	0.37	0.50
Total .....	<b>96.33</b>	<b>107.56</b>	<b>105.22</b>	<b>106.59</b>	<b>104.07</b>	<b>114.74</b>	<b>109.61</b>	<b>111.74</b>	<b>107.32</b>
<b>Energy Use and Related Statistics</b>									
Delivered Energy Use .....	72.05	80.17	79.80	79.29	79.02	86.01	85.01	83.61	82.98
Total Energy Use .....	96.33	107.56	105.22	106.59	104.07	114.74	109.61	111.74	107.32
Population (millions) .....	273.13	288.02	288.02	288.02	288.02	300.17	300.17	300.17	300.17
Gross Domestic Product (billion 1996 dollars) .....	8876	10960	10918	10960	10926	12667	12624	12667	12645
Carbon Dioxide Emissions (million metric tons carbon equivalent) .....	1510.8	1701.4	1599.3	1677.0	1585.6	1820.6	1603.6	1754.9	1564.1

<sup>1</sup>Includes wood used for residential heating. See Table C18 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

<sup>2</sup>Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.

<sup>3</sup>Includes commercial sector electricity cogenerated by using wood and wood waste, landfill gas, municipal solid waste, and other biomass. See Table C18 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

<sup>4</sup>Fuel consumption includes consumption for cogeneration, which produces electricity and other useful thermal energy.

<sup>5</sup>Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

<sup>6</sup>Includes lease and plant fuel and consumption by cogenerators; excludes consumption by nonutility generators.

<sup>7</sup>Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass; includes cogeneration, both for sale to the grid and for own use.

<sup>8</sup>Includes only kerosene type.

<sup>9</sup>Includes aviation gas and lubricants.

<sup>10</sup>E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

<sup>11</sup>M85 is 85 percent methanol and 15 percent motor gasoline.

<sup>12</sup>Includes unfinished oils, natural gasoline, motor gasoline blending compounds, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

<sup>13</sup>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.

<sup>14</sup>Includes consumption of energy by all electric power generators for grid-connected power except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>15</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes cogeneration. Excludes net electricity imports.

<sup>16</sup>In 1998 approximately 70 percent of the U.S. electricity imports were provided by renewable sources (hydroelectricity); EIA does not project future proportions for the fuel source of imported electricity.

<sup>17</sup>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.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 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:** 1999 electric utility fuel consumption: Energy Information Administration (EIA), *Electric Power Annual 1998, Volume 1*, DOE/EIA-0348(98)/1 (Washington, DC, April 1999). 1999 nonutility consumption estimates: EIA, Form EIA-860B: "Annual Electric Generator Report - Nonutility." Other 1999 values: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
10.21	10.09	9.40	9.28	10.88	10.77	9.83	9.72
0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.11
5.22	5.21	5.14	5.14	5.96	5.96	5.84	5.84
3.23	3.29	3.19	3.21	3.41	3.48	3.34	3.42
20.43	20.40	18.45	18.45	21.56	21.51	18.69	18.71
1.61	1.60	1.59	1.59	1.69	1.69	1.67	1.67
1.40	1.31	1.28	1.27	1.41	1.33	1.26	1.27
5.12	5.16	4.82	5.02	5.33	5.43	4.97	5.11
47.33	47.19	43.98	44.07	50.36	50.30	45.71	45.85
32.60	35.92	30.55	33.73	35.88	39.32	33.16	36.49
0.55	0.55	0.52	0.52	0.50	0.50	0.46	0.46
25.29	13.58	24.64	14.43	25.58	12.55	24.49	13.57
0.19	0.19	0.09	0.09	0.22	0.22	0.10	0.10
26.03	14.32	25.25	15.05	26.30	13.27	25.05	14.13
6.98	7.68	7.84	7.91	6.51	7.15	7.18	7.69
8.17	9.98	8.67	10.21	8.38	10.45	9.08	10.64
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.23	0.36	0.23	0.36	0.24	0.37	0.24	0.37
<b>121.34</b>	<b>115.46</b>	<b>116.54</b>	<b>111.33</b>	<b>127.68</b>	<b>120.86</b>	<b>120.42</b>	<b>115.18</b>
91.70	90.82	87.65	87.09	97.25	96.47	91.70	91.34
121.34	115.46	116.54	111.33	127.68	120.86	120.42	115.18
312.58	312.58	312.58	312.58	325.24	325.24	325.24	325.24
14635	14633	14635	14636	16515	16468	16515	16506
1938.1	1681.5	1825.5	1609.8	2043.8	1756.7	1883.6	1653.0

**Table C3. Energy Prices by Sector and Source**  
 (1999 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Residential</b> .....	<b>13.18</b>	<b>13.33</b>	<b>14.16</b>	<b>13.23</b>	<b>13.93</b>	<b>13.41</b>	<b>15.70</b>	<b>13.12</b>	<b>14.99</b>
Primary Energy <sup>1</sup> .....	6.71	7.50	7.54	7.42	7.44	7.17	7.61	6.88	7.29
Petroleum Products <sup>2</sup> .....	7.55	9.17	9.15	9.10	9.08	9.37	9.45	9.28	9.26
Distillate Fuel .....	6.27	7.37	7.36	7.27	7.26	7.57	7.56	7.41	7.41
Liquefied Petroleum Gas .....	10.36	12.61	12.61	12.62	12.59	12.82	13.07	12.83	12.75
Natural Gas .....	6.52	7.13	7.18	7.05	7.07	6.70	7.22	6.38	6.88
Electricity .....	23.69	22.29	24.63	21.97	23.95	22.19	27.74	21.55	25.86
<b>Commercial</b> .....	<b>13.28</b>	<b>12.71</b>	<b>14.14</b>	<b>12.44</b>	<b>13.60</b>	<b>12.23</b>	<b>15.33</b>	<b>11.50</b>	<b>14.02</b>
Primary Energy <sup>1</sup> .....	5.22	5.58	5.61	5.47	5.49	5.65	6.09	5.32	5.74
Petroleum Products <sup>2</sup> .....	4.99	6.08	6.07	6.01	5.99	6.27	6.27	6.14	6.11
Distillate Fuel .....	4.37	5.17	5.15	5.07	5.06	5.35	5.32	5.19	5.18
Residual Fuel .....	2.63	3.64	3.61	3.64	3.60	3.70	3.69	3.70	3.69
Natural Gas <sup>3</sup> .....	5.34	5.57	5.61	5.46	5.48	5.63	6.15	5.26	5.77
Electricity .....	21.64	20.28	23.44	19.88	22.48	18.76	24.94	17.76	22.67
<b>Industrial<sup>4</sup></b> .....	<b>5.29</b>	<b>5.75</b>	<b>6.07</b>	<b>5.62</b>	<b>5.88</b>	<b>5.62</b>	<b>6.50</b>	<b>5.27</b>	<b>5.98</b>
Primary Energy .....	3.91	4.46	4.47	4.37	4.38	4.45	4.73	4.18	4.43
Petroleum Products <sup>2</sup> .....	5.54	5.97	5.95	5.89	5.88	6.07	6.16	5.91	5.92
Distillate Fuel .....	4.65	5.33	5.32	5.24	5.23	5.53	5.50	5.35	5.35
Liquefied Petroleum Gas .....	8.50	7.75	7.75	7.72	7.71	7.77	8.08	7.74	7.73
Residual Fuel .....	2.78	3.37	3.34	3.37	3.34	3.43	3.42	3.43	3.42
Natural Gas <sup>5</sup> .....	2.79	3.66	3.71	3.55	3.58	3.46	4.02	3.07	3.60
Metallurgical Coal .....	1.66	1.58	1.59	1.53	1.54	1.54	1.55	1.45	1.46
Steam Coal .....	1.43	1.35	1.30	1.31	1.26	1.30	1.19	1.22	1.13
Electricity .....	13.12	12.81	15.06	12.52	14.39	12.04	16.84	11.29	15.13
<b>Transportation</b> .....	<b>8.30</b>	<b>9.33</b>	<b>9.36</b>	<b>9.19</b>	<b>9.18</b>	<b>9.63</b>	<b>9.73</b>	<b>9.24</b>	<b>9.18</b>
Primary Energy .....	8.29	9.32	9.34	9.18	9.16	9.61	9.70	9.23	9.16
Petroleum Products <sup>2</sup> .....	8.28	9.32	9.34	9.17	9.16	9.61	9.70	9.22	9.15
Distillate Fuel <sup>6</sup> .....	8.22	8.89	8.89	8.82	8.81	8.94	8.94	8.86	8.84
Jet Fuel <sup>7</sup> .....	4.70	5.22	5.23	5.17	5.16	5.49	5.48	5.39	5.37
Motor Gasoline <sup>8</sup> .....	9.45	10.75	10.78	10.58	10.55	11.20	11.36	10.68	10.57
Residual Fuel .....	2.46	3.11	3.09	3.11	3.09	3.18	3.17	3.18	3.18
Liquefied Petroleum Gas <sup>9</sup> .....	12.87	14.07	14.06	14.14	14.10	14.00	14.29	14.08	14.04
Natural Gas <sup>10</sup> .....	7.02	7.30	7.34	7.59	7.61	7.17	7.71	7.44	7.95
Ethanol (E85) <sup>11</sup> .....	14.42	19.20	19.23	19.13	19.13	19.13	19.24	18.93	18.94
Methanol (M85) <sup>12</sup> .....	10.38	13.13	13.19	12.99	13.01	13.80	13.83	12.94	13.17
Electricity .....	15.64	14.61	15.64	14.57	15.46	13.73	16.61	13.65	15.94
<b>Average End-Use Energy</b> .....	<b>8.52</b>	<b>9.16</b>	<b>9.56</b>	<b>9.00</b>	<b>9.33</b>	<b>9.16</b>	<b>10.17</b>	<b>8.75</b>	<b>9.52</b>
Primary Energy .....	6.31	7.16	7.18	7.04	7.03	7.30	7.51	6.93	7.06
Electricity .....	19.58	18.71	21.28	18.39	20.55	17.93	23.46	17.18	21.56
<b>Electric Generators<sup>13</sup></b>									
Fossil Fuel Average .....	1.48	1.63	1.73	1.56	1.65	1.59	2.34	1.39	2.01
Petroleum Products .....	2.48	3.60	3.94	3.63	4.01	3.96	4.23	4.09	4.24
Distillate Fuel .....	4.07	4.65	4.80	4.57	4.73	4.85	4.90	4.69	4.82
Residual Fuel .....	2.39	3.43	3.79	3.45	3.86	3.70	4.10	3.87	4.14
Natural Gas .....	2.57	3.42	3.70	3.31	3.55	3.23	4.11	2.81	3.63
Steam Coal .....	1.21	1.13	1.05	1.10	1.01	1.06	0.98	0.98	0.93

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>13.51</b>	<b>15.65</b>	<b>12.95</b>	<b>14.70</b>	<b>13.62</b>	<b>16.00</b>	<b>12.67</b>	<b>14.15</b>
7.05	7.38	6.57	6.95	7.01	7.48	6.31	6.68
9.35	9.33	9.14	9.22	9.47	9.48	9.23	9.22
7.54	7.52	7.37	7.45	7.76	7.74	7.48	7.52
12.84	12.79	12.47	12.50	12.71	12.72	12.49	12.26
6.59	7.00	6.07	6.50	6.56	7.11	5.79	6.21
22.20	27.51	21.11	25.11	22.16	27.83	20.41	23.66
<b>12.39</b>	<b>15.28</b>	<b>11.32</b>	<b>13.51</b>	<b>12.55</b>	<b>15.54</b>	<b>10.89</b>	<b>12.61</b>
5.62	5.96	5.11	5.48	5.69	6.15	4.94	5.30
6.23	6.17	6.07	6.12	6.37	6.32	6.17	6.14
5.30	5.27	5.14	5.21	5.51	5.47	5.25	5.28
3.78	3.76	3.78	3.77	3.85	3.84	3.85	3.84
5.61	6.00	5.04	5.47	5.67	6.21	4.84	5.26
18.78	24.87	17.38	21.81	18.83	25.32	16.56	20.14
<b>5.65</b>	<b>6.37</b>	<b>5.14</b>	<b>5.74</b>	<b>5.82</b>	<b>6.60</b>	<b>5.08</b>	<b>5.55</b>
4.47	4.64	4.08	4.29	4.61	4.86	4.08	4.25
6.01	6.01	5.80	5.80	6.12	6.13	5.85	5.80
5.49	5.47	5.32	5.40	5.71	5.69	5.43	5.47
7.79	7.82	7.32	7.36	7.68	7.76	7.30	7.17
3.51	3.50	3.51	3.50	3.58	3.58	3.59	3.58
3.56	3.96	2.97	3.42	3.73	4.32	2.88	3.30
1.49	1.49	1.37	1.37	1.44	1.44	1.28	1.29
1.25	1.13	1.15	1.05	1.21	1.07	1.07	0.98
11.97	16.83	10.92	14.56	12.07	17.30	10.36	13.39
<b>9.28</b>	<b>9.25</b>	<b>9.00</b>	<b>9.04</b>	<b>9.20</b>	<b>9.22</b>	<b>8.80</b>	<b>8.73</b>
9.26	9.22	8.98	9.02	9.18	9.19	8.79	8.71
9.26	9.22	8.98	9.01	9.18	9.18	8.78	8.70
8.88	8.85	8.64	8.75	8.83	8.82	8.52	8.57
5.54	5.53	5.48	5.48	5.72	5.72	5.50	5.50
10.70	10.64	10.43	10.44	10.60	10.61	10.24	10.08
3.26	3.25	3.25	3.26	3.33	3.32	3.33	3.33
13.94	13.92	13.65	13.67	13.64	13.71	13.49	13.30
7.28	7.68	7.43	7.85	7.30	7.84	7.22	7.63
19.27	19.31	19.09	19.15	19.34	19.42	17.13	16.91
14.17	14.14	14.01	14.01	14.35	14.35	14.00	14.02
13.43	16.24	13.28	15.44	13.18	15.99	12.75	14.35
<b>9.08</b>	<b>9.93</b>	<b>8.57</b>	<b>9.29</b>	<b>9.13</b>	<b>10.05</b>	<b>8.39</b>	<b>8.93</b>
7.16	7.24	6.75	6.89	7.20	7.33	6.63	6.69
17.93	23.43	16.80	20.90	17.96	23.86	16.12	19.51
1.71	2.53	1.39	2.04	1.85	2.91	1.40	2.10
4.04	4.31	4.18	4.37	4.20	4.46	4.41	4.59
4.83	4.92	4.67	4.86	5.05	5.15	4.79	5.02
3.79	4.19	3.98	4.27	3.92	4.34	4.22	4.50
3.39	4.04	2.73	3.45	3.62	4.44	2.70	3.37
1.02	0.91	0.92	0.84	0.98	0.84	0.85	0.78

**Table C3. Energy Prices by Sector and Source (Continued)**  
 (1999 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Average Price to All Users<sup>14</sup></b>									
Petroleum Products <sup>2</sup> .....	7.46	8.48	8.53	8.36	8.37	8.75	8.85	8.43	8.38
Distillate Fuel .....	7.25	8.06	8.07	7.98	7.98	8.20	8.19	8.07	8.06
Jet Fuel .....	4.70	5.22	5.23	5.17	5.16	5.49	5.48	5.39	5.37
Liquefied Petroleum Gas .....	8.84	8.65	8.65	8.66	8.65	8.66	8.95	8.69	8.66
Motor Gasoline <sup>3</sup> .....	9.45	10.75	10.78	10.58	10.55	11.20	11.36	10.68	10.57
Residual Fuel .....	2.47	3.25	3.23	3.25	3.23	3.33	3.32	3.34	3.32
Natural Gas .....	4.04	4.73	4.81	4.63	4.68	4.43	4.96	4.09	4.56
Coal .....	1.23	1.15	1.07	1.11	1.04	1.08	1.01	1.00	0.95
Ethanol (E85) <sup>11</sup> .....	14.42	19.20	19.23	19.13	19.13	19.13	19.24	18.93	18.94
Methanol (M85) <sup>12</sup> .....	10.38	13.13	13.19	12.99	13.01	13.80	13.83	12.94	13.17
Electricity .....	19.58	18.71	21.28	18.39	20.55	17.93	23.46	17.18	21.56
<b>Non-Renewable Energy Expenditures by Sector (billion 1999 dollars)</b>									
Residential .....	135.11	154.23	162.14	150.34	156.99	158.26	179.04	149.48	165.63
Commercial .....	99.11	115.32	126.43	112.57	121.71	119.82	144.79	112.17	132.56
Industrial .....	112.11	126.41	133.52	122.62	128.30	131.84	152.47	121.33	137.69
Transportation .....	212.64	271.38	271.32	262.94	262.06	306.12	307.94	280.47	278.05
Total Non-Renewable Expenditures .....	558.97	667.34	693.42	648.46	669.06	716.05	784.24	663.45	713.92
Transportation Renewable Expenditures .....	0.14	0.42	0.42	0.58	0.58	0.62	0.63	0.90	0.89
<b>Total Expenditures</b> .....	<b>559.11</b>	<b>667.75</b>	<b>693.83</b>	<b>649.04</b>	<b>669.64</b>	<b>716.67</b>	<b>784.88</b>	<b>664.34</b>	<b>714.81</b>

<sup>1</sup>Weighted average price includes fuels below as well as coal.

<sup>2</sup>This quantity is the weighted average for all petroleum products, not just those listed below.

<sup>3</sup>Excludes independent power producers.

<sup>4</sup>Includes cogenerators.

<sup>5</sup>Excludes uses for lease and plant fuel.

<sup>6</sup>Low sulfur diesel fuel. Price includes Federal and State taxes while excluding county and local taxes.

<sup>7</sup>Kerosene-type jet fuel. Price includes Federal and State taxes while excluding county and local taxes.

<sup>8</sup>Sales weighted-average price for all grades. Includes Federal and State taxes and excludes county and local taxes.

<sup>9</sup>Includes Federal and State taxes while excluding county and local taxes.

<sup>10</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

<sup>11</sup>E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

<sup>12</sup>M85 is 85 percent methanol and 15 percent motor gasoline.

<sup>13</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>14</sup>Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

Note: Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 prices for gasoline, distillate, and jet fuel are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380(99/03-2000/04) (Washington, DC, 1999-2000). 1999 prices for all other petroleum products are derived from the EIA, *State Energy Price and Expenditure Report 1997*, DOE/EIA-0376(97) (Washington, DC, July 2000). 1999 industrial gas delivered prices are based on EIA, *Manufacturing Energy Consumption Survey 1994*. 1999 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 coal prices based on EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. 1999 electricity prices for commercial, industrial, and transportation: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
8.50	8.48	8.22	8.25	8.49	8.49	8.10	8.03
8.16	8.14	7.91	8.01	8.20	8.19	7.86	7.92
5.54	5.53	5.48	5.48	5.72	5.72	5.50	5.50
8.63	8.64	8.25	8.31	8.48	8.55	8.21	8.09
10.70	10.64	10.43	10.44	10.60	10.60	10.24	10.08
3.41	3.40	3.41	3.41	3.49	3.48	3.49	3.49
4.41	4.80	3.86	4.28	4.50	5.09	3.70	4.12
1.04	0.94	0.94	0.87	0.99	0.88	0.87	0.80
19.27	19.31	19.09	19.15	19.34	19.42	17.13	16.91
14.17	14.14	14.01	14.01	14.35	14.35	14.00	14.02
17.93	23.43	16.80	20.90	17.96	23.86	16.12	19.51
167.03	187.38	152.80	168.31	177.68	201.30	156.76	170.48
128.83	154.26	117.09	136.17	135.53	163.98	117.37	133.28
139.94	158.25	123.79	138.18	152.08	174.01	127.41	139.31
319.67	317.40	285.76	286.38	340.13	339.43	292.12	289.36
755.47	817.30	679.45	729.04	805.42	878.72	693.65	732.44
0.74	0.74	1.10	1.10	0.85	0.85	1.24	1.21
<b>756.21</b>	<b>818.04</b>	<b>680.55</b>	<b>730.15</b>	<b>806.27</b>	<b>879.57</b>	<b>694.88</b>	<b>733.65</b>

**Table C4. Residential Sector Key Indicators and End-Use Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Key Indicators</b>										
<b>Households (millions)</b>										
Single-Family .....	75.70	81.28	81.26	81.28	81.27	85.38	85.36	85.39	85.37	
Multifamily .....	21.79	23.06	23.04	23.06	23.05	24.16	24.14	24.17	24.15	
Mobile Homes .....	6.59	6.93	6.93	6.93	6.93	7.19	7.20	7.20	7.19	
<b>Total</b> .....	<b>104.08</b>	<b>111.26</b>	<b>111.23</b>	<b>111.27</b>	<b>111.24</b>	<b>116.74</b>	<b>116.69</b>	<b>116.75</b>	<b>116.71</b>	
<b>Average House Square Footage</b> .....	<b>1673</b>	<b>1702</b>	<b>1702</b>	<b>1702</b>	<b>1702</b>	<b>1724</b>	<b>1724</b>	<b>1724</b>	<b>1724</b>	
<b>Energy Intensity</b>										
(million Btu per household)										
Delivered Energy Consumption .....	102.4	107.7	106.7	105.7	104.9	104.7	101.3	100.9	97.9	
Total Energy Consumption .....	183.5	194.5	187.3	192.5	184.6	190.3	174.5	185.4	170.9	
(thousand Btu per square foot)										
Delivered Energy Consumption .....	61.2	63.3	62.7	62.1	61.6	60.7	58.8	58.5	56.8	
Total Energy Consumption .....	109.7	114.3	110.0	113.1	108.5	110.4	101.2	107.6	99.2	
<b>Delivered Energy Consumption by Fuel</b>										
<b>Electricity</b>										
Space Heating .....	0.38	0.45	0.43	0.43	0.41	0.47	0.43	0.43	0.40	
Space Cooling .....	0.54	0.57	0.56	0.57	0.55	0.60	0.55	0.58	0.55	
Water Heating .....	0.39	0.42	0.41	0.42	0.41	0.42	0.39	0.42	0.40	
Refrigeration .....	0.42	0.38	0.38	0.38	0.38	0.34	0.34	0.34	0.34	
Cooking .....	0.10	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	
Clothes Dryers .....	0.21	0.24	0.23	0.24	0.24	0.25	0.24	0.25	0.24	
Freezers .....	0.12	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	
Lighting .....	0.34	0.41	0.39	0.40	0.39	0.46	0.39	0.43	0.37	
Clothes Washers <sup>1</sup> .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Dishwashers <sup>1</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
Color Televisions .....	0.12	0.17	0.16	0.17	0.16	0.19	0.18	0.19	0.18	
Personal Computers .....	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09	
Furnace Fans .....	0.07	0.09	0.08	0.09	0.09	0.10	0.09	0.10	0.09	
Other Uses <sup>2</sup> .....	1.10	1.48	1.43	1.48	1.45	1.73	1.62	1.74	1.65	
<b>Delivered Energy</b> .....	<b>3.91</b>	<b>4.56</b>	<b>4.44</b>	<b>4.54</b>	<b>4.43</b>	<b>4.91</b>	<b>4.58</b>	<b>4.85</b>	<b>4.58</b>	
<b>Natural Gas</b>										
Space Heating .....	3.24	3.76	3.76	3.60	3.60	3.77	3.71	3.50	3.44	
Space Cooling .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Water Heating .....	1.27	1.37	1.37	1.39	1.39	1.34	1.32	1.36	1.34	
Cooking .....	0.19	0.22	0.22	0.22	0.22	0.22	0.23	0.22	0.22	
Clothes Dryers .....	0.07	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	
Other Uses <sup>3</sup> .....	0.11	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	
<b>Delivered Energy</b> .....	<b>4.88</b>	<b>5.55</b>	<b>5.56</b>	<b>5.41</b>	<b>5.42</b>	<b>5.54</b>	<b>5.46</b>	<b>5.28</b>	<b>5.20</b>	
<b>Distillate</b>										
Space Heating .....	0.73	0.74	0.74	0.72	0.72	0.69	0.69	0.63	0.63	
Water Heating .....	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	
Other Uses <sup>4</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Delivered Energy</b> .....	<b>0.86</b>	<b>0.87</b>	<b>0.87</b>	<b>0.84</b>	<b>0.84</b>	<b>0.80</b>	<b>0.81</b>	<b>0.75</b>	<b>0.75</b>	
<b>Liquefied Petroleum Gas</b>										
Space Heating .....	0.31	0.32	0.32	0.30	0.30	0.29	0.30	0.27	0.27	
Water Heating .....	0.11	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	
Cooking .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Other Uses <sup>3</sup> .....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
<b>Delivered Energy</b> .....	<b>0.46</b>	<b>0.46</b>	<b>0.46</b>	<b>0.44</b>	<b>0.45</b>	<b>0.43</b>	<b>0.43</b>	<b>0.40</b>	<b>0.40</b>	
Marketed Renewables (wood) <sup>5</sup> .....	0.41	0.42	0.42	0.40	0.40	0.42	0.42	0.39	0.38	
Other Fuels <sup>6</sup> .....	0.14	0.13	0.13	0.12	0.12	0.12	0.12	0.11	0.11	

Projections							
Reference	2015			2020			
	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
89.83	89.82	89.83	89.81	94.28	94.30	94.29	94.27
25.62	25.59	25.62	25.60	27.03	27.02	27.03	27.01
7.57	7.58	7.57	7.57	7.97	7.98	7.97	7.97
<b>123.02</b>	<b>123.00</b>	<b>123.03</b>	<b>122.99</b>	<b>129.28</b>	<b>129.30</b>	<b>129.30</b>	<b>129.25</b>
<b>1744</b>	<b>1744</b>	<b>1744</b>	<b>1744</b>	<b>1763</b>	<b>1763</b>	<b>1763</b>	<b>1763</b>
104.0	100.8	99.0	96.1	104.3	100.6	98.6	96.0
187.6	171.1	181.4	165.9	186.7	168.0	177.4	162.8
59.6	57.8	56.8	55.1	59.2	57.1	55.9	54.5
107.6	98.1	104.0	95.2	105.9	95.3	100.6	92.3
0.49	0.44	0.44	0.40	0.51	0.45	0.45	0.41
0.64	0.59	0.62	0.58	0.71	0.64	0.69	0.65
0.41	0.38	0.42	0.39	0.41	0.37	0.41	0.39
0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
0.13	0.12	0.13	0.12	0.13	0.13	0.13	0.13
0.26	0.25	0.27	0.25	0.28	0.26	0.28	0.27
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.49	0.42	0.44	0.38	0.52	0.44	0.44	0.39
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.21	0.20	0.22	0.21	0.24	0.22	0.24	0.23
0.10	0.09	0.09	0.09	0.11	0.11	0.10	0.10
0.11	0.10	0.11	0.10	0.12	0.11	0.12	0.11
1.97	1.86	2.00	1.90	2.21	2.07	2.25	2.16
<b>5.27</b>	<b>4.92</b>	<b>5.18</b>	<b>4.89</b>	<b>5.69</b>	<b>5.27</b>	<b>5.58</b>	<b>5.30</b>
3.98	3.94	3.60	3.55	4.24	4.18	3.77	3.72
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.35	1.34	1.38	1.37	1.37	1.36	1.42	1.41
0.24	0.24	0.24	0.24	0.25	0.26	0.25	0.25
0.09	0.09	0.10	0.10	0.10	0.10	0.11	0.10
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
<b>5.78</b>	<b>5.73</b>	<b>5.44</b>	<b>5.37</b>	<b>6.08</b>	<b>6.01</b>	<b>5.67</b>	<b>5.60</b>
0.67	0.67	0.59	0.59	0.66	0.66	0.56	0.56
0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.10
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>0.78</b>	<b>0.78</b>	<b>0.70</b>	<b>0.70</b>	<b>0.76</b>	<b>0.77</b>	<b>0.66</b>	<b>0.67</b>
0.29	0.29	0.25	0.26	0.29	0.29	0.24	0.25
0.09	0.09	0.09	0.09	0.08	0.09	0.08	0.09
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>0.41</b>	<b>0.42</b>	<b>0.38</b>	<b>0.39</b>	<b>0.41</b>	<b>0.42</b>	<b>0.36</b>	<b>0.38</b>
0.43	0.42	0.38	0.37	0.43	0.43	0.38	0.37
0.12	0.12	0.10	0.10	0.12	0.12	0.10	0.10

**Table C4. Residential Sector Key Indicators and End-Use Consumption (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Delivered Energy Consumption by End-Use</b>									
Space Heating .....	5.21	5.81	5.80	5.56	5.55	5.77	5.67	5.32	5.23
Space Cooling .....	0.54	0.58	0.56	0.57	0.55	0.60	0.55	0.59	0.55
Water Heating .....	1.90	2.02	2.00	2.04	2.03	1.96	1.92	1.98	1.94
Refrigeration .....	0.42	0.38	0.38	0.38	0.38	0.34	0.34	0.34	0.34
Cooking .....	0.32	0.37	0.37	0.37	0.37	0.37	0.38	0.37	0.38
Clothes Dryers .....	0.28	0.32	0.32	0.33	0.32	0.34	0.32	0.34	0.33
Freezers .....	0.12	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09
Lighting .....	0.34	0.41	0.39	0.40	0.39	0.46	0.39	0.43	0.37
Clothes Washers .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Dishwashers .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Color Televisions .....	0.12	0.17	0.16	0.17	0.16	0.19	0.18	0.19	0.18
Personal Computers .....	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.09
Furnace Fans .....	0.07	0.09	0.08	0.09	0.09	0.10	0.09	0.10	0.09
Other Uses <sup>7</sup> .....	1.22	1.60	1.56	1.61	1.58	1.85	1.74	1.86	1.78
<b>Delivered Energy</b> .....	<b>10.66</b>	<b>11.99</b>	<b>11.87</b>	<b>11.76</b>	<b>11.66</b>	<b>12.22</b>	<b>11.83</b>	<b>11.77</b>	<b>11.43</b>
<b>Electricity Related Losses</b> .....	<b>8.44</b>	<b>9.66</b>	<b>8.96</b>	<b>9.67</b>	<b>8.87</b>	<b>10.00</b>	<b>8.54</b>	<b>9.87</b>	<b>8.52</b>
<b>Total Energy Consumption by End-Use</b> .....									
Space Heating .....	6.02	6.77	6.68	6.47	6.38	6.72	6.46	6.20	5.97
Space Cooling .....	1.70	1.79	1.68	1.77	1.66	1.82	1.58	1.78	1.57
Water Heating .....	2.75	2.90	2.83	2.94	2.85	2.82	2.65	2.84	2.68
Refrigeration .....	1.34	1.18	1.14	1.19	1.14	1.04	0.98	1.04	0.98
Cooking .....	0.54	0.60	0.59	0.61	0.59	0.62	0.60	0.62	0.60
Clothes Dryers .....	0.75	0.83	0.79	0.84	0.80	0.85	0.77	0.86	0.78
Freezers .....	0.37	0.30	0.29	0.31	0.29	0.27	0.25	0.27	0.25
Lighting .....	1.07	1.27	1.18	1.26	1.16	1.39	1.13	1.30	1.07
Clothes Washers .....	0.09	0.10	0.10	0.10	0.10	0.10	0.09	0.10	0.09
Dishwashers .....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Color Televisions .....	0.38	0.52	0.49	0.52	0.49	0.57	0.51	0.58	0.52
Personal Computers .....	0.20	0.29	0.28	0.30	0.28	0.28	0.25	0.29	0.26
Furnace Fans .....	0.23	0.27	0.26	0.27	0.26	0.29	0.26	0.30	0.27
Other Uses <sup>7</sup> .....	3.59	4.73	4.46	4.77	4.48	5.37	4.77	5.41	4.85
<b>Total</b> .....	<b>19.10</b>	<b>21.65</b>	<b>20.83</b>	<b>21.43</b>	<b>20.54</b>	<b>22.22</b>	<b>20.36</b>	<b>21.65</b>	<b>19.95</b>
<b>Non-Marketed Renewables</b>									
Geothermal <sup>8</sup> .....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Solar <sup>9</sup> .....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Total</b> .....	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>

<sup>1</sup>Does not include electric water heating portion of load.

<sup>2</sup>Includes small electric devices, heating elements, and motors.

<sup>3</sup>Includes such appliances as swimming pool heaters, outdoor grills, and outdoor lighting (natural gas).

<sup>4</sup>Includes such appliances as swimming pool and hot tub heaters.

<sup>5</sup>Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 1997*.

<sup>6</sup>Includes kerosene and coal.

<sup>7</sup>Includes all other uses listed above.

<sup>8</sup>Includes primary energy displaced by geothermal heat pumps in space heating and cooling applications.

<sup>9</sup>Includes primary energy displaced by solar thermal water heaters and electricity generated using photovoltaics.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999: Energy Information Administration (EIA), *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
5.97	5.89	5.36	5.28	6.24	6.14	5.50	5.41
0.64	0.59	0.63	0.59	0.71	0.64	0.69	0.65
1.96	1.92	1.99	1.96	1.96	1.92	2.01	1.98
0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
0.40	0.40	0.40	0.40	0.42	0.42	0.42	0.42
0.36	0.34	0.36	0.35	0.38	0.36	0.39	0.38
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
0.49	0.42	0.44	0.38	0.52	0.44	0.44	0.39
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.21	0.20	0.22	0.21	0.24	0.22	0.24	0.23
0.10	0.09	0.09	0.09	0.11	0.11	0.10	0.10
0.11	0.10	0.11	0.10	0.12	0.11	0.12	0.11
2.09	1.98	2.12	2.02	2.32	2.19	2.37	2.28
<b>12.79</b>	<b>12.40</b>	<b>12.18</b>	<b>11.83</b>	<b>13.48</b>	<b>13.01</b>	<b>12.75</b>	<b>12.41</b>
<b>10.28</b>	<b>8.64</b>	<b>10.13</b>	<b>8.58</b>	<b>10.65</b>	<b>8.71</b>	<b>10.19</b>	<b>8.63</b>
6.92	6.66	6.22	5.97	7.20	6.88	6.31	6.07
1.89	1.62	1.85	1.61	2.03	1.70	1.94	1.71
2.76	2.60	2.81	2.64	2.72	2.53	2.76	2.61
0.95	0.89	0.96	0.89	0.93	0.86	0.92	0.85
0.64	0.62	0.64	0.62	0.66	0.64	0.66	0.63
0.87	0.78	0.88	0.80	0.89	0.79	0.90	0.82
0.25	0.24	0.25	0.24	0.25	0.23	0.25	0.23
1.44	1.16	1.29	1.04	1.49	1.16	1.24	1.02
0.09	0.08	0.09	0.08	0.08	0.07	0.08	0.07
0.08	0.07	0.08	0.07	0.08	0.07	0.08	0.07
0.63	0.56	0.64	0.57	0.69	0.60	0.69	0.61
0.29	0.26	0.26	0.23	0.33	0.29	0.29	0.26
0.31	0.28	0.32	0.28	0.33	0.29	0.33	0.30
5.94	5.24	6.04	5.36	6.45	5.61	6.49	5.79
<b>23.08</b>	<b>21.04</b>	<b>22.31</b>	<b>20.41</b>	<b>24.14</b>	<b>21.72</b>	<b>22.94</b>	<b>21.04</b>
0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>0.04</b>	<b>0.03</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.03</b>	<b>0.04</b>	<b>0.04</b>

**Table C5. Commercial Sector Key Indicators and Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Key Indicators</b>										
<b>Total Floor Space (billion square feet)</b>										
Surviving .....	60.8	69.0	69.0	69.0	69.0	74.0	74.0	74.0	74.0	
New Additions .....	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	
<b>Total</b> .....	<b>62.8</b>	<b>70.9</b>	<b>70.9</b>	<b>70.9</b>	<b>70.9</b>	<b>75.8</b>	<b>75.8</b>	<b>75.8</b>	<b>75.8</b>	
<b>Energy Consumption Intensity (thousand Btu per square foot)</b>										
Delivered Energy Consumption .....	120.2	129.2	127.3	128.9	127.4	130.4	125.8	129.9	125.9	
Electricity Related Losses .....	126.0	131.7	122.0	131.5	120.7	132.3	113.8	130.3	113.5	
Total Energy Consumption .....	246.2	260.9	249.3	260.5	248.1	262.7	239.6	260.2	239.4	
<b>Delivered Energy Consumption by Fuel</b>										
<b>Purchased Electricity</b>										
Space Heating <sup>1</sup> .....	0.14	0.16	0.15	0.16	0.15	0.16	0.15	0.16	0.15	
Space Cooling <sup>1</sup> .....	0.45	0.44	0.42	0.44	0.42	0.45	0.42	0.45	0.43	
Water Heating <sup>1</sup> .....	0.14	0.15	0.15	0.15	0.15	0.16	0.15	0.16	0.15	
Ventilation .....	0.17	0.19	0.18	0.19	0.18	0.20	0.18	0.20	0.19	
Cooking .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Lighting .....	1.21	1.31	1.24	1.31	1.25	1.40	1.23	1.39	1.26	
Refrigeration .....	0.18	0.20	0.20	0.20	0.20	0.21	0.20	0.21	0.21	
Office Equipment (PC) .....	0.10	0.18	0.18	0.16	0.16	0.24	0.23	0.21	0.21	
Office Equipment (non-PC) .....	0.30	0.41	0.41	0.41	0.41	0.51	0.50	0.51	0.50	
Other Uses <sup>2</sup> .....	0.94	1.34	1.33	1.32	1.32	1.56	1.54	1.52	1.50	
<b>Delivered Energy</b> .....	<b>3.66</b>	<b>4.40</b>	<b>4.28</b>	<b>4.38</b>	<b>4.27</b>	<b>4.92</b>	<b>4.63</b>	<b>4.85</b>	<b>4.62</b>	
<b>Natural Gas<sup>3</sup></b>										
Space Heating <sup>1</sup> .....	1.42	1.64	1.64	1.64	1.64	1.71	1.65	1.73	1.68	
Space Cooling <sup>1</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
Water Heating <sup>1</sup> .....	0.64	0.70	0.70	0.70	0.70	0.76	0.73	0.76	0.74	
Cooking .....	0.21	0.23	0.23	0.23	0.23	0.25	0.24	0.25	0.24	
Other Uses <sup>4</sup> .....	0.86	1.40	1.40	1.41	1.41	1.45	1.47	1.46	1.47	
<b>Delivered Energy</b> .....	<b>3.14</b>	<b>3.99</b>	<b>3.99</b>	<b>4.00</b>	<b>4.00</b>	<b>4.19</b>	<b>4.12</b>	<b>4.22</b>	<b>4.15</b>	
<b>Distillate</b>										
Space Heating <sup>1</sup> .....	0.23	0.26	0.26	0.26	0.26	0.26	0.27	0.26	0.26	
Water Heating <sup>1</sup> .....	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Other Uses <sup>5</sup> .....	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
<b>Delivered Energy</b> .....	<b>0.36</b>	<b>0.37</b>	<b>0.37</b>	<b>0.37</b>	<b>0.37</b>	<b>0.38</b>	<b>0.39</b>	<b>0.37</b>	<b>0.37</b>	
<b>Other Fuels<sup>6</sup></b> .....	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	
<b>Marketed Renewable Fuels</b>										
Biomass .....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
<b>Delivered Energy</b> .....	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	
<b>Delivered Energy Consumption by End-Use</b>										
Space Heating <sup>1</sup> .....	1.79	2.06	2.05	2.06	2.05	2.14	2.07	2.15	2.09	
Space Cooling <sup>1</sup> .....	0.46	0.46	0.44	0.46	0.45	0.47	0.44	0.48	0.45	
Water Heating <sup>1</sup> .....	0.87	0.94	0.94	0.95	0.94	1.00	0.96	1.01	0.97	
Ventilation .....	0.17	0.19	0.18	0.19	0.18	0.20	0.18	0.20	0.19	
Cooking .....	0.24	0.26	0.26	0.26	0.26	0.28	0.27	0.28	0.27	
Lighting .....	1.21	1.31	1.24	1.31	1.25	1.40	1.23	1.39	1.26	
Refrigeration .....	0.18	0.20	0.20	0.20	0.20	0.21	0.20	0.21	0.21	
Office Equipment (PC) .....	0.10	0.18	0.18	0.16	0.16	0.24	0.23	0.21	0.21	
Office Equipment (non-PC) .....	0.30	0.41	0.41	0.41	0.41	0.51	0.50	0.51	0.50	
Other Uses <sup>7</sup> .....	2.23	3.15	3.14	3.14	3.13	3.43	3.43	3.40	3.39	
<b>Delivered Energy</b> .....	<b>7.55</b>	<b>9.15</b>	<b>9.02</b>	<b>9.14</b>	<b>9.03</b>	<b>9.88</b>	<b>9.53</b>	<b>9.84</b>	<b>9.54</b>	

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
78.1	78.1	78.1	78.1	80.7	80.7	80.7	80.7
1.5	1.5	1.5	1.5	1.3	1.3	1.3	1.3
<b>79.6</b>	<b>79.6</b>	<b>79.6</b>	<b>79.6</b>	<b>81.9</b>	<b>81.9</b>	<b>81.9</b>	<b>81.9</b>
131.7	127.8	131.0	127.6	132.8	129.8	132.5	130.1
131.0	109.9	128.7	109.3	128.9	104.4	123.0	103.4
262.7	237.7	259.7	236.9	261.7	234.1	255.6	233.5
0.16	0.15	0.16	0.15	0.16	0.14	0.16	0.15
0.46	0.42	0.46	0.44	0.46	0.41	0.47	0.44
0.16	0.14	0.16	0.15	0.16	0.14	0.16	0.15
0.21	0.18	0.21	0.19	0.21	0.18	0.21	0.19
0.03	0.03	0.03	0.03	0.03	0.02	0.03	0.03
1.45	1.24	1.45	1.28	1.45	1.20	1.46	1.28
0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21
0.28	0.27	0.25	0.24	0.29	0.28	0.26	0.25
0.60	0.58	0.60	0.59	0.69	0.66	0.69	0.67
1.79	1.75	1.70	1.68	1.98	1.92	1.86	1.82
<b>5.35</b>	<b>4.98</b>	<b>5.24</b>	<b>4.96</b>	<b>5.64</b>	<b>5.17</b>	<b>5.52</b>	<b>5.21</b>
1.77	1.69	1.80	1.74	1.80	1.67	1.85	1.77
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.81	0.76	0.81	0.77	0.84	0.76	0.85	0.79
0.26	0.25	0.27	0.26	0.27	0.26	0.29	0.28
1.49	1.67	1.51	1.63	1.54	1.94	1.57	1.81
<b>4.36</b>	<b>4.40</b>	<b>4.42</b>	<b>4.43</b>	<b>4.47</b>	<b>4.67</b>	<b>4.58</b>	<b>4.68</b>
0.26	0.28	0.25	0.25	0.25	0.27	0.24	0.24
0.09	0.09	0.09	0.09	0.08	0.09	0.09	0.08
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
<b>0.38</b>	<b>0.39</b>	<b>0.37</b>	<b>0.37</b>	<b>0.37</b>	<b>0.39</b>	<b>0.35</b>	<b>0.36</b>
<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>
2.19	2.12	2.22	2.15	2.21	2.09	2.25	2.17
0.48	0.44	0.49	0.46	0.48	0.43	0.49	0.47
1.05	0.99	1.06	1.01	1.08	0.99	1.09	1.03
0.21	0.18	0.21	0.19	0.21	0.18	0.21	0.19
0.29	0.28	0.30	0.29	0.30	0.29	0.32	0.30
1.45	1.24	1.45	1.28	1.45	1.20	1.46	1.28
0.22	0.21	0.22	0.21	0.22	0.21	0.22	0.21
0.28	0.27	0.25	0.24	0.29	0.28	0.26	0.25
0.60	0.58	0.60	0.59	0.69	0.66	0.69	0.67
3.71	3.85	3.64	3.73	3.96	4.30	3.86	4.07
<b>10.48</b>	<b>10.18</b>	<b>10.43</b>	<b>10.16</b>	<b>10.88</b>	<b>10.63</b>	<b>10.86</b>	<b>10.66</b>

**Table C5. Commercial Sector Key Indicators and Consumption (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Electricity Related Losses</b> .....	<b>7.91</b>	<b>9.33</b>	<b>8.64</b>	<b>9.32</b>	<b>8.55</b>	<b>10.02</b>	<b>8.62</b>	<b>9.87</b>	<b>8.60</b>
<b>Total Energy Consumption by End-Use</b>									
Space Heating <sup>1</sup> .....	2.09	2.39	2.35	2.40	2.36	2.47	2.35	2.48	2.38
Space Cooling <sup>1</sup> .....	1.43	1.38	1.29	1.39	1.30	1.39	1.21	1.40	1.25
Water Heating <sup>1</sup> .....	1.18	1.27	1.23	1.27	1.24	1.33	1.23	1.33	1.25
Ventilation .....	0.55	0.59	0.55	0.60	0.55	0.61	0.52	0.61	0.53
Cooking .....	0.31	0.32	0.32	0.33	0.32	0.34	0.32	0.35	0.33
Lighting .....	3.81	4.09	3.74	4.11	3.75	4.25	3.53	4.23	3.60
Refrigeration .....	0.58	0.63	0.59	0.63	0.59	0.65	0.58	0.65	0.59
Office Equipment (PC) .....	0.33	0.55	0.53	0.50	0.48	0.72	0.67	0.64	0.59
Office Equipment (non-PC) .....	0.93	1.28	1.23	1.29	1.23	1.54	1.43	1.55	1.44
Other Uses <sup>7</sup> .....	4.25	5.98	5.83	5.95	5.77	6.61	6.30	6.48	6.18
<b>Total</b> .....	<b>15.46</b>	<b>18.48</b>	<b>17.66</b>	<b>18.45</b>	<b>17.58</b>	<b>19.90</b>	<b>18.15</b>	<b>19.71</b>	<b>18.14</b>
<b>Non-Marketed Renewable Fuels</b>									
Solar <sup>8</sup> .....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
<b>Total</b> .....	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>

<sup>1</sup>Includes fuel consumption for district services.

<sup>2</sup>Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, and medical equipment.

<sup>3</sup>Excludes estimated consumption from independent power producers.

<sup>4</sup>Includes miscellaneous uses, such as pumps, emergency electric generators, cogeneration in commercial buildings, and manufacturing performed in commercial buildings.

<sup>5</sup>Includes miscellaneous uses, such as cooking, emergency electric generators, and cogeneration in commercial buildings.

<sup>6</sup>Includes residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

<sup>7</sup>Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, lighting, emergency electric generators, cogeneration in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

<sup>8</sup>Includes primary energy displaced by solar thermal space heating and water heating, and electricity generation by solar photovoltaic systems.

Btu = British thermal unit.

PC = Personal computer.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999: Energy Information Administration (EIA), *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
10.43	<b>8.75</b>	<b>10.24</b>	<b>8.70</b>	<b>10.56</b>	<b>8.55</b>	<b>10.08</b>	<b>8.47</b>
2.51	2.38	2.53	2.42	2.51	2.33	2.54	2.41
1.38	1.18	1.40	1.23	1.34	1.11	1.35	1.18
1.36	1.25	1.37	1.27	1.37	1.22	1.38	1.26
0.61	0.51	0.61	0.53	0.60	0.48	0.59	0.51
0.35	0.33	0.36	0.34	0.35	0.33	0.37	0.35
4.28	3.43	4.27	3.53	4.16	3.19	4.13	3.37
0.65	0.58	0.65	0.58	0.64	0.55	0.64	0.56
0.82	0.75	0.73	0.67	0.84	0.75	0.73	0.67
1.77	1.61	1.78	1.62	1.98	1.76	1.95	1.77
7.19	6.92	6.97	6.68	7.67	7.48	7.25	7.04
<b>20.91</b>	<b>18.92</b>	<b>20.67</b>	<b>18.86</b>	<b>21.44</b>	<b>19.18</b>	<b>20.94</b>	<b>19.13</b>
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>

**Table C6. Industrial Sector Key Indicators and Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Key Indicators</b>										
<b>Value of Gross Output (billion 1992 dollars)</b>										
Manufacturing .....	3749	4372	4367	4371	4367	5061	5058	5057	5060	
Nonmanufacturing .....	972	1067	1061	1066	1062	1162	1154	1160	1157	
<b>Total</b> .....	<b>4722</b>	<b>5438</b>	<b>5428</b>	<b>5437</b>	<b>5429</b>	<b>6223</b>	<b>6212</b>	<b>6217</b>	<b>6217</b>	
<b>Energy Prices (1999 dollars per million Btu)</b>										
Electricity .....	13.12	12.81	15.06	12.52	14.39	12.04	16.84	11.29	15.13	
Natural Gas .....	2.79	3.66	3.71	3.55	3.58	3.46	4.02	3.07	3.60	
Steam Coal .....	1.43	1.35	1.30	1.31	1.26	1.30	1.19	1.22	1.13	
Residual Oil .....	2.78	3.37	3.34	3.37	3.34	3.43	3.42	3.43	3.42	
Distillate Oil .....	4.65	5.33	5.32	5.24	5.23	5.53	5.50	5.35	5.35	
Liquefied Petroleum Gas .....	8.50	7.75	7.75	7.72	7.71	7.77	8.08	7.74	7.73	
Motor Gasoline .....	9.42	10.73	10.76	10.55	10.52	11.19	11.34	10.66	10.54	
Metallurgical Coal .....	1.66	1.58	1.59	1.53	1.54	1.54	1.55	1.45	1.46	
<b>Energy Consumption</b>										
<b>Consumption<sup>1</sup></b>										
Purchased Electricity .....	3.61	3.88	3.78	3.83	3.73	4.16	3.88	4.03	3.79	
Natural Gas <sup>2</sup> .....	9.80	10.42	10.44	10.35	10.37	11.27	11.34	11.22	11.24	
Steam Coal .....	1.73	1.80	1.81	1.79	1.80	1.82	1.79	1.79	1.75	
Metallurgical Coal and Coke <sup>3</sup> .....	0.81	0.78	0.78	0.74	0.74	0.76	0.76	0.67	0.67	
Residual Fuel .....	0.22	0.16	0.16	0.16	0.16	0.25	0.26	0.24	0.25	
Distillate .....	1.13	1.21	1.20	1.20	1.20	1.30	1.29	1.28	1.28	
Liquefied Petroleum Gas .....	2.32	2.44	2.44	2.42	2.42	2.51	2.56	2.47	2.52	
Petrochemical Feedstocks .....	1.29	1.36	1.35	1.35	1.35	1.53	1.52	1.52	1.52	
Other Petroleum <sup>4</sup> .....	4.50	4.64	4.66	4.60	4.63	4.92	4.97	4.67	4.85	
Renewables <sup>5</sup> .....	2.15	2.40	2.40	2.48	2.47	2.63	2.62	2.81	2.81	
<b>Delivered Energy</b> .....	<b>27.56</b>	<b>29.10</b>	<b>29.03</b>	<b>28.92</b>	<b>28.89</b>	<b>31.14</b>	<b>30.98</b>	<b>30.69</b>	<b>30.67</b>	
Electricity Related Losses .....	7.80	8.21	7.64	8.16	7.47	8.47	7.22	8.20	7.05	
<b>Total</b> .....	<b>35.36</b>	<b>37.31</b>	<b>36.67</b>	<b>37.08</b>	<b>36.36</b>	<b>39.61</b>	<b>38.21</b>	<b>38.90</b>	<b>37.72</b>	
<b>Consumption per Unit of Output<sup>1</sup></b> <b>(thousand Btu per 1992 dollars)</b>										
Purchased Electricity .....	0.76	0.71	0.70	0.70	0.69	0.67	0.62	0.65	0.61	
Natural Gas <sup>2</sup> .....	2.08	1.92	1.92	1.90	1.91	1.81	1.83	1.80	1.81	
Steam Coal .....	0.37	0.33	0.33	0.33	0.33	0.29	0.29	0.29	0.28	
Metallurgical Coal and Coke <sup>3</sup> .....	0.17	0.14	0.14	0.14	0.14	0.12	0.12	0.11	0.11	
Residual Fuel .....	0.05	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	
Distillate .....	0.24	0.22	0.22	0.22	0.22	0.21	0.21	0.21	0.21	
Liquefied Petroleum Gas .....	0.49	0.45	0.45	0.44	0.45	0.40	0.41	0.40	0.41	
Petrochemical Feedstocks .....	0.27	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	
Other Petroleum <sup>4</sup> .....	0.95	0.85	0.86	0.85	0.85	0.79	0.80	0.75	0.78	
Renewables <sup>5</sup> .....	0.46	0.44	0.44	0.46	0.46	0.42	0.42	0.45	0.45	
<b>Delivered Energy</b> .....	<b>5.84</b>	<b>5.35</b>	<b>5.35</b>	<b>5.32</b>	<b>5.32</b>	<b>5.00</b>	<b>4.99</b>	<b>4.94</b>	<b>4.93</b>	
Electricity Related Losses .....	1.65	1.51	1.41	1.50	1.38	1.36	1.16	1.32	1.13	
<b>Total</b> .....	<b>7.49</b>	<b>6.86</b>	<b>6.76</b>	<b>6.82</b>	<b>6.70</b>	<b>6.37</b>	<b>6.15</b>	<b>6.26</b>	<b>6.07</b>	

<sup>1</sup>Fuel consumption includes consumption for cogeneration.

<sup>2</sup>Includes lease and plant fuel.

<sup>3</sup>Includes net coke coal imports.

<sup>4</sup>Includes petroleum coke, asphalt, road oil, lubricants, motor gasoline, still gas, and miscellaneous petroleum products.

<sup>5</sup>Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 prices for gasoline and distillate are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380 (99/03-2000/04) (Washington, DC, 1999-2000). 1999 coal prices are based on EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. 1999 electricity prices: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. Other 1999 prices derived from EIA, *State Energy Data Report 1997*, DOE/EIA-0214(97) (Washington, DC, September 1999). Other 1999 values: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>.

**Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Reference	Projections							
	2015			2020				
	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
5816	5821	5807	5808	6712	6736	6704	6705	
1266	1257	1262	1259	1371	1362	1365	1363	
<b>7082</b>	<b>7078</b>	<b>7070</b>	<b>7068</b>	<b>8083</b>	<b>8098</b>	<b>8069</b>	<b>8068</b>	
11.97	16.83	10.92	14.56	12.07	17.30	10.36	13.39	
3.56	3.96	2.97	3.42	3.73	4.32	2.88	3.30	
1.25	1.13	1.15	1.05	1.21	1.07	1.07	0.98	
3.51	3.50	3.51	3.50	3.58	3.58	3.59	3.58	
5.49	5.47	5.32	5.40	5.71	5.69	5.43	5.47	
7.79	7.82	7.32	7.36	7.68	7.76	7.30	7.17	
10.68	10.62	10.41	10.42	10.56	10.58	10.22	10.05	
1.49	1.49	1.37	1.37	1.44	1.44	1.28	1.29	
4.43	3.98	4.24	3.85	4.76	4.14	4.50	4.02	
12.03	12.32	11.88	12.09	12.71	13.21	12.39	12.78	
1.84	1.82	1.79	1.77	1.86	1.87	1.78	1.76	
0.74	0.74	0.62	0.61	0.72	0.72	0.56	0.56	
0.26	0.27	0.21	0.24	0.27	0.29	0.21	0.25	
1.39	1.39	1.36	1.35	1.49	1.49	1.43	1.43	
2.67	2.72	2.60	2.61	2.85	2.90	2.74	2.80	
1.61	1.60	1.59	1.59	1.69	1.69	1.67	1.67	
5.08	5.12	4.77	4.97	5.28	5.38	4.92	5.06	
2.85	2.85	3.17	3.17	3.07	3.07	3.55	3.55	
<b>32.90</b>	<b>32.80</b>	<b>32.22</b>	<b>32.26</b>	<b>34.72</b>	<b>34.76</b>	<b>33.76</b>	<b>33.88</b>	
8.64	6.99	8.30	6.77	8.91	6.85	8.22	6.54	
<b>41.54</b>	<b>39.79</b>	<b>40.52</b>	<b>39.03</b>	<b>43.63</b>	<b>41.61</b>	<b>41.98</b>	<b>40.42</b>	
0.63	0.56	0.60	0.55	0.59	0.51	0.56	0.50	
1.70	1.74	1.68	1.71	1.57	1.63	1.54	1.58	
0.26	0.26	0.25	0.25	0.23	0.23	0.22	0.22	
0.10	0.10	0.09	0.09	0.09	0.09	0.07	0.07	
0.04	0.04	0.03	0.03	0.03	0.04	0.03	0.03	
0.20	0.20	0.19	0.19	0.18	0.18	0.18	0.18	
0.38	0.38	0.37	0.37	0.35	0.36	0.34	0.35	
0.23	0.23	0.22	0.22	0.21	0.21	0.21	0.21	
0.72	0.72	0.68	0.70	0.65	0.66	0.61	0.63	
0.40	0.40	0.45	0.45	0.38	0.38	0.44	0.44	
<b>4.65</b>	<b>4.63</b>	<b>4.56</b>	<b>4.57</b>	<b>4.30</b>	<b>4.29</b>	<b>4.18</b>	<b>4.20</b>	
1.22	0.99	1.17	0.96	1.10	0.85	1.02	0.81	
<b>5.87</b>	<b>5.62</b>	<b>5.73</b>	<b>5.52</b>	<b>5.40</b>	<b>5.14</b>	<b>5.20</b>	<b>5.01</b>	

**Table C7. Transportation Sector Key Indicators and Delivered Energy Consumption**

Key Indicators and Consumption	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Key Indicators</b>										
Level of Travel (billions)										
Light-Duty Vehicles <8,500 pounds (VMT)	2394	2765	2761	2769	2768	3059	3053	3072	3073	
Commercial Light Trucks (VMT) <sup>1</sup>	73	83	83	83	93	93	93	93	93	
Freight Trucks >10,000 pounds (VMT)	204	247	246	247	246	279	278	278	278	
Air (seat miles available)	1099	1305	1301	1306	1304	1586	1582	1586	1587	
Rail (ton miles traveled)	1353	1569	1475	1568	1480	1708	1450	1701	1462	
Domestic Shipping (ton miles traveled)	661	736	727	733	727	778	756	771	765	
<b>Energy Efficiency Indicators</b>										
New Light-Duty Vehicle (miles per gallon) <sup>2</sup>	24.2	26.1	26.1	28.7	28.7	27.2	27.3	31.9	31.8	
New Car (miles per gallon) <sup>2</sup>	27.9	30.9	31.0	33.1	33.1	32.5	32.5	36.3	36.2	
New Light Truck (miles per gallon) <sup>2</sup>	20.8	22.3	22.3	25.1	25.1	23.3	23.4	28.3	28.3	
Light-Duty Fleet (miles per gallon) <sup>3</sup>	20.5	20.7	20.7	21.2	21.2	21.0	21.0	22.3	22.3	
New Commercial Light Truck (MPG) <sup>1</sup>	20.1	21.2	21.2	24.0	24.0	22.1	22.1	26.8	26.8	
Stock Commercial Light Truck (MPG) <sup>1</sup>	14.8	15.6	15.6	16.0	16.0	16.1	16.1	17.2	17.2	
Aircraft Efficiency (seat miles per gallon)	51.7	54.0	54.0	54.0	54.0	56.1	56.1	56.1	56.1	
Freight Truck Efficiency (miles per gallon)	6.0	6.2	6.2	6.3	6.3	6.4	6.4	6.7	6.7	
Rail Efficiency (ton miles per thousand Btu)	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.3	3.3	
Domestic Shipping Efficiency (ton miles per thousand Btu)	2.3	2.5	2.5	2.5	2.5	2.7	2.7	2.7	2.7	
<b>Energy Use by Mode (quadrillion Btu)</b>										
Light-Duty Vehicles	14.88	16.91	16.89	16.52	16.52	18.43	18.39	17.29	17.30	
Commercial Light Trucks <sup>4</sup>	0.62	0.67	0.67	0.65	0.65	0.72	0.72	0.68	0.68	
Freight Trucks <sup>4</sup>	4.55	5.28	5.27	5.24	5.24	5.76	5.75	5.57	5.57	
Air <sup>5</sup>	3.50	3.93	3.92	3.93	3.93	4.55	4.54	4.54	4.55	
Rail <sup>6</sup>	0.57	0.62	0.59	0.61	0.58	0.65	0.57	0.62	0.55	
Marine <sup>7</sup>	1.29	1.44	1.44	1.43	1.43	1.46	1.46	1.45	1.45	
Pipeline Fuel	0.66	0.82	0.84	0.81	0.83	0.90	0.96	0.87	0.97	
Lubricants	0.22	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	
<b>Total</b>	<b>26.28</b>	<b>29.94</b>	<b>29.88</b>	<b>29.47</b>	<b>29.44</b>	<b>32.77</b>	<b>32.67</b>	<b>31.30</b>	<b>31.34</b>	
<b>Energy Use by Mode</b>										
(million barrels per day oil equivalent)										
Light-Duty Vehicles	7.76	8.87	8.86	8.68	8.68	9.66	9.63	9.08	9.08	
Commercial Light Trucks <sup>1</sup>	0.32	0.35	0.35	0.34	0.34	0.38	0.38	0.35	0.35	
Freight Trucks <sup>4</sup>	2.03	2.37	2.36	2.35	2.35	2.59	2.58	2.50	2.50	
Railroad	0.23	0.25	0.24	0.24	0.23	0.26	0.22	0.25	0.21	
Domestic Shipping	0.13	0.14	0.13	0.13	0.13	0.14	0.13	0.13	0.13	
International Shipping	0.30	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	
Air <sup>5</sup>	1.46	1.66	1.66	1.66	1.66	1.94	1.94	1.94	1.94	
Military Use	0.28	0.29	0.29	0.29	0.29	0.32	0.32	0.32	0.32	
Bus Transportation	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Rail Transportation <sup>6</sup>	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	
Recreational Boats	0.16	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.18	
Lubricants	0.10	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Pipeline Fuel	0.33	0.42	0.43	0.41	0.42	0.46	0.49	0.44	0.49	
<b>Total</b>	<b>13.24</b>	<b>15.11</b>	<b>15.08</b>	<b>14.88</b>	<b>14.87</b>	<b>16.53</b>	<b>16.48</b>	<b>15.79</b>	<b>15.82</b>	

<sup>1</sup>Commercial trucks 8,500 to 10,000 pounds.

<sup>2</sup>Environmental Protection Agency rated miles per gallon.

<sup>3</sup>Combined car and light truck "on-the-road" estimate.

<sup>4</sup>Includes energy use by buses and military distillate consumption.

<sup>5</sup>Includes jet fuel and aviation gasoline.

<sup>6</sup>Includes passenger rail.

<sup>7</sup>Includes military residual fuel use and recreation boats.

Btu = British thermal unit.

VMT=Vehicle miles traveled.

MPG = Miles per gallon.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999: U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly*, December 1999/1998 (Washington, DC, 1999); Energy Information Administration (EIA), *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>; EIA, *Fuel Oil and Kerosene Sales 1998*, DOE/EIA-0535(98) (Washington, DC, August 1999); and United States Department of Defense, Defense Fuel Supply Center. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
3331	3331	3348	3348	3575	3573	3597	3599
103	103	103	103	112	112	113	113
313	313	312	312	352	352	352	351
1933	1933	1934	1934	2316	2316	2318	2318
1840	1521	1821	1543	1967	1611	1932	1633
834	808	824	816	890	861	873	869
27.6	27.7	33.7	33.7	28.1	28.1	34.9	34.8
32.5	32.5	37.9	37.9	32.5	32.5	39.1	39.0
24.0	24.0	30.2	30.2	24.7	24.7	31.4	31.4
21.3	21.3	23.7	23.7	21.5	21.6	25.1	25.1
22.8	22.8	28.3	28.3	23.4	23.5	29.4	29.4
16.6	16.6	18.5	18.5	17.0	17.0	19.6	19.6
58.2	58.2	59.1	59.1	60.3	60.3	61.8	61.8
6.7	6.7	7.1	7.1	6.9	6.9	7.5	7.5
3.3	3.3	3.5	3.5	3.4	3.4	3.8	3.8
2.8	2.8	3.0	3.0	3.0	3.0	3.2	3.2
19.76	19.73	17.73	17.73	20.92	20.88	18.05	18.07
0.77	0.77	0.70	0.70	0.83	0.82	0.72	0.72
6.23	6.22	5.83	5.83	6.73	6.73	6.18	6.18
5.28	5.27	5.20	5.20	6.04	6.04	5.91	5.91
0.67	0.57	0.63	0.55	0.69	0.58	0.63	0.55
1.49	1.48	1.47	1.47	1.52	1.51	1.49	1.48
1.01	1.06	0.95	1.05	1.10	1.15	1.02	1.13
0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31
<b>35.53</b>	<b>35.44</b>	<b>32.82</b>	<b>32.84</b>	<b>38.16</b>	<b>38.07</b>	<b>34.34</b>	<b>34.39</b>
10.35	10.33	9.32	9.32	10.95	10.93	9.49	9.50
0.41	0.40	0.36	0.36	0.43	0.43	0.38	0.38
2.81	2.80	2.62	2.62	3.04	3.04	2.79	2.79
0.27	0.22	0.24	0.21	0.27	0.22	0.24	0.20
0.14	0.13	0.13	0.13	0.14	0.13	0.12	0.12
0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
2.28	2.27	2.24	2.24	2.63	2.63	2.57	2.57
0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36
0.09	0.09	0.08	0.08	0.09	0.09	0.08	0.08
0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.20
0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15
0.51	0.54	0.48	0.53	0.55	0.58	0.52	0.57
<b>17.90</b>	<b>17.86</b>	<b>16.55</b>	<b>16.56</b>	<b>19.22</b>	<b>19.18</b>	<b>17.30</b>	<b>17.33</b>

**Table C8. Electricity Supply, Disposition, Prices, and Emissions**  
 (Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Generation by Fuel Type</b>									
<b>Electric Generators<sup>1</sup></b>									
Coal .....	1830	2105	1739	2091	1753	2238	1276	2240	1324
Petroleum .....	85	42	14	36	13	25	11	20	11
Natural Gas <sup>2</sup> .....	370	582	788	560	780	826	1395	719	1292
Nuclear Power .....	730	740	740	740	740	720	741	744	744
Pumped Storage .....	-1	-1	-1	-1	-1	-1	-1	-1	-1
Renewable Sources <sup>3</sup> .....	355	372	455	383	431	396	492	402	515
<b>Total</b> .....	<b>3369</b>	<b>3839</b>	<b>3735</b>	<b>3809</b>	<b>3716</b>	<b>4204</b>	<b>3914</b>	<b>4125</b>	<b>3885</b>
Nonutility Generation for Own Use .....	16	17	21	17	21	17	19	17	19
Distributed Generation .....	0	0	0	0	0	1	0	1	0
<b>Cogenerators<sup>4</sup></b>									
Coal .....	47	53	52	53	52	51	46	51	46
Petroleum .....	9	10	10	10	10	10	10	10	10
Natural Gas .....	206	236	249	237	251	259	320	260	316
Other Gaseous Fuels <sup>5</sup> .....	4	6	6	6	6	7	7	7	7
Renewable Sources <sup>3</sup> .....	31	34	34	36	35	39	39	43	43
Other <sup>6</sup> .....	5	5	5	5	5	5	5	5	5
<b>Total</b> .....	<b>303</b>	<b>344</b>	<b>357</b>	<b>347</b>	<b>360</b>	<b>372</b>	<b>426</b>	<b>376</b>	<b>427</b>
<b>Other End-Use Generators<sup>7</sup></b> .....	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>
Sales to Utilities .....	151	172	171	172	172	179	182	180	182
Generation for Own Use .....	156	177	190	179	193	197	249	202	250
<b>Net Imports<sup>8</sup></b> .....	<b>33</b>	<b>57</b>	<b>57</b>	<b>57</b>	<b>57</b>	<b>35</b>	<b>47</b>	<b>35</b>	<b>47</b>
<b>Electricity Sales by Sector</b>									
Residential .....	1145	1337	1300	1330	1299	1438	1344	1421	1343
Commercial .....	1073	1291	1254	1283	1252	1442	1357	1421	1355
Industrial .....	1058	1137	1108	1122	1094	1219	1137	1180	1110
Transportation .....	17	26	26	22	22	34	34	27	27
<b>Total</b> .....	<b>3294</b>	<b>3790</b>	<b>3688</b>	<b>3757</b>	<b>3667</b>	<b>4133</b>	<b>3872</b>	<b>4049</b>	<b>3835</b>
<b>End-Use Prices (1999 cents per kWh)<sup>9</sup></b>									
Residential .....	8.1	7.6	8.4	7.5	8.2	7.6	9.5	7.4	8.8
Commercial .....	7.4	6.9	8.0	6.8	7.7	6.4	8.5	6.1	7.7
Industrial .....	4.5	4.4	5.1	4.3	4.9	4.1	5.7	3.9	5.2
Transportation .....	5.3	5.0	5.3	5.0	5.3	4.7	5.7	4.7	5.4
<b>All Sectors Average</b> .....	<b>6.7</b>	<b>6.4</b>	<b>7.3</b>	<b>6.3</b>	<b>7.0</b>	<b>6.1</b>	<b>8.0</b>	<b>5.9</b>	<b>7.4</b>
<b>Prices by Service Category<sup>9</sup></b> <b>(1999 cents per kilowatthour)</b>									
Generation .....	4.1	3.8	4.6	3.7	4.4	3.4	5.2	3.2	4.5
Transmission .....	0.6	0.6	0.7	0.6	0.7	0.7	0.8	0.7	0.8
Distribution .....	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	2.1
<b>Emissions (million short tons)</b>									
Sulfur Dioxide .....	13.49	10.39	6.34	10.39	6.34	9.70	2.99	9.70	2.99
Nitrogen Oxide .....	5.43	4.30	2.70	4.26	2.67	4.34	1.64	4.18	1.76

<sup>1</sup>Includes grid-connected generation at all utilities and nonutilities except for cogenerators. Includes small power producers and exempt wholesale generators.

<sup>2</sup>Includes electricity generation by fuel cells.

<sup>3</sup>Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power.

<sup>4</sup>Cogenerators produce electricity and other useful thermal energy. Includes sales to utilities and generation for own use.

<sup>5</sup>Other gaseous fuels include refinery and still gas.

<sup>6</sup>Other includes hydrogen, sulfur, batteries, chemicals, fish oil, and spent sulfite liquor.

<sup>7</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

<sup>8</sup>In 1999 approximately 70 percent of the U.S. electricity imports were provided by renewable sources (hydroelectricity); EIA does not project future proportions for the fuel source of imported electricity.

<sup>9</sup>Prices represent average revenue per kilowatthour.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
2279	1146	2260	1230	2302	1041	2246	1146
24	12	18	10	23	11	16	10
1168	1759	985	1584	1488	2072	1331	1911
653	719	735	741	610	669	672	720
-1	-1	-1	-1	-1	-1	-1	-1
400	500	408	519	399	519	409	524
<b>4524</b>	<b>4135</b>	<b>4405</b>	<b>4084</b>	<b>4821</b>	<b>4311</b>	<b>4674</b>	<b>4309</b>
17	18	16	19	16	18	16	19
3	1	2	0	5	1	4	1
52	44	51	45	52	44	51	42
10	10	10	10	10	10	10	10
287	420	286	402	317	548	311	484
8	8	7	7	8	9	7	8
44	44	51	51	48	48	59	59
5	5	5	5	6	6	5	5
<b>406</b>	<b>532</b>	<b>411</b>	<b>520</b>	<b>440</b>	<b>664</b>	<b>444</b>	<b>608</b>
5	5	5	5	5	5	5	5
193	211	194	210	208	253	209	238
218	326	222	315	237	415	239	374
<b>22</b>	<b>34</b>	<b>22</b>	<b>34</b>	<b>23</b>	<b>35</b>	<b>23</b>	<b>35</b>
1545	1442	1518	1432	1668	1543	1636	1554
1567	1459	1535	1452	1653	1515	1618	1526
1298	1166	1243	1129	1394	1213	1320	1178
43	43	32	32	49	48	36	36
<b>4453</b>	<b>4109</b>	<b>4328</b>	<b>4046</b>	<b>4763</b>	<b>4320</b>	<b>4610</b>	<b>4294</b>
7.6	9.4	7.2	8.6	7.6	9.5	7.0	8.1
6.4	8.5	5.9	7.4	6.4	8.6	5.6	6.9
4.1	5.7	3.7	5.0	4.1	5.9	3.5	4.6
4.6	5.5	4.5	5.3	4.5	5.5	4.3	4.9
<b>6.1</b>	<b>8.0</b>	<b>5.7</b>	<b>7.1</b>	<b>6.1</b>	<b>8.1</b>	<b>5.5</b>	<b>6.7</b>
3.4	5.2	3.0	4.4	3.5	5.5	2.9	4.0
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
2.0	2.1	2.0	2.1	2.0	2.0	2.0	2.0
8.95	2.64	8.95	2.64	8.95	2.24	8.95	2.24
4.44	1.53	4.26	1.68	4.48	1.42	4.25	1.58

**Table C9. Electricity Generating Capability**  
(Gigawatts)

Net Summer Capability <sup>1</sup>	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Electric Generators<sup>2</sup></b>										
<b>Capability</b>										
Coal Steam .....	305.1	303.9	302.8	303.8	302.8	317.8	252.8	325.1	255.1	
Other Fossil Steam <sup>3</sup> .....	137.4	124.9	111.6	124.8	112.2	117.4	99.1	115.6	98.8	
Combined Cycle .....	21.0	52.4	107.5	51.6	106.5	107.3	193.2	85.7	171.9	
Combustion Turbine/Diesel .....	86.8	126.4	124.5	126.0	128.4	149.8	137.9	147.7	139.3	
Nuclear Power .....	97.4	97.5	97.5	97.5	97.5	93.7	96.9	97.5	97.5	
Pumped Storage .....	19.3	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	
Renewable Sources <sup>4</sup> .....	88.8	94.7	99.2	96.0	99.3	97.9	105.0	99.4	113.5	
Distributed Generation <sup>5</sup> .....	0.0	0.8	0.2	0.7	0.2	2.5	0.9	2.1	0.6	
<b>Total</b> .....	<b>755.9</b>	<b>820.0</b>	<b>862.9</b>	<b>819.8</b>	<b>866.4</b>	<b>906.0</b>	<b>905.4</b>	<b>892.6</b>	<b>896.2</b>	
<b>Cumulative Planned Additions<sup>6</sup></b>										
Coal Steam .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Fossil Steam <sup>3</sup> .....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Combined Cycle .....	0.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
Combustion Turbine/Diesel .....	0.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	
Renewable Sources <sup>4</sup> .....	0.0	5.1	5.1	5.1	5.1	6.7	6.7	6.7	6.7	
Distributed Generation <sup>5</sup> .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Total</b> .....	<b>0.0</b>	<b>32.0</b>	<b>32.0</b>	<b>32.0</b>	<b>32.0</b>	<b>33.7</b>	<b>33.7</b>	<b>33.7</b>	<b>33.7</b>	
<b>Cumulative Unplanned Additions<sup>6</sup></b>										
Coal Steam .....	0.0	1.1	0.0	1.0	0.0	18.2	0.0	25.6	0.0	
Other Fossil Steam <sup>3</sup> .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Combined Cycle .....	0.0	18.6	73.8	17.8	72.7	73.6	159.6	52.1	138.2	
Combustion Turbine/Diesel .....	0.0	30.9	18.6	30.4	22.4	55.4	32.8	53.9	34.0	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Renewable Sources <sup>4</sup> .....	0.0	0.4	4.9	1.7	5.0	1.9	9.0	3.4	17.6	
Distributed Generation <sup>5</sup> .....	0.0	0.8	0.2	0.7	0.2	2.5	0.9	2.1	0.6	
<b>Total</b> .....	<b>0.0</b>	<b>51.7</b>	<b>97.5</b>	<b>51.6</b>	<b>100.3</b>	<b>151.5</b>	<b>202.3</b>	<b>137.0</b>	<b>190.4</b>	
<b>Cumulative Total Additions</b> .....	<b>0.0</b>	<b>83.7</b>	<b>129.5</b>	<b>83.6</b>	<b>132.3</b>	<b>185.2</b>	<b>236.0</b>	<b>170.7</b>	<b>224.1</b>	
<b>Cumulative Retirements<sup>7</sup></b>										
Coal Steam .....	0.0	2.3	2.3	2.3	2.3	5.5	52.4	5.6	50.1	
Other Fossil Steam <sup>3</sup> .....	0.0	12.7	26.0	12.8	25.5	20.2	38.5	22.0	38.8	
Combined Cycle .....	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.1	
Combustion Turbine/Diesel .....	0.0	5.5	5.1	5.5	5.0	6.6	5.9	7.2	5.9	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	3.7	0.6	0.0	0.0	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Renewable Sources <sup>4</sup> .....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
<b>Total</b> .....	<b>0.0</b>	<b>20.6</b>	<b>33.5</b>	<b>20.8</b>	<b>33.0</b>	<b>36.4</b>	<b>97.7</b>	<b>35.2</b>	<b>95.1</b>	

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
317.9	232.1	325.1	246.8	317.3	224.9	323.9	242.5
116.4	91.1	114.7	96.4	114.9	89.7	111.8	92.8
152.6	236.7	108.8	203.6	199.0	287.3	159.4	252.3
174.4	144.6	174.6	143.5	197.4	146.3	197.1	148.6
81.5	92.9	93.8	96.8	76.3	85.4	87.0	94.8
19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
98.9	107.2	100.4	115.2	99.4	112.5	101.3	118.8
5.8	1.9	4.6	0.9	11.0	3.0	9.1	1.8
<b>967.2</b>	<b>926.3</b>	<b>941.8</b>	<b>923.0</b>	<b>1035.1</b>	<b>969.0</b>	<b>1009.4</b>	<b>971.3</b>
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
7.7	7.7	7.7	7.7	8.1	8.1	8.1	8.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>34.8</b>	<b>34.8</b>	<b>34.8</b>	<b>34.8</b>	<b>35.3</b>	<b>35.3</b>	<b>35.3</b>	<b>35.3</b>
18.8	0.0	26.1	0.0	19.5	0.0	26.1	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119.0	203.1	75.2	171.2	165.4	253.7	125.8	220.0
80.1	39.6	80.9	38.4	103.1	42.1	103.4	44.4
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	10.2	3.4	18.2	1.9	15.0	3.8	21.3
5.8	1.9	4.6	0.9	11.0	3.0	9.1	1.8
<b>225.5</b>	<b>254.8</b>	<b>190.3</b>	<b>228.7</b>	<b>300.8</b>	<b>313.8</b>	<b>268.3</b>	<b>287.4</b>
<b>260.4</b>	<b>289.7</b>	<b>225.1</b>	<b>263.5</b>	<b>336.1</b>	<b>349.1</b>	<b>303.6</b>	<b>322.7</b>
6.0	73.0	6.1	58.3	7.3	80.2	7.4	62.6
21.2	46.5	23.0	41.2	22.7	47.9	25.8	44.9
0.2	0.2	0.2	1.4	0.2	0.2	0.2	1.4
6.7	6.0	7.4	6.0	6.7	6.8	7.4	6.9
16.0	4.6	3.6	0.7	21.2	12.1	10.4	2.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>50.3</b>	<b>130.5</b>	<b>40.4</b>	<b>107.8</b>	<b>58.1</b>	<b>147.3</b>	<b>51.3</b>	<b>118.6</b>

**Table C9. Electricity Generating Capability (Continued)**  
(Gigawatts)

Net Summer Capability <sup>1</sup>	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Cogenerators<sup>8</sup></b>										
<b>Capability</b>										
Coal .....	8.4	8.9	8.9	8.9	8.9	8.6	7.5	8.5	7.5	
Petroleum .....	2.7	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	
Natural Gas .....	34.6	39.7	41.8	39.9	42.1	43.1	51.6	43.4	51.4	
Other Gaseous Fuels .....	0.2	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	
Renewable Sources <sup>4</sup> .....	5.4	5.9	5.9	6.1	6.1	6.8	6.8	7.5	7.5	
Other .....	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
<b>Total</b> .....	<b>52.4</b>	<b>59.1</b>	<b>61.1</b>	<b>59.5</b>	<b>61.7</b>	<b>63.1</b>	<b>70.6</b>	<b>63.9</b>	<b>71.0</b>	
<b>Cumulative Additions<sup>6</sup></b> .....	<b>0.0</b>	<b>6.7</b>	<b>8.7</b>	<b>7.1</b>	<b>9.3</b>	<b>10.7</b>	<b>18.1</b>	<b>11.5</b>	<b>18.6</b>	
<b>Other End-Use Generators<sup>9</sup></b>										
Renewable Sources <sup>10</sup> .....	1.0	1.1	1.1	1.1	1.1	1.3	1.3	1.3	1.3	
Cumulative Additions .....	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	

<sup>1</sup>Net summer capability is the steady hourly output that generating equipment is expected to supply to system load (exclusive of auxiliary power), as demonstrated by tests during summer peak demand.

<sup>2</sup>Includes grid-connected utilities and nonutilities except for cogenerators. Includes small power producers and exempt wholesale generators.

<sup>3</sup>Includes oil-, gas-, and dual-fired capability.

<sup>4</sup>Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar and wind power.

<sup>5</sup>Primarily peak-load capacity fueled by natural gas.

<sup>6</sup>Cumulative additions after December 31, 1999.

<sup>7</sup>Cumulative total retirements after December 31, 1999.

<sup>8</sup>Nameplate capacity is reported for nonutilities on Form EIA-860B, "Annual Electric Generator Report - Nonutility." Nameplate capacity is designated by the manufacturer. The nameplate capacity has been converted to the net summer capability based on historic relationships.

<sup>9</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

<sup>10</sup>See Table C17 for more detail.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model estimates and may differ slightly from official EIA data reports. Net summer capability has been estimated for nonutility generators to be consistent with capability for electric utility generators.

**Source:** Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
8.6	7.3	8.5	7.5	8.6	7.3	8.4	7.4
2.9	2.9	2.9	2.9	2.9	3.0	2.9	2.9
46.9	65.4	46.9	62.9	51.2	83.2	50.5	74.4
1.0	1.0	0.9	0.9	1.1	1.1	0.9	1.0
7.6	7.6	8.9	8.9	8.3	8.3	10.2	10.2
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
<b>67.9</b>	<b>85.1</b>	<b>68.9</b>	<b>83.9</b>	<b>73.0</b>	<b>103.8</b>	<b>73.8</b>	<b>96.8</b>
<b>15.5</b>	<b>32.7</b>	<b>16.4</b>	<b>31.5</b>	<b>20.5</b>	<b>51.4</b>	<b>21.4</b>	<b>44.4</b>
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4

**Table C10. Electricity Trade**  
(Billion Kilowatthours, Unless Otherwise Noted)

Electricity Trade	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Interregional Electricity Trade</b>									
Gross Domestic Firm Power Trade .....	182.2	125.3	125.3	125.3	125.3	102.9	102.9	102.9	102.9
Gross Domestic Economy Trade .....	152.1	199.1	150.2	199.2	140.8	154.6	74.8	141.5	83.0
<b>Gross Domestic Trade</b> .....	<b>334.3</b>	<b>324.4</b>	<b>275.5</b>	<b>324.5</b>	<b>266.1</b>	<b>257.5</b>	<b>177.7</b>	<b>244.4</b>	<b>186.0</b>
Gross Domestic Firm Power Sales (million 1999 dollars) .....	8588.1	5905.8	5905.8	5905.8	5905.8	4851.2	4851.2	4851.2	4851.2
Gross Domestic Economy Sales (million 1999 dollars) .....	4204.3	6352.8	6079.4	6083.6	5269.4	4407.4	3472.3	3617.4	3346.2
<b>Gross Domestic Sales (million 1999 dollars)</b> .....	<b>12792.4</b>	<b>12258.6</b>	<b>11985.2</b>	<b>11989.4</b>	<b>11175.2</b>	<b>9258.7</b>	<b>8323.6</b>	<b>8468.7</b>	<b>8197.4</b>
<b>International Electricity Trade</b>									
Firm Power Imports From Canada and Mexico <sup>1</sup> .....	27.0	10.7	10.7	10.7	10.7	5.8	17.9	5.8	17.9
Economy Imports From Canada and Mexico <sup>1</sup> ..	21.9	63.5	63.5	63.5	63.5	45.9	45.9	45.9	45.9
<b>Gross Imports From Canada and Mexico<sup>1</sup></b> ..	<b>48.9</b>	<b>74.1</b>	<b>74.1</b>	<b>74.1</b>	<b>74.1</b>	<b>51.7</b>	<b>63.8</b>	<b>51.7</b>	<b>63.8</b>
Firm Power Exports To Canada and Mexico ...	9.2	9.7	9.7	9.7	9.7	8.7	8.7	8.7	8.7
Economy Exports To Canada and Mexico ...	6.3	7.0	7.0	7.0	7.0	7.7	7.7	7.7	7.7
<b>Gross Exports To Canada and Mexico</b> ....	<b>15.5</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.4</b>	<b>16.4</b>	<b>16.4</b>	<b>16.4</b>

<sup>1</sup>Historically electricity imports were primarily from renewable resources, principally hydroelectric.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports. Firm Power Sales are capacity sales, meaning the delivery of the power is scheduled as part of the normal operating conditions of the affected electric systems. Economy Sales are subject to curtailment or cessation of delivery by the supplier in accordance with prior agreements or under specified conditions.

**Source:** Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections								
Reference	2015			2020				
	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
45.7	45.7	45.7	45.7	0.0	0.0	0.0	0.0	
154.5	82.3	137.7	76.9	146.4	84.5	118.3	79.1	
<b>200.2</b>	<b>128.0</b>	<b>183.5</b>	<b>122.6</b>	<b>146.4</b>	<b>84.5</b>	<b>118.3</b>	<b>79.1</b>	
2156.1	2156.1	2156.1	2156.1	0.0	0.0	0.0	0.0	
4560.7	3989.1	3496.0	3014.4	4448.7	4308.0	2775.5	2764.1	
<b>6716.8</b>	<b>6145.2</b>	<b>5652.1</b>	<b>5170.5</b>	<b>4448.7</b>	<b>4308.0</b>	<b>2775.5</b>	<b>2764.1</b>	
2.6	14.7	2.6	14.7	0.0	12.1	0.0	12.1	
30.8	30.8	30.8	30.8	30.6	30.6	30.6	30.6	
<b>33.4</b>	<b>45.6</b>	<b>33.4</b>	<b>45.6</b>	<b>30.6</b>	<b>42.7</b>	<b>30.6</b>	<b>42.7</b>	
3.9	3.9	3.9	3.9	0.0	0.0	0.0	0.0	
7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	
<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>7.7</b>	<b>7.7</b>	<b>7.7</b>	<b>7.7</b>	

**Table C11. Petroleum Supply and Disposition Balance**  
 (Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Crude Oil</b>									
Domestic Crude Production <sup>1</sup>	5.88	5.69	5.67	5.81	5.79	5.30	5.29	5.54	5.53
Alaska	1.05	0.79	0.79	0.81	0.81	0.65	0.65	0.68	0.68
Lower 48 States	4.83	4.90	4.88	5.00	4.98	4.66	4.64	4.86	4.85
Net Imports	8.61	9.80	9.78	9.72	9.72	10.31	10.29	10.10	10.11
Gross Imports	8.73	9.87	9.84	9.79	9.79	10.36	10.33	10.16	10.16
Exports	0.12	0.07	0.06	0.07	0.07	0.05	0.05	0.06	0.06
Other Crude Supply <sup>2</sup>	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Crude Supply</b>	<b>14.80</b>	<b>15.49</b>	<b>15.45</b>	<b>15.53</b>	<b>15.51</b>	<b>15.61</b>	<b>15.57</b>	<b>15.64</b>	<b>15.64</b>
<b>Natural Gas Plant Liquids</b>	<b>1.85</b>	<b>2.19</b>	<b>2.24</b>	<b>2.15</b>	<b>2.22</b>	<b>2.37</b>	<b>2.49</b>	<b>2.27</b>	<b>2.51</b>
<b>Other Inputs<sup>3</sup></b>	<b>0.60</b>	<b>0.19</b>	<b>0.19</b>	<b>0.19</b>	<b>0.29</b>	<b>0.20</b>	<b>0.20</b>	<b>0.29</b>	<b>0.19</b>
<b>Refinery Processing Gain<sup>4</sup></b>	<b>0.89</b>	<b>0.93</b>	<b>0.93</b>	<b>0.91</b>	<b>0.90</b>	<b>0.99</b>	<b>0.97</b>	<b>0.91</b>	<b>0.93</b>
<b>Net Product Imports<sup>5</sup></b>	<b>1.30</b>	<b>2.25</b>	<b>2.07</b>	<b>1.95</b>	<b>1.69</b>	<b>3.44</b>	<b>3.30</b>	<b>2.52</b>	<b>2.41</b>
Gross Refined Product Imports <sup>6</sup>	1.73	2.45	2.33	2.35	2.12	3.43	3.27	2.78	2.69
Unfinished Oil Imports	0.32	0.56	0.52	0.37	0.36	0.79	0.79	0.54	0.52
Ether Imports	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports	0.82	0.76	0.78	0.78	0.79	0.78	0.77	0.80	0.80
<b>Total Primary Supply<sup>7</sup></b>	<b>19.44</b>	<b>21.05</b>	<b>20.88</b>	<b>20.72</b>	<b>20.61</b>	<b>22.61</b>	<b>22.53</b>	<b>21.62</b>	<b>21.69</b>
<b>Refined Petroleum Products Supplied</b>									
Motor Gasoline <sup>8</sup>	8.43	9.37	9.35	9.19	9.19	10.06	10.04	9.49	9.50
Jet Fuel <sup>9</sup>	1.67	1.88	1.87	1.88	1.88	2.17	2.17	2.17	2.17
Distillate Fuel <sup>10</sup>	3.54	4.12	4.08	4.03	4.00	4.48	4.41	4.24	4.19
Residual Fuel	0.74	0.64	0.53	0.61	0.52	0.61	0.56	0.57	0.55
Other <sup>11</sup>	5.07	5.09	5.10	5.06	5.08	5.33	5.39	5.19	5.32
<b>Total</b>	<b>19.46</b>	<b>21.10</b>	<b>20.93</b>	<b>20.77</b>	<b>20.66</b>	<b>22.64</b>	<b>22.57</b>	<b>21.67</b>	<b>21.73</b>
<b>Refined Petroleum Products Supplied</b>									
Residential and Commercial	1.10	1.10	1.10	1.08	1.08	1.05	1.06	1.00	1.00
Industrial <sup>12</sup>	5.19	5.22	5.23	5.18	5.20	5.56	5.62	5.40	5.52
Transportation	12.86	14.58	14.54	14.35	14.33	15.92	15.85	15.19	15.16
Electric Generators <sup>13</sup>	0.31	0.19	0.06	0.16	0.05	0.11	0.05	0.09	0.04
<b>Total</b>	<b>19.46</b>	<b>21.10</b>	<b>20.93</b>	<b>20.77</b>	<b>20.66</b>	<b>22.64</b>	<b>22.57</b>	<b>21.67</b>	<b>21.73</b>
<b>Discrepancy<sup>14</sup></b>	<b>-0.02</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.05</b>
<b>World Oil Price (1999 dollars per barrel)<sup>15</sup></b>	<b>17.22</b>	<b>20.83</b>	<b>20.83</b>	<b>20.83</b>	<b>20.83</b>	<b>21.37</b>	<b>21.37</b>	<b>21.37</b>	<b>21.37</b>
<b>Import Share of Product Supplied</b>	<b>0.51</b>	<b>0.57</b>	<b>0.57</b>	<b>0.56</b>	<b>0.55</b>	<b>0.61</b>	<b>0.60</b>	<b>0.58</b>	<b>0.58</b>
<b>Net Expenditures for Imported Crude Oil and Petroleum Products (billion 1999 dollars)</b>	<b>59.74</b>	<b>94.30</b>	<b>92.78</b>	<b>90.92</b>	<b>89.00</b>	<b>112.23</b>	<b>110.94</b>	<b>102.40</b>	<b>101.64</b>
<b>Domestic Refinery Distillation Capacity<sup>16</sup></b>	<b>16.5</b>	<b>16.7</b>	<b>16.7</b>	<b>16.8</b>	<b>16.8</b>	<b>16.7</b>	<b>16.7</b>	<b>16.8</b>	<b>16.8</b>
<b>Capacity Utilization Rate (percent)</b>	<b>93.0</b>	<b>92.6</b>	<b>92.5</b>	<b>92.2</b>	<b>92.2</b>	<b>93.3</b>	<b>93.3</b>	<b>92.9</b>	<b>93.0</b>

<sup>1</sup>Includes lease condensate.

<sup>2</sup>Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude products supplied.

<sup>3</sup>Includes alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, and other hydrocarbons.

<sup>4</sup>Represents volumetric gain in refinery distillation and cracking processes.

<sup>5</sup>Includes net imports of finished petroleum products, unfinished oils, other hydrocarbons, alcohols, ethers, and blending components.

<sup>6</sup>Includes blending components.

<sup>7</sup>Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net petroleum imports.

<sup>8</sup>Includes ethanol and ethers blended into gasoline.

<sup>9</sup>Includes naphtha and kerosene types.

<sup>10</sup>Includes distillate and kerosene.

<sup>11</sup>Includes aviation gasoline, liquefied petroleum gas, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, and miscellaneous petroleum products.

<sup>12</sup>Includes consumption by cogenerators.

<sup>13</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>14</sup>Balancing item. Includes unaccounted for supply, losses and gains.

<sup>15</sup>Average refiner acquisition cost for imported crude oil.

<sup>16</sup>End-of-year capacity.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 product supplied data from Table C2. Other 1999 data: Energy Information Administration (EIA), *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
5.23	5.32	5.55	5.64	5.22	5.36	5.49	5.64
0.70	0.70	0.75	0.75	0.64	0.64	0.69	0.69
4.53	4.61	4.80	4.89	4.58	4.72	4.80	4.95
11.59	11.38	10.72	10.53	11.89	11.81	11.14	11.00
11.64	11.43	10.78	10.60	11.93	11.86	11.19	11.07
0.05	0.05	0.06	0.06	0.05	0.05	0.06	0.06
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>16.82</b>	<b>16.70</b>	<b>16.27</b>	<b>16.17</b>	<b>17.11</b>	<b>17.17</b>	<b>16.62</b>	<b>16.65</b>
<b>2.65</b>	<b>2.78</b>	<b>2.50</b>	<b>2.75</b>	<b>2.92</b>	<b>3.05</b>	<b>2.73</b>	<b>2.99</b>
<b>0.21</b>	<b>0.20</b>	<b>0.30</b>	<b>0.19</b>	<b>0.22</b>	<b>0.22</b>	<b>0.36</b>	<b>0.26</b>
<b>0.96</b>	<b>0.95</b>	<b>0.91</b>	<b>0.94</b>	<b>0.98</b>	<b>0.97</b>	<b>0.88</b>	<b>0.91</b>
<b>3.51</b>	<b>3.47</b>	<b>2.48</b>	<b>2.44</b>	<b>4.46</b>	<b>4.26</b>	<b>2.75</b>	<b>2.63</b>
<b>3.51</b>	3.50	2.83	2.81	4.40	4.22	3.10	3.02
0.78	0.75	0.46	0.46	0.89	0.86	0.48	0.46
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.79	0.78	0.82	0.83	0.83	0.81	0.83	0.85
<b>24.14</b>	<b>24.10</b>	<b>22.45</b>	<b>22.51</b>	<b>25.69</b>	<b>25.67</b>	<b>23.34</b>	<b>23.43</b>
10.70	10.68	9.66	9.66	11.29	11.27	9.79	9.81
2.52	2.52	2.49	2.49	2.88	2.88	2.82	2.82
4.80	4.75	4.42	4.37	5.12	5.07	4.62	4.57
0.61	0.57	0.56	0.55	0.61	0.58	0.55	0.55
5.55	5.62	5.37	5.48	5.82	5.92	5.59	5.72
<b>24.18</b>	<b>24.14</b>	<b>22.50</b>	<b>22.55</b>	<b>25.73</b>	<b>25.72</b>	<b>23.38</b>	<b>23.47</b>
1.03	1.05	0.96	0.97	1.01	1.04	0.92	0.94
5.83	5.90	5.60	5.71	6.15	6.24	5.84	5.97
17.21	17.14	15.87	15.83	18.46	18.39	16.55	16.53
0.11	0.05	0.08	0.04	0.10	0.05	0.07	0.04
<b>24.18</b>	<b>24.14</b>	<b>22.50</b>	<b>22.55</b>	<b>25.73</b>	<b>25.72</b>	<b>23.38</b>	<b>23.47</b>
<b>-0.04</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.04</b>
<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>
<b>0.62</b>	<b>0.62</b>	<b>0.59</b>	<b>0.58</b>	<b>0.64</b>	<b>0.62</b>	<b>0.59</b>	<b>0.58</b>
<b>128.03</b>	<b>126.06</b>	<b>109.39</b>	<b>107.39</b>	<b>143.48</b>	<b>140.90</b>	<b>117.73</b>	<b>115.41</b>
<b>17.9</b>	<b>17.9</b>	<b>17.5</b>	<b>17.4</b>	<b>18.1</b>	<b>18.2</b>	<b>17.8</b>	<b>17.8</b>
<b>94.0</b>	<b>93.6</b>	<b>93.0</b>	<b>93.0</b>	<b>94.7</b>	<b>94.7</b>	<b>93.6</b>	<b>93.7</b>

**Table C12. Petroleum Product Prices**  
(1999 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
World Oil Price (1999 dollars per barrel)	17.22	20.83	20.83	20.83	20.83	21.37	21.37	21.37	21.37
<b>Delivered Sector Product Prices</b>									
<b>Residential</b>									
Distillate Fuel	87.0	102.3	102.1	100.9	100.7	105.0	104.9	102.8	102.7
Liquefied Petroleum Gas	89.4	108.9	108.9	108.9	108.7	110.6	112.8	110.8	110.1
<b>Commercial</b>									
Distillate Fuel	60.6	71.7	71.5	70.3	70.2	74.2	73.8	71.9	71.8
Residual Fuel	39.3	54.5	54.0	54.5	54.0	55.5	55.2	55.4	55.2
Residual Fuel (1999 dollars per barrel)	16.53	22.91	22.68	22.88	22.66	23.29	23.19	23.26	23.20
<b>Industrial<sup>1</sup></b>									
Distillate Fuel	64.5	73.9	73.7	72.6	72.5	76.8	76.3	74.2	74.2
Liquefied Petroleum Gas	73.4	66.9	66.9	66.6	66.6	67.0	69.7	66.8	66.7
Residual Fuel	41.7	50.5	50.0	50.4	50.0	51.4	51.2	51.3	51.2
Residual Fuel (1999 dollars per barrel)	17.50	21.22	21.00	21.19	21.00	21.58	21.49	21.55	21.51
<b>Transportation</b>									
Diesel Fuel (distillate) <sup>2</sup>	114.0	123.3	123.3	122.4	122.2	124.0	123.9	122.9	122.7
Jet Fuel <sup>3</sup>	63.5	70.5	70.6	69.7	69.7	74.1	74.0	72.8	72.5
Motor Gasoline <sup>4</sup>	118.2	134.0	134.4	131.8	131.5	139.6	141.6	133.1	131.7
Liquified Petroleum Gas	111.1	121.4	121.4	122.0	121.7	120.8	123.3	121.5	121.2
Residual Fuel	36.8	46.5	46.3	46.5	46.3	47.6	47.5	47.6	47.5
Residual Fuel (1999 dollars per barrel)	15.45	19.54	19.44	19.53	19.44	19.99	19.95	20.00	19.97
Ethanol (E85)	129.2	171.9	172.1	171.3	171.3	171.2	172.3	169.4	169.5
Methanol (M85)	76.2	96.3	96.7	95.3	95.4	101.2	101.5	94.9	96.6
<b>Electric Generators<sup>5</sup></b>									
Distillate Fuel	56.4	64.6	66.5	63.3	65.6	67.3	68.0	65.0	66.8
Residual Fuel	35.8	51.3	56.7	51.7	57.8	55.4	61.4	57.9	62.0
Residual Fuel (1999 dollars per barrel)	15.03	21.56	23.80	21.72	24.28	23.26	25.78	24.32	26.03
<b>Refined Petroleum Product Prices<sup>6</sup></b>									
Distillate Fuel	100.5	111.8	111.9	110.6	110.6	113.7	113.6	111.9	111.8
Jet Fuel <sup>3</sup>	63.5	70.5	70.6	69.7	69.7	74.1	74.0	72.8	72.5
Liquefied Petroleum Gas	76.3	74.7	74.7	74.7	74.6	74.7	77.2	75.0	74.7
Motor Gasoline <sup>4</sup>	118.2	134.0	134.4	131.8	131.5	139.6	141.6	133.1	131.7
Residual Fuel	37.0	48.7	48.3	48.6	48.3	49.9	49.7	49.9	49.8
Residual Fuel (1999 dollars per barrel)	15.54	20.44	20.29	20.42	20.29	20.96	20.88	20.97	20.90
Average	97.8	110.7	111.2	109.1	109.2	114.5	115.7	110.2	109.4

<sup>1</sup>Includes cogenerators. Includes Federal and State taxes while excluding county and state taxes.

<sup>2</sup>Low sulfur diesel fuel. Includes Federal and State taxes while excluding county and local taxes.

<sup>3</sup>Kerosene-type jet fuel.

<sup>4</sup>Sales weighted-average price for all grades. Includes Federal and State taxes while excluding county and local taxes.

<sup>5</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>6</sup>Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.

Note: Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 prices for gasoline, distillate, and jet fuel are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380 (99/03-2000/04) (Washington, DC, 1999-2000). 1999 prices for all other petroleum products are derived from EIA, *State Energy Price and Expenditure Report 1997*, DOE/EIA-0376(97) (Washington, DC, July 2000). **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>
104.6	104.3	102.2	103.3	107.6	107.3	103.8	104.3
110.8	110.4	107.6	107.9	109.7	109.8	107.8	105.8
73.5	73.1	71.3	72.3	76.5	75.9	72.8	73.3
56.6	56.3	56.5	56.4	57.7	57.5	57.6	57.5
23.77	23.66	23.74	23.68	24.23	24.14	24.21	24.17
76.1	75.8	73.8	74.8	79.2	78.9	75.4	75.9
67.2	67.5	63.2	63.6	66.3	67.0	63.0	61.9
52.5	52.3	52.5	52.4	53.7	53.5	53.7	53.6
22.06	21.98	22.05	22.02	22.54	22.48	22.54	22.52
123.1	122.8	119.8	121.3	122.4	122.4	118.2	118.9
74.8	74.7	74.0	74.0	77.2	77.2	74.3	74.3
133.4	132.7	129.9	130.1	132.0	132.1	127.6	125.5
120.3	120.2	117.8	118.0	117.8	118.3	116.4	114.8
48.7	48.7	48.7	48.7	49.8	49.8	49.8	49.9
20.47	20.44	20.46	20.47	20.93	20.90	20.93	20.94
172.5	172.9	170.9	171.4	173.1	173.8	153.3	151.3
103.9	103.7	102.7	102.7	105.3	105.3	102.7	102.8
67.0	68.2	64.8	67.4	70.1	71.4	66.4	69.6
56.7	62.7	59.6	64.0	58.7	65.0	63.2	67.4
23.80	26.35	25.04	26.88	24.66	27.30	26.55	28.30
113.2	112.9	109.7	111.1	113.7	113.5	109.1	109.8
74.8	74.7	74.0	74.0	77.2	77.2	74.3	74.3
74.5	74.6	71.2	71.7	73.2	73.8	70.9	69.8
133.4	132.7	129.9	130.1	132.0	132.1	127.5	125.5
51.0	50.9	51.0	51.0	52.2	52.1	52.2	52.2
21.43	21.40	21.42	21.42	21.92	21.90	21.92	21.91
<b>111.2</b>	<b>110.7</b>	<b>107.3</b>	<b>107.8</b>	<b>110.6</b>	<b>110.7</b>	<b>105.6</b>	<b>104.6</b>

**Table C13. Natural Gas Supply and Disposition**  
(Trillion Cubic Feet per Year)

Supply and Disposition	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Production</b>									
Dry Gas Production <sup>1</sup> .....	18.67	21.32	21.85	20.91	21.56	23.36	24.63	22.40	24.87
Supplemental Natural Gas <sup>2</sup> .....	0.10	0.11	0.11	0.11	0.11	0.06	0.06	0.06	0.06
<b>Net Imports</b> .....									
Canada .....	3.38	4.70	4.66	4.66	4.56	5.01	6.61	4.79	5.14
Canada .....	3.29	4.49	4.45	4.45	4.35	4.72	4.99	4.53	4.85
Mexico .....	-0.01	-0.18	-0.18	-0.18	-0.18	-0.25	0.32	-0.25	-0.25
Liquefied Natural Gas .....	0.10	0.39	0.39	0.39	0.39	0.53	1.30	0.51	0.54
<b>Total Supply</b> .....	<b>22.15</b>	<b>26.14</b>	<b>26.63</b>	<b>25.69</b>	<b>26.24</b>	<b>28.42</b>	<b>31.29</b>	<b>27.24</b>	<b>30.06</b>
<b>Consumption by Sector</b>									
Residential .....	4.75	5.40	5.41	5.27	5.28	5.39	5.32	5.15	5.06
Commercial .....	3.06	3.89	3.88	3.90	3.90	4.08	4.01	4.11	4.04
Industrial <sup>3</sup> .....	8.31	8.78	8.78	8.74	8.73	9.48	9.48	9.48	9.38
Electric Generators <sup>4</sup> .....	3.76	5.44	5.88	5.17	5.67	6.83	9.70	5.89	8.75
Lease and Plant Fuel <sup>5</sup> .....	1.23	1.36	1.39	1.34	1.37	1.50	1.56	1.45	1.57
Pipeline Fuel .....	0.64	0.80	0.82	0.79	0.81	0.88	0.94	0.85	0.94
Transportation <sup>6</sup> .....	0.02	0.05	0.05	0.07	0.07	0.09	0.09	0.13	0.12
<b>Total</b> .....	<b>21.77</b>	<b>25.73</b>	<b>26.21</b>	<b>25.28</b>	<b>25.83</b>	<b>28.24</b>	<b>31.09</b>	<b>27.04</b>	<b>29.86</b>
<b>Discrepancy<sup>7</sup></b> .....	<b>0.38</b>	<b>0.41</b>	<b>0.41</b>	<b>0.41</b>	<b>0.41</b>	<b>0.19</b>	<b>0.21</b>	<b>0.20</b>	<b>0.20</b>

<sup>1</sup>Marketed production (wet) minus extraction losses.

<sup>2</sup>Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Represents natural gas used in the field gathering and processing plant machinery.

<sup>6</sup>Compressed natural gas used as vehicle fuel.

<sup>7</sup>Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 1999 values include net storage injections.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 supplemental natural gas: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 transportation sector consumption: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. Other 1999 consumption: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf> with adjustments to end-use sector consumption levels for consumption of natural gas by electric wholesale generators based on EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
26.50 0.06	27.78 0.06	24.97 0.06	27.56 0.06	29.34 0.06	30.66 0.06	27.34 0.06	30.13 0.06
<b>5.44</b> <b>5.12</b> -0.33 0.65	<b>7.42</b> 5.40 0.35 1.68	<b>4.96</b> 4.68 -0.33 0.61	<b>5.48</b> 5.17 -0.33 0.64	<b>5.78</b> 5.39 -0.40 0.79	<b>7.86</b> 5.70 0.36 1.80	<b>5.12</b> 4.82 -0.40 0.71	<b>5.61</b> 5.26 -0.40 0.75
<b>32.00</b>	<b>35.26</b>	<b>29.99</b>	<b>33.10</b>	<b>35.17</b>	<b>38.57</b>	<b>32.52</b>	<b>35.79</b>
5.63 4.24 10.03 9.12 1.68 0.98 0.13 31.81	5.58 4.29 10.25 12.05 1.74 1.03 0.12 35.07	5.30 4.31 9.96 7.54 1.61 0.92 0.18 29.81	5.23 4.31 10.05 10.41 1.73 1.02 0.17 32.93	5.92 4.36 10.52 11.15 1.86 1.07 0.15 35.03	5.85 4.55 10.94 13.87 1.92 1.13 0.15 38.40	5.52 4.46 10.31 9.11 1.76 0.99 0.21 32.36	5.45 4.56 10.56 11.86 1.89 1.10 0.21 35.62
0.18	0.19	0.18	0.18	0.15	0.17	0.16	0.17

**Table C14. Natural Gas Prices, Margins, and Revenue**  
 (1999 Dollars per Thousand Cubic Feet, Unless Otherwise Noted)

Prices, Margins, and Revenue	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Source Price</b>									
Average Lower 48 Wellhead Price <sup>1</sup> .....	2.08	2.99	3.01	2.86	2.87	2.82	3.41	2.39	2.95
Average Import Price .....	2.29	2.99	3.07	2.95	3.01	2.66	2.97	2.54	2.82
<b>Average<sup>2</sup></b> .....	<b>2.11</b>	<b>2.99</b>	<b>3.02</b>	<b>2.88</b>	<b>2.89</b>	<b>2.79</b>	<b>3.32</b>	<b>2.42</b>	<b>2.93</b>
<b>Delivered Prices</b>									
Residential .....	6.69	7.33	7.37	7.24	7.26	6.88	7.42	6.55	7.07
Commercial .....	5.49	5.72	5.77	5.60	5.63	5.78	6.32	5.41	5.92
Industrial <sup>3</sup> .....	2.87	3.76	3.81	3.65	3.67	3.55	4.13	3.15	3.70
Electric Generators <sup>4</sup> .....	2.62	3.49	3.77	3.37	3.62	3.30	4.18	2.87	3.70
Transportation <sup>5</sup> .....	7.21	7.50	7.54	7.80	7.82	7.36	7.91	7.64	8.17
<b>Average<sup>6</sup></b> .....	<b>4.14</b>	<b>4.85</b>	<b>4.93</b>	<b>4.75</b>	<b>4.80</b>	<b>4.55</b>	<b>5.09</b>	<b>4.19</b>	<b>4.68</b>
<b>Transmission &amp; Distribution Margins<sup>7</sup></b>									
Residential .....	4.58	4.34	4.35	4.36	4.37	4.09	4.10	4.13	4.14
Commercial .....	3.37	2.73	2.74	2.73	2.74	2.99	3.00	2.99	3.00
Industrial <sup>3</sup> .....	0.76	0.78	0.79	0.77	0.78	0.76	0.81	0.73	0.78
Electric Generators <sup>4</sup> .....	0.51	0.50	0.75	0.49	0.73	0.51	0.87	0.45	0.77
Transportation <sup>5</sup> .....	5.10	4.52	4.52	4.92	4.93	4.57	4.60	5.22	5.24
<b>Average<sup>6</sup></b> .....	<b>2.03</b>	<b>1.87</b>	<b>1.91</b>	<b>1.87</b>	<b>1.91</b>	<b>1.76</b>	<b>1.77</b>	<b>1.77</b>	<b>1.75</b>
<b>Transmission &amp; Distribution Revenue (billion 1999 dollars)</b>									
Residential .....	21.77	23.45	23.52	22.99	23.06	22.07	21.81	21.24	20.98
Commercial .....	10.32	10.62	10.65	10.64	10.67	12.19	12.02	12.28	12.10
Industrial <sup>3</sup> .....	6.28	6.82	6.92	6.77	6.80	7.20	7.72	6.94	7.29
Electric Generators <sup>4</sup> .....	1.90	2.74	4.38	2.55	4.11	3.46	8.41	2.63	6.75
Transportation <sup>5</sup> .....	0.08	0.24	0.24	0.36	0.36	0.40	0.40	0.66	0.65
<b>Total</b> .....	<b>40.35</b>	<b>43.87</b>	<b>45.71</b>	<b>43.31</b>	<b>45.00</b>	<b>45.33</b>	<b>50.36</b>	<b>43.75</b>	<b>47.78</b>

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Quantity-weighted average of the average lower 48 wellhead price and the average price of imports at the U.S. border.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

<sup>6</sup>Weighted average prices and margins. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

<sup>7</sup>Within the table, "transmission and distribution" margins equal the difference between the delivered price and the source price (average of the wellhead price and the price of imports at the U.S. border) of natural gas and, thus, reflect the total cost of bringing natural gas to market. When the term "transmission and distribution" margins is used in today's natural gas market, it generally does not include the cost of independent natural gas marketers or costs associated with aggregation of supplies, provisions of storage, and other services. As used here, the term includes the cost of all services and the cost of pipeline fuel used in compressor stations.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 industrial delivered prices based on Energy Information Administration (EIA), *Manufacturing Energy Consumption Survey 1994*. 1999 residential and commercial delivered prices, average lower 48 wellhead price, and average import price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). **Other 1999 values and projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
2.92	3.35	2.30	2.73	3.10	3.72	2.20	2.60
2.65	2.91	2.45	2.74	2.71	3.04	2.44	2.71
<b>2.87</b>	<b>3.25</b>	<b>2.33</b>	<b>2.73</b>	<b>3.03</b>	<b>3.58</b>	<b>2.24</b>	<b>2.62</b>
6.77	7.19	6.23	6.68	6.74	7.31	5.94	6.38
5.76	6.17	5.17	5.61	5.82	6.38	4.97	5.40
3.66	4.07	3.05	3.51	3.84	4.44	2.96	3.39
3.46	4.12	2.78	3.51	3.68	4.52	2.75	3.44
7.48	7.88	7.63	8.06	7.50	8.05	7.42	7.84
<b>4.52</b>	<b>4.93</b>	<b>3.96</b>	<b>4.39</b>	<b>4.61</b>	<b>5.22</b>	<b>3.79</b>	<b>4.22</b>
3.90	3.93	3.90	3.95	3.71	3.73	3.70	3.76
2.89	2.91	2.84	2.89	2.79	2.80	2.73	2.78
0.78	0.81	0.72	0.78	0.81	0.86	0.71	0.77
0.58	0.87	0.45	0.78	0.66	0.94	0.51	0.81
4.60	4.63	5.30	5.33	4.47	4.47	5.18	5.22
<b>1.65</b>	<b>1.68</b>	<b>1.63</b>	<b>1.66</b>	<b>1.59</b>	<b>1.64</b>	<b>1.55</b>	<b>1.60</b>
21.94	21.95	20.68	20.66	21.95	21.81	20.42	20.50
12.25	12.48	12.25	12.45	12.16	12.71	12.17	12.68
7.85	8.33	7.14	7.82	8.50	9.36	7.37	8.13
5.32	10.47	3.39	8.15	7.33	13.05	4.63	9.66
0.58	0.56	0.94	0.92	0.68	0.66	1.11	1.08
<b>47.93</b>	<b>53.79</b>	<b>44.39</b>	<b>50.00</b>	<b>50.61</b>	<b>57.59</b>	<b>45.70</b>	<b>52.06</b>

**Table C15. Oil and Gas Supply**

Production and Supply	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Crude Oil</b>									
Lower 48 Average Wellhead Price <sup>1</sup> (1999 dollars per barrel) .....	16.49	20.48	20.57	20.52	20.56	20.80	20.79	20.83	20.78
Production (million barrels per day) <sup>2</sup>									
U.S. Total .....	<b>5.88</b>	<b>5.69</b>	<b>5.67</b>	<b>5.81</b>	<b>5.79</b>	<b>5.30</b>	<b>5.29</b>	<b>5.54</b>	<b>5.53</b>
Lower 48 Onshore .....	3.27	2.80	2.81	2.83	2.83	2.50	2.51	2.58	2.60
Conventional .....	2.59	2.18	2.17	2.17	2.17	1.81	1.83	1.82	1.85
Enhanced Oil Recovery .....	0.68	0.62	0.64	0.66	0.66	0.69	0.68	0.76	0.75
Lower 48 Offshore .....	1.56	2.09	2.07	2.17	2.16	2.16	2.13	2.28	2.25
Alaska .....	1.05	0.79	0.79	0.81	0.81	0.65	0.65	0.68	0.68
Lower 48 End of Year Reserves <sup>2</sup> (billion barrels) .....	18.33	15.76	15.77	16.11	16.07	14.43	14.52	15.05	15.12
<b>Natural Gas</b>									
Lower 48 Average Wellhead Price <sup>1</sup> (1999 dollars per thousand cubic feet) .....	2.08	2.99	3.01	2.86	2.87	2.82	3.41	2.39	2.95
Dry Production (trillion cubic feet) <sup>3</sup>									
U.S. Total .....	<b>18.67</b>	<b>21.32</b>	<b>21.85</b>	<b>20.91</b>	<b>21.56</b>	<b>23.36</b>	<b>24.63</b>	<b>22.40</b>	<b>24.87</b>
Lower 48 Onshore .....	12.83	14.37	14.61	14.06	14.47	16.42	17.51	15.99	17.64
Associated-Dissolved <sup>4</sup> .....	1.80	1.51	1.51	1.51	1.51	1.32	1.33	1.33	1.34
Non-Associated .....	11.03	12.86	13.10	12.55	12.96	15.10	16.18	14.67	16.30
Conventional .....	6.64	7.62	7.85	7.36	7.62	7.79	8.30	7.59	8.14
Unconventional .....	4.39	5.24	5.25	5.19	5.34	7.30	7.88	7.08	8.16
Lower 48 Offshore .....	5.43	6.49	6.77	6.39	6.63	6.44	6.62	5.90	6.73
Associated-Dissolved <sup>4</sup> .....	0.93	1.06	1.06	1.08	1.08	1.09	1.09	1.12	1.11
Non-Associated .....	4.50	5.42	5.71	5.31	5.55	5.35	5.53	4.78	5.62
Alaska .....	0.42	0.47	0.46	0.46	0.46	0.50	0.50	0.50	0.50
Lower 48 End of Year Dry Reserves <sup>3</sup> (trillion cubic feet) .....	157.41	169.38	169.60	174.03	175.26	184.15	188.06	192.10	200.74
Supplemental Gas Supplies <sup>5</sup> (trillion cubic feet) .....	0.10	0.11	0.11	0.11	0.11	0.06	0.06	0.06	0.06
Total Lower 48 Wells (thousands) .....	17.93	29.02	28.84	28.52	28.55	29.30	33.89	26.05	32.32

<sup>1</sup>Represents lower 48 onshore and offshore supplies.<sup>2</sup>Includes lease condensate.<sup>3</sup>Marketed production (wet) minus extraction losses.<sup>4</sup>Gas which occurs in crude oil reserves either as free gas (associated) or as gas in solution with crude oil (dissolved).<sup>5</sup>Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas. Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: Energy Information Administration (EIA), *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). 1999 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). Other 1999 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>21.16</b>	<b>21.21</b>	<b>21.04</b>	<b>21.07</b>	<b>21.50</b>	<b>21.44</b>	<b>21.57</b>	<b>21.56</b>
5.23	<b>5.32</b>	<b>5.55</b>	<b>5.64</b>	<b>5.22</b>	<b>5.36</b>	<b>5.49</b>	<b>5.64</b>
2.56	2.59	2.71	2.75	2.71	2.80	2.87	2.95
1.77	1.82	1.82	1.88	1.96	2.04	2.05	2.13
0.79	0.76	0.89	0.87	0.74	0.76	0.82	0.82
1.98	2.02	2.09	2.14	1.88	1.92	1.92	2.00
0.70	0.70	0.75	0.75	0.64	0.64	0.69	0.69
<b>13.99</b>	<b>14.20</b>	<b>14.81</b>	<b>15.06</b>	<b>14.01</b>	<b>14.32</b>	<b>14.59</b>	<b>15.03</b>
2.92	<b>3.35</b>	<b>2.30</b>	<b>2.73</b>	<b>3.10</b>	<b>3.72</b>	<b>2.20</b>	<b>2.60</b>
<b>26.50</b>	<b>27.78</b>	<b>24.97</b>	<b>27.56</b>	<b>29.34</b>	<b>30.66</b>	<b>27.34</b>	<b>30.13</b>
19.04	19.97	18.26	20.36	21.10	22.34	20.76	23.19
1.30	1.33	1.32	1.35	1.38	1.43	1.42	1.46
17.74	18.64	16.95	19.01	19.72	20.92	19.34	21.73
9.54	9.52	9.28	9.64	11.05	11.35	11.01	11.23
8.20	9.12	7.67	9.37	8.66	9.57	8.34	10.50
6.92	7.28	6.18	6.68	7.66	7.75	6.02	6.38
1.06	1.07	1.09	1.09	1.04	1.05	1.05	1.07
5.86	6.21	5.09	5.58	6.63	6.71	4.97	5.31
0.54	0.53	0.53	0.53	0.57	0.56	0.56	0.56
<b>195.05</b>	<b>202.68</b>	<b>210.56</b>	<b>226.28</b>	<b>199.35</b>	<b>203.85</b>	<b>221.89</b>	<b>239.96</b>
<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>
<b>32.27</b>	<b>34.32</b>	<b>29.15</b>	<b>35.11</b>	<b>38.07</b>	<b>43.80</b>	<b>31.57</b>	<b>35.76</b>

**Table C16. Coal Supply, Disposition, and Prices**  
 (Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Production<sup>1</sup></b>									
Appalachia .....	434	432	356	421	354	425	267	406	270
Interior .....	182	185	140	184	142	183	113	187	118
West .....	486	612	534	616	539	681	403	677	412
East of the Mississippi .....	558	569	466	557	468	564	374	547	382
West of the Mississippi .....	544	659	564	664	567	725	409	724	417
<b>Total</b> .....	<b>1102</b>	<b>1228</b>	<b>1030</b>	<b>1222</b>	<b>1035</b>	<b>1289</b>	<b>783</b>	<b>1271</b>	<b>800</b>
<b>Net Imports</b>									
Imports .....	9	16	12	16	12	17	9	17	9
Exports .....	58	60	60	60	60	58	59	58	60
<b>Total</b> .....	<b>-49</b>	<b>-44</b>	<b>-48</b>	<b>-44</b>	<b>-48</b>	<b>-40</b>	<b>-50</b>	<b>-41</b>	<b>-51</b>
<b>Total Supply<sup>2</sup></b> .....	<b>1053</b>	<b>1184</b>	<b>982</b>	<b>1177</b>	<b>987</b>	<b>1249</b>	<b>733</b>	<b>1231</b>	<b>749</b>
<b>Consumption by Sector</b>									
Residential and Commercial .....	5	5	5	5	5	5	5	5	5
Industrial <sup>3</sup> .....	79	82	83	82	82	83	82	82	80
Coke Plants .....	28	25	25	25	25	23	23	22	22
Electric Generators <sup>4</sup> .....	920	1073	870	1067	875	1139	623	1125	644
<b>Total</b> .....	<b>1031</b>	<b>1185</b>	<b>983</b>	<b>1179</b>	<b>987</b>	<b>1250</b>	<b>733</b>	<b>1233</b>	<b>751</b>
<b>Discrepancy and Stock Change<sup>5</sup></b> .....	<b>21</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-0</b>	<b>-1</b>	<b>-0</b>	<b>-2</b>	<b>-2</b>
<b>Average Minemouth Price</b>									
(1999 dollars per short ton) .....	17.13	15.22	14.47	14.30	13.77	14.19	14.63	12.73	13.40
(1999 dollars per million Btu) .....	0.82	0.74	0.69	0.69	0.66	0.69	0.68	0.62	0.62
<b>Delivered Prices<sup>6</sup> (1999 dollars per short ton)</b>									
Industrial .....	31.37	29.65	28.57	28.64	27.71	28.56	26.05	26.79	24.68
Coke Plants .....	44.38	42.40	42.56	40.95	41.27	41.25	41.59	38.97	39.25
Electric Generators									
(1999 dollars per short ton) .....	24.69	22.92	21.25	22.09	20.66	21.26	20.40	19.73	19.50
(1999 dollars per million Btu) .....	1.21	1.13	1.05	1.10	1.01	1.06	0.98	0.98	0.93
<b>Average</b> .....	<b>25.74</b>	<b>23.80</b>	<b>22.42</b>	<b>22.94</b>	<b>21.77</b>	<b>22.11</b>	<b>21.69</b>	<b>20.54</b>	<b>20.63</b>
Exports <sup>7</sup> .....	37.50	36.41	35.96	35.06	34.73	35.57	34.32	33.40	32.43

<sup>1</sup>Includes anthracite, bituminous coal, lignite, and waste coal delivered to independent power producers. Waste coal deliveries totaled 8.5 million tons in 1995, 8.8 million tons in 1996, 8.1 million tons in 1997, 8.6 million tons in 1998, and are projected to reach 9.6 million tons in 1999, and 12.2 million tons in 2000.

<sup>2</sup>Production plus net imports and net storage withdrawals.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Balancing item: the sum of production, net imports, and net storage minus total consumption.

<sup>6</sup>Sectoral prices weighted by consumption tonnage; weighted average excludes residential/ commercial prices and export free-alongside-ship (f.a.s.) prices.

<sup>7</sup>F.a.s. price at U.S. port of exit.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 data based on Energy Information Administration (EIA), *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections								
2015				2020				
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
404	246	392	247	396	227	375	228	
171	105	175	115	164	92	177	113	
742	372	715	395	775	360	719	375	
536	345	526	357	526	313	513	336	
782	378	755	401	810	366	758	380	
<b>1317</b>	<b>723</b>	<b>1282</b>	<b>758</b>	<b>1336</b>	<b>679</b>	<b>1271</b>	<b>716</b>	
18	9	18	9	20	9	20	9	
56	60	57	60	56	64	56	61	
<b>-37</b>	<b>-51</b>	<b>-39</b>	<b>-51</b>	<b>-36</b>	<b>-55</b>	<b>-36</b>	<b>-52</b>	
<b>1280</b>	<b>671</b>	<b>1243</b>	<b>706</b>	<b>1300</b>	<b>624</b>	<b>1234</b>	<b>664</b>	
5	5	5	5	5	5	5	5	
84	83	82	81	85	86	81	81	
21	21	19	19	19	19	17	17	
1172	562	1138	602	1190	515	1133	563	
<b>1282</b>	<b>671</b>	<b>1245</b>	<b>707</b>	<b>1299</b>	<b>625</b>	<b>1236</b>	<b>666</b>	
<b>-2</b>	<b>0</b>	<b>-2</b>	<b>-1</b>	<b>1</b>	<b>-1</b>	<b>-2</b>	<b>-2</b>	
13.40	13.58	11.63	12.01	12.93	12.61	10.76	10.97	
0.66	0.63	0.57	0.56	0.64	0.59	0.53	0.51	
27.43	24.63	25.13	23.00	26.49	23.32	23.41	21.34	
39.93	39.90	36.61	36.74	38.50	38.68	34.36	34.47	
20.24	18.77	18.42	17.53	19.34	17.28	16.94	16.10	
1.02	0.91	0.92	0.84	0.98	0.84	0.85	0.78	
<b>21.03</b>	<b>20.16</b>	<b>19.14</b>	<b>18.69</b>	<b>20.09</b>	<b>18.76</b>	<b>17.61</b>	<b>17.22</b>	
34.66	32.44	31.36	29.96	33.07	31.01	29.32	28.32	

**Table C17. Renewable Energy Generating Capability and Generation**  
(Gigawatts, Unless Otherwise Noted)

Capacity and Generation	1999	Projections								
		2005				2010				
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
<b>Electric Generators<sup>1</sup></b>										
<b>(excluding cogenerators)</b>										
<b>Net Summer Capability</b>										
Conventional Hydropower .....	78.77	79.26	79.34	79.26	79.26	79.38	79.85	79.38	79.62	
Geothermal <sup>2</sup> .....	2.87	3.36	7.34	4.35	6.49	4.81	9.29	5.63	8.20	
Municipal Solid Waste <sup>3</sup> .....	2.61	2.96	3.41	3.22	3.54	3.42	4.30	3.66	4.29	
Wood and Other Biomass <sup>4</sup> .....	1.57	1.75	1.80	1.75	1.75	2.12	3.20	2.12	2.34	
Solar Thermal .....	0.33	0.35	0.35	0.35	0.35	0.40	0.40	0.40	0.40	
Solar Photovoltaic .....	0.01	0.08	0.08	0.08	0.08	0.21	0.21	0.21	0.21	
Wind .....	2.66	6.92	6.92	6.96	7.83	7.52	7.74	7.97	18.48	
<b>Total</b> .....	<b>88.83</b>	<b>94.68</b>	<b>99.24</b>	<b>95.98</b>	<b>99.32</b>	<b>97.85</b>	<b>104.99</b>	<b>99.36</b>	<b>113.54</b>	
<b>Generation (billion kilowatthours)</b>										
Conventional Hydropower .....	309.55	301.20	301.46	301.19	301.17	301.13	302.65	301.10	301.90	
Geothermal <sup>2</sup> .....	13.21	17.71	50.68	25.91	43.60	29.92	66.90	36.71	57.85	
Municipal Solid Waste <sup>3</sup> .....	18.12	20.68	24.25	22.74	25.29	23.88	30.79	25.71	30.67	
Wood and Other Biomass <sup>4</sup> .....	8.76	14.92	60.96	15.38	40.63	21.22	71.16	17.10	64.83	
Dedicated Plants .....	7.73	9.17	9.51	9.17	9.20	11.36	18.65	11.35	12.90	
Cofiring .....	1.03	5.75	51.44	6.21	31.43	9.86	52.51	5.75	51.93	
Solar Thermal .....	0.89	0.96	0.96	0.96	0.96	1.11	1.11	1.11	1.11	
Solar Photovoltaic .....	0.03	0.20	0.20	0.20	0.20	0.51	0.51	0.51	0.51	
Wind .....	4.61	16.30	16.30	16.47	19.39	18.16	18.78	19.79	57.83	
<b>Total</b> .....	<b>355.16</b>	<b>371.97</b>	<b>454.80</b>	<b>382.85</b>	<b>431.24</b>	<b>395.92</b>	<b>491.89</b>	<b>402.02</b>	<b>514.70</b>	
<b>Cogenerators<sup>5</sup></b>										
<b>Net Summer Capability</b>										
Municipal Solid Waste .....	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
Biomass .....	4.65	5.19	5.17	5.44	5.43	6.09	6.06	6.82	6.82	
<b>Total</b> .....	<b>5.35</b>	<b>5.89</b>	<b>5.87</b>	<b>6.14</b>	<b>6.13</b>	<b>6.79</b>	<b>6.76</b>	<b>7.52</b>	<b>7.52</b>	
<b>Generation (billion kilowatthours)</b>										
Municipal Solid Waste .....	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	
Biomass .....	27.08	30.04	29.89	31.49	31.41	35.20	34.94	39.44	39.36	
<b>Total</b> .....	<b>31.12</b>	<b>34.08</b>	<b>33.94</b>	<b>35.54</b>	<b>35.45</b>	<b>39.24</b>	<b>38.99</b>	<b>43.49</b>	<b>43.40</b>	
<b>Other End-Use Generators<sup>6</sup></b>										
<b>Net Summer Capability</b>										
Conventional Hydropower <sup>7</sup> .....	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Geothermal .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Solar Photovoltaic .....	0.01	0.10	0.10	0.10	0.10	0.35	0.35	0.35	0.35	
<b>Total</b> .....	<b>1.00</b>	<b>1.09</b>	<b>1.09</b>	<b>1.09</b>	<b>1.09</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	
<b>Generation (billion kilowatthours)</b>										
Conventional Hydropower <sup>7</sup> .....	4.57	4.44	4.44	4.44	4.44	4.43	4.43	4.43	4.43	
Geothermal .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Solar Photovoltaic .....	0.02	0.20	0.20	0.20	0.20	0.75	0.75	0.75	0.75	
<b>Total</b> .....	<b>4.59</b>	<b>4.64</b>	<b>4.64</b>	<b>4.64</b>	<b>4.64</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	

<sup>1</sup>Includes grid-connected utilities and nonutilities other than cogenerators. These nonutility facilities include small power producers and exempt wholesale generators.

<sup>2</sup>Includes hydrothermal resources only (hot water and steam).

<sup>3</sup>Includes landfill gas.

<sup>4</sup>Includes projections for energy crops after 2010.

<sup>5</sup>Cogenerators produce electricity and other useful thermal energy.

<sup>6</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

<sup>7</sup>Represents own-use industrial hydroelectric power.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports. Net summer capability has been estimated for nonutility generators for AEO2001. Net summer capability is used to be consistent with electric utility capacity estimates. Additional retirements are determined on the basis of the size and age of the units.

**Sources:** 1999 electric utility capability: Energy Information Administration (EIA), Form EIA-860A: "Annual Electric Generator Report - Utility." 1999 nonutility and cogenerator capability: EIA, Form EIA-860B: "Annual Electric Generator Report - Nonutility." 1999 generation: EIA, *Annual Energy Review 1999*, DOE/EIA-0384(99) (Washington, DC, July 2000). **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
79.38	79.85	79.38	79.62	79.38	79.85	79.38	79.62
4.83	9.67	5.63	8.23	4.83	9.93	5.63	8.23
3.79	4.68	4.02	4.66	3.93	4.83	4.17	4.80
2.40	4.03	2.40	2.62	2.45	5.49	2.45	2.72
0.44	0.44	0.44	0.44	0.48	0.48	0.48	0.48
0.37	0.37	0.37	0.37	0.54	0.54	0.54	0.54
7.72	8.14	8.19	19.31	7.74	11.35	8.62	22.37
<b>98.92</b>	<b>107.18</b>	<b>100.43</b>	<b>115.24</b>	<b>99.35</b>	<b>112.47</b>	<b>101.27</b>	<b>118.76</b>
300.57	302.08	300.53	301.32	300.06	301.54	300.00	300.78
30.10	70.07	36.74	58.06	30.13	72.25	36.76	58.08
26.72	33.73	28.54	33.50	27.76	34.77	29.58	34.54
22.27	71.62	19.62	63.78	19.29	76.74	17.62	55.48
13.47	24.40	13.46	15.01	13.82	34.19	13.80	15.71
8.79	47.22	6.17	48.77	5.47	42.55	3.82	39.78
1.24	1.24	1.24	1.24	1.37	1.37	1.37	1.37
0.92	0.92	0.92	0.92	1.36	1.36	1.36	1.36
18.67	19.90	20.41	60.56	18.77	30.48	22.12	71.96
<b>400.49</b>	<b>499.55</b>	<b>408.00</b>	<b>519.38</b>	<b>398.74</b>	<b>518.50</b>	<b>408.81</b>	<b>523.56</b>
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
6.90	6.87	8.19	8.18	7.59	7.56	9.51	9.50
<b>7.60</b>	<b>7.57</b>	<b>8.89</b>	<b>8.88</b>	<b>8.29</b>	<b>8.26</b>	<b>10.21</b>	<b>10.20</b>
4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04
39.84	39.56	47.41	47.26	43.82	43.53	55.14	55.00
<b>43.88</b>	<b>43.60</b>	<b>51.46</b>	<b>51.31</b>	<b>47.87</b>	<b>47.58</b>	<b>59.19</b>	<b>59.05</b>
0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.35	0.35	0.35	0.36	0.35	0.35	0.35	0.39
<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.35</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.38</b>
4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.75	0.75	0.76	0.77	0.75	0.76	0.76	0.85
<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.19</b>	<b>5.17</b>	<b>5.17</b>	<b>5.17</b>	<b>5.26</b>

**Table C18. Renewable Energy Consumption by Sector and Source<sup>1</sup>**  
 (Quadrillion Btu per Year)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Marketed Renewable Energy<sup>2</sup></b>									
<b>Residential</b> .....	<b>0.41</b>	<b>0.42</b>	<b>0.42</b>	<b>0.40</b>	<b>0.40</b>	<b>0.42</b>	<b>0.42</b>	<b>0.39</b>	<b>0.38</b>
Wood .....	0.41	0.42	0.42	0.40	0.40	0.42	0.42	0.39	0.38
<b>Commercial</b> .....	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>
Biomass .....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<b>Industrial<sup>3</sup></b> .....	<b>2.15</b>	<b>2.40</b>	<b>2.40</b>	<b>2.48</b>	<b>2.47</b>	<b>2.63</b>	<b>2.62</b>	<b>2.81</b>	<b>2.81</b>
Conventional Hydroelectric .....	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Municipal Solid Waste .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biomass .....	1.97	2.22	2.21	2.29	2.29	2.44	2.44	2.62	2.62
<b>Transportation</b> .....	<b>0.12</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.21</b>	<b>0.21</b>	<b>0.21</b>	<b>0.21</b>
Ethanol used in E85 <sup>4</sup> .....	0.00	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.04
Ethanol used in Gasoline Blending .....	0.12	0.18	0.18	0.17	0.17	0.19	0.19	0.18	0.18
<b>Electric Generators<sup>5</sup></b> .....	<b>3.88</b>	<b>4.17</b>	<b>5.68</b>	<b>4.46</b>	<b>5.32</b>	<b>4.70</b>	<b>6.42</b>	<b>4.91</b>	<b>6.46</b>
Conventional Hydroelectric .....	3.19	3.10	3.10	3.10	3.10	3.10	3.11	3.10	3.11
Geothermal .....	0.28	0.42	1.42	0.69	1.22	0.82	1.93	1.03	1.67
Municipal Solid Waste <sup>6</sup> .....	0.25	0.28	0.33	0.31	0.34	0.32	0.42	0.35	0.42
Biomass .....	0.11	0.18	0.65	0.19	0.44	0.25	0.75	0.21	0.70
Dedicated Plants .....	0.10	0.11	0.10	0.11	0.10	0.14	0.20	0.14	0.14
Cofiring .....	0.01	0.07	0.54	0.07	0.34	0.12	0.56	0.07	0.56
Solar Thermal .....	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Solar Photovoltaic .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind .....	0.05	0.17	0.17	0.17	0.20	0.19	0.19	0.20	0.55
<b>Total Marketed Renewable Energy</b> .....	<b>6.64</b>	<b>7.27</b>	<b>8.78</b>	<b>7.62</b>	<b>8.47</b>	<b>8.05</b>	<b>9.76</b>	<b>8.40</b>	<b>9.95</b>
<b>Non-Marketed Renewable Energy<sup>7</sup></b>									
<b>Selected Consumption</b>									
<b>Residential</b> .....	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
Solar Hot Water Heating .....	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00
Geothermal Heat Pumps .....	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Solar Photovoltaic .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Commercial</b> .....	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
Solar Thermal .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ethanol</b>									
From Corn .....	0.12	0.19	0.19	0.19	0.19	0.19	0.19	0.18	0.18
From Cellulose .....	0.00	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03
<b>Total</b> .....	<b>0.12</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.21</b>	<b>0.21</b>	<b>0.21</b>	<b>0.21</b>

<sup>1</sup>Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 10,280 Btu per kilowatthour.

<sup>2</sup>Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table C8.

<sup>3</sup>Includes all electricity production by industrial and other cogenerators for the grid and for own use.

<sup>4</sup>Excludes motor gasoline component of E85.

<sup>5</sup>Includes renewable energy delivered to the grid from electric utilities and nonutilities. Renewable energy used in generating electricity for own use is included in the individual sectoral electricity energy consumption values.

<sup>6</sup>Includes landfill gas.

<sup>7</sup>Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy. The Energy Information Administration does not estimate or project total consumption of nonmarketed renewable energy.

Btu = British thermal unit.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 ethanol: Energy Information Administration (EIA), *Annual Energy Review 1999*, DOE/EIA-0384(99) (Washington, DC, July 2000). 1999 electric generators: EIA, Form EIA-860A: "Annual Electric Generator Report - Utility" and Form EIA-860B: "Annual Electric Generator Report - Nonutility." Other 1999: EIA, Office of Integrated Analysis and Forecasting.

**Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
0.43	<b>0.42</b>	<b>0.38</b>	<b>0.37</b>	<b>0.43</b>	<b>0.43</b>	<b>0.38</b>	<b>0.37</b>
0.43	0.42	0.38	0.37	0.43	0.43	0.38	0.37
0.08	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
2.85	<b>2.85</b>	<b>3.17</b>	<b>3.17</b>	<b>3.07</b>	<b>3.07</b>	<b>3.55</b>	<b>3.55</b>
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.67	2.66	2.98	2.98	2.89	2.89	3.36	3.36
0.23	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>0.24</b>	<b>0.24</b>	<b>0.31</b>	<b>0.31</b>
0.03	0.03	0.05	0.05	0.03	0.03	0.06	0.06
0.19	0.19	0.17	0.17	0.21	0.21	0.25	0.25
4.76	<b>6.59</b>	<b>4.98</b>	<b>6.53</b>	<b>4.75</b>	<b>6.82</b>	<b>5.00</b>	<b>6.57</b>
3.09	3.11	3.09	3.10	3.08	3.10	3.08	3.09
0.82	2.03	1.03	1.68	0.82	2.10	1.03	1.68
0.36	0.46	0.39	0.46	0.38	0.47	0.40	0.47
0.27	0.76	0.24	0.69	0.24	0.80	0.23	0.61
0.17	0.26	0.17	0.16	0.17	0.36	0.18	0.17
0.11	0.50	0.08	0.53	0.07	0.44	0.05	0.44
0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.19	0.20	0.21	0.57	0.19	0.31	0.23	0.69
8.35	<b>10.17</b>	<b>8.83</b>	<b>10.37</b>	<b>8.58</b>	<b>10.64</b>	<b>9.31</b>	<b>10.88</b>
0.04	<b>0.03</b>	<b>0.04</b>	<b>0.04</b>	<b>0.04</b>	<b>0.03</b>	<b>0.04</b>	<b>0.04</b>
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.03	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.19	0.19	0.15	0.15	0.17	0.17	0.11	0.11
0.04	0.04	0.07	0.07	0.07	0.07	0.20	0.20
<b>0.23</b>	<b>0.22</b>	<b>0.22</b>	<b>0.22</b>	<b>0.24</b>	<b>0.24</b>	<b>0.31</b>	<b>0.31</b>

**Table C19. Carbon Dioxide Emissions by Sector and Source**  
 (Million Metric Tons Carbon Equivalent per Year)

Sector and Source	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Residential</b>									
Petroleum	26.0	26.6	26.6	25.8	25.8	24.6	24.7	22.8	23.0
Natural Gas	69.5	79.9	80.0	78.0	78.1	79.8	78.6	76.1	74.9
Coal	1.1	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.2
Electricity	193.4	226.8	190.9	224.4	191.9	240.3	165.1	234.0	166.2
<b>Total</b>	<b>290.1</b>	<b>334.5</b>	<b>298.8</b>	<b>329.3</b>	<b>297.0</b>	<b>346.0</b>	<b>269.7</b>	<b>334.2</b>	<b>265.2</b>
<b>Commercial</b>									
Petroleum	13.7	11.9	11.9	11.9	11.8	12.1	12.3	11.9	12.0
Natural Gas	45.4	57.5	57.4	57.6	57.6	60.3	59.3	60.8	59.7
Coal	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8
Electricity	181.3	219.0	184.1	216.3	185.0	241.0	166.7	234.1	167.6
<b>Total</b>	<b>242.1</b>	<b>290.1</b>	<b>255.1</b>	<b>287.6</b>	<b>256.2</b>	<b>315.1</b>	<b>240.1</b>	<b>308.6</b>	<b>241.2</b>
<b>Industrial<sup>1</sup></b>									
Petroleum	104.2	98.8	99.0	97.6	98.2	104.6	106.1	99.2	103.2
Natural Gas <sup>2</sup>	141.6	147.7	148.1	146.8	147.1	159.5	160.8	159.1	159.4
Coal	55.9	65.6	65.7	64.3	64.5	65.4	64.5	62.4	61.6
Electricity	178.8	192.9	162.7	189.3	161.6	203.7	139.7	194.4	137.4
<b>Total</b>	<b>480.4</b>	<b>505.0</b>	<b>475.5</b>	<b>498.0</b>	<b>471.4</b>	<b>533.2</b>	<b>471.1</b>	<b>515.1</b>	<b>461.6</b>
<b>Transportation</b>									
Petroleum <sup>3</sup>	485.8	554.7	553.2	545.7	544.8	606.2	603.2	578.1	576.9
Natural Gas <sup>4</sup>	9.5	12.6	12.9	12.7	13.1	14.3	15.1	14.4	15.8
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electricity	2.9	4.4	3.8	3.7	3.2	5.8	4.2	4.4	3.3
<b>Total</b> <sup>3</sup>	<b>498.2</b>	<b>571.8</b>	<b>569.9</b>	<b>562.1</b>	<b>561.1</b>	<b>626.3</b>	<b>622.6</b>	<b>597.0</b>	<b>596.1</b>
<b>Total Carbon Dioxide Emissions by Delivered Fuel</b>									
Petroleum <sup>3</sup>	629.7	692.0	690.6	681.0	680.6	747.4	746.2	712.0	715.2
Natural Gas	266.0	297.8	298.4	295.1	295.9	313.9	313.8	310.4	309.8
Coal	58.8	68.5	68.7	67.2	67.4	68.6	67.7	65.4	64.6
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electricity	556.3	643.1	541.5	633.7	541.7	690.7	475.8	667.0	474.5
<b>Total</b> <sup>3</sup>	<b>1510.8</b>	<b>1701.4</b>	<b>1599.3</b>	<b>1677.0</b>	<b>1585.6</b>	<b>1820.6</b>	<b>1603.6</b>	<b>1754.9</b>	<b>1564.1</b>
<b>Electric Generators<sup>6</sup></b>									
Petroleum	20.0	9.1	2.7	7.7	2.5	5.3	2.2	4.0	2.0
Natural Gas	45.8	79.8	86.3	75.9	83.2	100.2	142.3	86.4	128.4
Coal	490.5	554.2	452.5	550.1	456.1	585.3	331.3	576.6	344.1
<b>Total</b>	<b>556.3</b>	<b>643.1</b>	<b>541.5</b>	<b>633.7</b>	<b>541.7</b>	<b>690.7</b>	<b>475.8</b>	<b>667.0</b>	<b>474.5</b>
<b>Total Carbon Dioxide Emissions by Primary Fuel<sup>7</sup></b>									
Petroleum <sup>3</sup>	649.7	701.1	693.4	688.7	683.1	752.6	748.4	716.1	717.2
Natural Gas	311.8	377.5	384.7	371.0	379.1	414.0	456.2	396.8	438.1
Coal	549.3	622.7	521.2	617.3	523.5	653.8	399.0	642.0	408.7
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b> <sup>3</sup>	<b>1510.8</b>	<b>1701.4</b>	<b>1599.3</b>	<b>1677.0</b>	<b>1585.6</b>	<b>1820.6</b>	<b>1603.6</b>	<b>1754.9</b>	<b>1564.1</b>
<b>Carbon Dioxide Emissions (tons carbon equivalent per person)</b>									
	5.5	5.9	5.6	5.8	5.5	6.1	5.3	5.8	5.2

<sup>1</sup>Includes consumption by cogenerators.

<sup>2</sup>Includes lease and plant fuel.

<sup>3</sup>This includes international bunker fuel which, by convention are excluded from the international accounting of carbon dioxide emissions. In the years from 1990 through 1998, international bunker fuels accounted for 25 to 30 million metric tons carbon equivalent of carbon dioxide annually.

<sup>4</sup>Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

<sup>5</sup>Includes methanol and liquid hydrogen.

<sup>6</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators. Does not include emissions from the nonbiogenic component of municipal solid waste because under international guidelines these are accounted for as waste not energy.

<sup>7</sup>Emissions from electric power generators are distributed to the primary fuels.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 1999*, DOE/EIA-0573(99) (Washington, DC, October 2000). Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections								
Reference	2015			2020				
	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	
23.8	24.1	21.5	21.7	23.3	23.7	20.4	20.8	
83.2	82.5	78.3	77.4	87.5	86.5	81.6	80.6	
1.3	1.3	1.1	1.1	1.3	1.2	1.0	1.0	
255.6	167.1	244.3	168.0	270.7	169.8	253.9	171.5	
<b>363.9</b>	<b>274.9</b>	<b>345.2</b>	<b>268.2</b>	<b>382.7</b>	<b>281.2</b>	<b>356.9</b>	<b>273.9</b>	
12.2	12.5	12.0	12.0	12.0	12.5	11.8	11.9	
62.7	63.4	63.7	63.8	64.4	67.2	65.9	67.5	
1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	
259.2	169.1	247.0	170.4	268.3	166.6	251.1	168.4	
<b>336.0</b>	<b>246.8</b>	<b>324.6</b>	<b>248.1</b>	<b>346.6</b>	<b>248.3</b>	<b>330.8</b>	<b>249.7</b>	
108.1	109.8	100.6	104.9	113.0	115.6	103.2	107.6	
170.6	174.8	168.5	171.6	180.1	187.5	175.8	181.3	
65.5	64.8	60.9	60.4	65.6	65.8	59.4	58.9	
214.7	135.1	200.0	132.5	226.3	133.4	204.9	130.0	
<b>559.0</b>	<b>484.5</b>	<b>530.0</b>	<b>469.3</b>	<b>585.0</b>	<b>502.3</b>	<b>543.2</b>	<b>477.8</b>	
655.8	653.1	604.2	602.6	703.5	700.7	629.2	628.2	
16.4	17.1	16.2	17.7	18.0	18.8	17.8	19.4	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
7.0	4.9	5.1	3.7	7.9	5.3	5.6	4.0	
<b>679.2</b>	<b>675.1</b>	<b>625.7</b>	<b>624.1</b>	<b>729.5</b>	<b>724.9</b>	<b>652.7</b>	<b>651.6</b>	
799.8	799.5	738.2	741.3	851.8	852.4	764.5	768.4	
333.0	337.8	326.8	330.4	350.0	360.1	341.2	348.8	
68.7	68.0	63.9	63.4	68.8	69.0	62.3	61.8	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
736.5	476.1	696.5	474.7	773.1	475.2	715.5	474.0	
<b>1938.1</b>	<b>1681.5</b>	<b>1825.5</b>	<b>1609.8</b>	<b>2043.8</b>	<b>1756.7</b>	<b>1883.6</b>	<b>1653.0</b>	
5.1	2.3	3.7	2.0	4.8	2.2	3.3	1.8	
133.8	176.9	110.6	152.7	163.6	203.5	133.6	174.0	
597.6	297.0	582.2	319.9	604.7	269.5	578.6	298.2	
<b>736.5</b>	<b>476.1</b>	<b>696.5</b>	<b>474.7</b>	<b>773.1</b>	<b>475.2</b>	<b>715.5</b>	<b>474.0</b>	
804.9	801.8	741.9	743.3	856.5	854.6	767.8	770.2	
466.8	514.7	437.4	483.1	513.6	563.6	474.8	522.8	
666.3	364.9	646.1	383.3	673.5	338.4	640.9	360.0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
<b>1938.1</b>	<b>1681.5</b>	<b>1825.5</b>	<b>1609.8</b>	<b>2043.8</b>	<b>1756.7</b>	<b>1883.6</b>	<b>1653.0</b>	
<b>6.2</b>	<b>5.4</b>	<b>5.8</b>	<b>5.1</b>	<b>6.3</b>	<b>5.4</b>	<b>5.8</b>	<b>5.1</b>	

**Table C20. Emissions, Allowance Costs, and Retrofits: Electric Generators, Excluding Cogenerators**

Impacts	1999	Projections							
		2005				2010			
		Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
<b>Emissions</b>									
Nitrogen Oxides (million tons) .....	5.43	4.30	2.70	4.26	2.67	4.34	1.64	4.18	1.76
Sulfur Dioxide (million tons) .....	13.49	10.39	6.34	10.39	6.34	9.70	2.99	9.70	2.99
Mercury (tons) .....	43.35	45.02	26.20	45.04	26.20	45.53	4.30	46.17	4.30
Carbon Dioxide (million metric tons carbon equivalent)	556.3	643.1	541.5	633.7	541.7	690.7	475.8	667.0	474.5
<b>Allowance Prices</b>									
Nitrogen Oxides (1999 dollars per ton)									
Summer Seasonal .....	0	4370	8	4270	24	4404	0	3327	0
National Annual .....	0	0	1003	0	1094	0	0	0	0
Sulfur Dioxide (1999 dollars per ton) ...	0	184	291	184	264	180	46	168	152
Mercury (million 1999 dollars per ton) ..	0	0	56	0	74	0	482	0	510
Carbon Dioxide (1999 dollars per ton carbon equivalent)	0	0	53	0	43	0	93	0	69
<b>Retrofits (gigawatts, cumulative from 1999)</b>									
Scrubber <sup>1</sup> .....	0.0	8.9	8.1	7.2	9.3	8.9	33.6	7.2	39.2
Combustion .....	0.0	40.4	42.7	40.4	41.7	42.5	50.9	42.8	49.6
SCR Post-combustion .....	0.0	90.8	68.9	90.9	68.5	90.9	101.8	91.0	98.2
SNCR Post-combustion .....	0.0	28.5	26.9	27.1	28.4	28.5	37.1	27.2	39.1
Mercury Spray Cooler .....	0.0	0.0	0.0	0.0	0.0	0.0	48.4	0.0	61.5
Mercury Fabric Filter .....	0.0	0.0	0.0	0.0	0.0	0.0	88.0	0.0	92.3
<b>Coal Production by Sulfur Category (million tons)</b>									
Low Sulfur (< .61 lbs. S/mmBtu) .....	473	582	541	584	546	633	408	620	416
Medium Sulfur (.61-1.67 lbs. S/mmBtu) ..	433	456	351	451	351	465	259	457	265
High Sulfur (> 1.67 lbs. S/mmBtu) .....	196	190	137	187	139	191	116	194	120

<sup>1</sup>Represents scrubbers added by the model. Planned scrubbers added by electricity generators are not shown here.

SCR = Selective catalytic reduction.

SNCR = Selective noncatalytic reduction.

Ibs. S/mmBtu = Pounds sulfur per million British thermal units.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENAEM.D081601A, SCENBBS.D080301A, SCENBEM.D081701A.

Projections							
	2015			2020			
Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits	Reference	Reference with Emissions Limits	Advanced Technology	Advanced Technology with Emissions Limits
4.44	1.53	4.26	1.68	4.48	1.42	4.25	1.58
8.95	2.64	8.95	2.64	8.95	2.24	8.95	2.24
44.98	4.30	45.79	4.30	45.23	4.30	45.10	4.30
736.5	476.1	696.5	474.7	773.1	475.2	715.5	474.0
4717	0	3663	0	5087	0	3886	0
0	0	0	0	0	0	0	0
252	18	213	253	200	221	145	703
0	406	0	410	0	306	0	374
0	111	0	76	0	122	0	58
14.2	37.0	7.2	40.5	17.5	37.0	9.8	40.5
44.4	52.0	44.0	51.0	46.6	52.4	45.4	51.7
91.1	101.8	91.0	98.2	91.1	101.9	91.0	98.2
36.0	37.1	27.2	39.1	46.0	37.1	27.2	39.1
0.0	49.2	0.0	63.5	0.0	49.2	0.0	63.5
0.0	88.3	0.0	95.7	0.0	88.3	0.0	95.7
692	371	653	395	714	360	651	371
440	234	445	243	442	214	435	241
186	117	184	119	180	105	184	105

## **Appendix D**

### **Tables for the *CEF-JL* Moderate and Advanced Cases**

**Table D1. Total Energy Supply and Disposition Summary**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Production</b>											
Crude Oil and Lease Condensate . . . . .	12.45	12.04	12.00	12.03	12.03	12.03	11.23	11.18	11.15	11.07	11.14
Natural Gas Plant Liquids . . . . .	2.62	3.11	2.98	3.07	2.92	3.02	3.36	3.14	3.48	3.15	3.32
Dry Natural Gas . . . . .	19.16	21.88	20.98	21.64	20.54	21.28	23.97	22.37	24.87	22.46	23.69
Coal . . . . .	23.06	25.43	25.10	21.95	23.18	21.36	26.49	26.04	17.67	21.16	17.84
Nuclear Power . . . . .	7.79	7.90	7.90	7.90	7.90	7.90	7.69	7.69	7.91	7.85	7.85
Renewable Energy <sup>1</sup> . . . . .	6.52	7.09	7.38	8.49	8.75	9.05	7.86	8.04	10.17	10.13	10.56
Other <sup>2</sup> . . . . .	1.65	0.35	0.59	0.59	0.51	0.58	0.30	0.55	0.33	0.53	0.32
<b>Total</b> . . . . .	<b>73.26</b>	<b>77.79</b>	<b>76.94</b>	<b>75.68</b>	<b>75.82</b>	<b>75.23</b>	<b>80.90</b>	<b>79.00</b>	<b>75.57</b>	<b>76.35</b>	<b>74.71</b>
<b>Imports</b>											
Crude Oil <sup>3</sup> . . . . .	18.96	21.42	21.43	21.41	21.18	21.17	22.49	22.56	22.66	22.39	22.30
Petroleum Products <sup>4</sup> . . . . .	4.14	6.11	5.60	5.28	3.90	3.72	8.52	7.63	7.15	4.57	4.49
Natural Gas . . . . .	3.63	5.14	5.07	4.91	4.72	4.76	5.55	5.29	5.71	5.15	5.46
Other Imports <sup>5</sup> . . . . .	0.64	1.11	1.09	1.01	1.04	1.04	0.96	0.94	0.87	0.81	0.81
<b>Total</b> . . . . .	<b>27.37</b>	<b>33.78</b>	<b>33.20</b>	<b>32.61</b>	<b>30.84</b>	<b>30.69</b>	<b>37.52</b>	<b>36.42</b>	<b>36.39</b>	<b>32.91</b>	<b>33.06</b>
<b>Exports</b>											
Petroleum <sup>6</sup> . . . . .	1.98	1.73	1.76	1.76	1.76	1.77	1.73	1.74	1.73	1.66	1.64
Natural Gas . . . . .	0.17	0.33	0.33	0.33	0.33	0.33	0.43	0.43	0.43	0.43	0.43
Coal . . . . .	1.48	1.51	1.51	1.52	1.51	1.52	1.45	1.45	1.52	1.45	1.52
<b>Total</b> . . . . .	<b>3.62</b>	<b>3.56</b>	<b>3.59</b>	<b>3.61</b>	<b>3.59</b>	<b>3.62</b>	<b>3.61</b>	<b>3.62</b>	<b>3.68</b>	<b>3.54</b>	<b>3.59</b>
<b>Discrepancy<sup>7</sup></b> . . . . .	<b>0.67</b>	<b>0.44</b>	<b>0.56</b>	<b>0.57</b>	<b>0.46</b>	<b>0.52</b>	<b>0.06</b>	<b>0.25</b>	<b>0.10</b>	<b>0.22</b>	<b>0.11</b>
<b>Consumption</b>											
Petroleum Products <sup>8</sup> . . . . .	37.92	41.21	40.64	40.40	38.63	38.57	44.30	43.24	43.12	40.00	40.00
Natural Gas . . . . .	22.32	26.38	25.42	25.91	24.63	25.39	28.94	27.08	29.97	27.03	28.55
Coal . . . . .	21.40	24.37	24.03	20.79	22.07	20.24	25.57	25.10	16.48	20.10	16.72
Nuclear Power . . . . .	7.79	7.90	7.90	7.90	7.90	7.90	7.69	7.69	7.91	7.85	7.85
Renewable Energy <sup>1</sup> . . . . .	6.53	7.10	7.38	8.49	8.75	9.06	7.87	8.04	10.17	10.14	10.56
Other <sup>9</sup> . . . . .	0.35	0.61	0.61	0.63	0.61	0.61	0.38	0.39	0.53	0.39	0.39
<b>Total</b> . . . . .	<b>96.33</b>	<b>107.56</b>	<b>105.99</b>	<b>104.12</b>	<b>102.60</b>	<b>101.78</b>	<b>114.74</b>	<b>111.54</b>	<b>108.18</b>	<b>105.50</b>	<b>104.08</b>
<b>Net Imports - Petroleum</b> . . . . .	<b>21.12</b>	<b>25.80</b>	<b>25.28</b>	<b>24.93</b>	<b>23.32</b>	<b>23.12</b>	<b>29.28</b>	<b>28.45</b>	<b>28.08</b>	<b>25.29</b>	<b>25.15</b>
<b>Prices (1999 dollars per unit)</b>											
World Oil Price (dollars per barrel) <sup>10</sup> . . .	17.22	20.83	20.83	20.83	20.83	20.83	21.37	21.37	21.37	21.37	21.37
Gas Wellhead Price (dollars per Mcf) <sup>11</sup> . . .	2.08	2.99	2.80	2.83	2.52	2.72	2.82	2.45	2.91	2.28	2.76
Coal Minemouth Price (dollars per ton) . . . . .	17.13	15.22	14.79	14.66	14.94	14.46	14.19	13.93	15.08	13.88	14.27
Average Electric Price (cents per Kwh) . . . . .	6.7	6.4	6.2	6.8	6.8	6.9	6.1	5.8	7.1	6.5	6.7

<sup>1</sup>Includes grid-connected electricity from conventional hydroelectric; wood and wood waste; landfill gas; municipal solid waste; other biomass; wind; photovoltaic and solar thermal sources; non-electric energy from renewable sources, such as active and passive solar systems, and wood; and both the ethanol and gasoline components of E85, but not the ethanol components of blends less than 85 percent. Excludes electricity imports using renewable sources and nonmarketed renewable energy. See Table D18 for selected nonmarketed residential and commercial renewable energy.

<sup>2</sup>Includes liquid hydrogen, methanol, supplemental natural gas, and some domestic inputs to refineries.

<sup>3</sup>Includes imports of crude oil for the Strategic Petroleum Reserve.

<sup>4</sup>Includes imports of finished petroleum products, imports of unfinished oils, alcohols, ethers, and blending components.

<sup>5</sup>Includes coal, coal coke (net), and electricity (net).

<sup>6</sup>Includes crude oil and petroleum products.

<sup>7</sup>Balancing item. Includes unaccounted for supply, losses, gains, and net storage withdrawals.

<sup>8</sup>Includes natural gas plant liquids, crude oil consumed as a fuel, and nonpetroleum based liquids for blending, such as ethanol.

<sup>9</sup>Includes net electricity imports, methanol, and liquid hydrogen.

<sup>10</sup>Average refiner acquisition cost for imported crude oil.

<sup>11</sup>Represents lower 48 onshore and offshore supplies.

Btu = British thermal unit.

Mcf = Thousand cubic feet.

Kwh = Kilowatthour.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 natural gas values: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 petroleum values: EIA, *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). Other 1999 values: EIA, *Annual Energy Review 1999*, DOE/EIA-0384(99) (Washington, DC, July 2000) and EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000). **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDMR.D092701A.

Projections										
Reference	2015				Reference	2020				Reference
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits		CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
11.08	10.89	11.06	10.75	10.96	11.06	10.74	10.95	10.71	10.81	
3.76	3.37	3.68	3.31	3.48	4.14	3.60	3.87	3.53	3.67	
27.19	24.30	26.56	23.77	25.12	30.10	26.11	28.14	25.53	26.64	
26.84	26.27	17.12	20.37	17.17	27.10	26.52	16.80	19.25	16.42	
6.98	6.98	7.54	7.09	7.21	6.51	6.35	6.89	6.14	6.59	
8.16	8.31	10.48	10.52	10.88	8.37	8.59	11.49	10.83	11.11	
0.31	0.60	0.50	0.55	0.46	0.33	0.93	0.87	0.91	0.68	
<b>84.31</b>	<b>80.73</b>	<b>76.94</b>	<b>76.35</b>	<b>75.27</b>	<b>87.61</b>	<b>82.84</b>	<b>79.02</b>	<b>76.89</b>	<b>75.90</b>	
25.27	24.81	24.61	23.26	23.04	25.91	26.30	25.90	24.12	24.12	
8.67	7.75	7.39	4.85	4.75	10.70	8.06	7.98	4.88	4.80	
6.11	5.64	6.16	5.52	5.80	6.55	5.97	6.40	5.89	6.09	
0.88	0.87	0.75	0.73	0.73	0.96	0.94	0.80	0.80	0.80	
<b>40.93</b>	<b>39.06</b>	<b>38.91</b>	<b>34.36</b>	<b>34.33</b>	<b>44.11</b>	<b>41.27</b>	<b>41.08</b>	<b>35.68</b>	<b>35.81</b>	
1.73	1.70	1.71	1.68	1.70	1.82	1.79	1.82	1.81	1.83	
0.53	0.53	0.53	0.53	0.53	0.63	0.63	0.63	0.63	0.63	
1.40	1.35	1.52	1.39	1.52	1.41	1.41	1.51	1.45	1.47	
<b>3.67</b>	<b>3.58</b>	<b>3.76</b>	<b>3.60</b>	<b>3.76</b>	<b>3.87</b>	<b>3.83</b>	<b>3.96</b>	<b>3.90</b>	<b>3.94</b>	
<b>0.23</b>	<b>0.22</b>	<b>0.08</b>	<b>0.06</b>	<b>0.03</b>	<b>0.18</b>	<b>0.06</b>	<b>-0.03</b>	<b>-0.01</b>	<b>-0.09</b>	
47.33	45.66	45.59	41.10	41.11	50.36	47.93	47.88	42.44	42.46	
32.60	29.27	32.02	28.62	30.23	35.88	31.32	33.75	30.66	31.96	
26.03	25.52	15.98	19.46	16.13	26.30	25.76	15.74	18.33	15.46	
6.98	6.98	7.54	7.09	7.21	6.51	6.35	6.89	6.14	6.59	
8.17	8.32	10.49	10.53	10.88	8.38	8.60	11.50	10.84	11.12	
0.24	0.25	0.38	0.26	0.26	0.25	0.27	0.39	0.27	0.27	
<b>121.34</b>	<b>115.99</b>	<b>112.01</b>	<b>107.05</b>	<b>105.82</b>	<b>127.68</b>	<b>120.22</b>	<b>116.16</b>	<b>108.68</b>	<b>107.86</b>	
<b>32.21</b>	<b>30.86</b>	<b>30.30</b>	<b>26.43</b>	<b>26.09</b>	<b>34.78</b>	<b>32.56</b>	<b>32.06</b>	<b>27.18</b>	<b>27.08</b>	
21.89	21.89	21.89	21.89	21.89	22.41	22.41	22.41	22.41	22.41	
2.92	2.48	2.91	2.37	2.71	3.10	2.48	2.82	2.36	2.61	
13.40	13.24	14.44	12.71	13.79	12.93	12.78	13.47	11.51	13.45	
6.1	5.9	7.3	6.5	6.6	6.1	6.0	7.2	6.6	6.6	

**Table D2. Energy Consumption by Sector and Source**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Energy Consumption</b>												
<b>Residential</b>												
Distillate Fuel .....	0.86	0.87	0.87	0.87	0.84	0.84	0.80	0.79	0.80	0.76	0.76	
Kerosene .....	0.10	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	
Liquefied Petroleum Gas .....	0.46	0.46	0.45	0.45	0.44	0.44	0.43	0.42	0.42	0.41	0.41	
Petroleum Subtotal .....	1.42	1.41	1.40	1.40	1.36	1.36	1.30	1.29	1.29	1.23	1.24	
Natural Gas .....	4.88	5.55	5.53	5.49	5.40	5.36	5.54	5.54	5.42	5.36	5.26	
Coal .....	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Renewable Energy <sup>1</sup> .....	0.41	0.42	0.42	0.42	0.41	0.41	0.42	0.42	0.42	0.41	0.41	
Electricity .....	3.91	4.56	4.48	4.37	4.34	4.31	4.91	4.64	4.40	4.39	4.34	
<b>Delivered Energy</b> .....	<b>10.66</b>	<b>11.99</b>	<b>11.88</b>	<b>11.73</b>	<b>11.55</b>	<b>11.49</b>	<b>12.22</b>	<b>11.93</b>	<b>11.58</b>	<b>11.44</b>	<b>11.30</b>	
Electricity Related Losses .....	8.44	9.66	9.54	8.91	9.10	8.85	10.00	9.62	8.57	8.79	8.39	
<b>Total</b> .....	<b>19.10</b>	<b>21.65</b>	<b>21.42</b>	<b>20.64</b>	<b>20.65</b>	<b>20.35</b>	<b>22.22</b>	<b>21.55</b>	<b>20.15</b>	<b>20.23</b>	<b>19.69</b>	
<b>Commercial</b>												
Distillate Fuel .....	0.36	0.37	0.38	0.38	0.35	0.35	0.38	0.38	0.39	0.34	0.34	
Residual Fuel .....	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Kerosene .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Liquefied Petroleum Gas .....	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Motor Gasoline <sup>2</sup> .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Petroleum Subtotal .....	0.60	0.61	0.61	0.61	0.58	0.58	0.62	0.62	0.63	0.58	0.58	
Natural Gas .....	3.14	3.99	3.94	3.93	3.92	3.88	4.19	4.12	4.05	4.12	4.04	
Coal .....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
Renewable Energy <sup>3</sup> .....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
Electricity .....	3.66	4.40	4.22	4.13	4.17	4.14	4.92	4.56	4.40	4.51	4.47	
<b>Delivered Energy</b> .....	<b>7.55</b>	<b>9.15</b>	<b>8.92</b>	<b>8.83</b>	<b>8.82</b>	<b>8.76</b>	<b>9.88</b>	<b>9.46</b>	<b>9.24</b>	<b>9.36</b>	<b>9.24</b>	
Electricity Related Losses .....	7.91	9.33	8.97	8.44	8.75	8.51	10.02	9.46	8.57	9.04	8.63	
<b>Total</b> .....	<b>15.46</b>	<b>18.48</b>	<b>17.89</b>	<b>17.27</b>	<b>17.56</b>	<b>17.27</b>	<b>19.90</b>	<b>18.91</b>	<b>17.81</b>	<b>18.40</b>	<b>17.87</b>	
<b>Industrial<sup>4</sup></b>												
Distillate Fuel .....	1.13	1.21	1.20	1.19	1.18	1.18	1.30	1.27	1.26	1.24	1.24	
Liquefied Petroleum Gas .....	2.32	2.44	2.38	2.39	2.33	2.35	2.51	2.39	2.40	2.35	2.36	
Petrochemical Feedstock .....	1.29	1.36	1.33	1.33	1.31	1.31	1.53	1.46	1.46	1.43	1.43	
Residual Fuel .....	0.22	0.16	0.16	0.16	0.15	0.15	0.25	0.24	0.25	0.20	0.22	
Motor Gasoline <sup>2</sup> .....	0.21	0.23	0.22	0.22	0.22	0.22	0.25	0.24	0.24	0.24	0.24	
Other Petroleum <sup>5</sup> .....	4.29	4.41	4.39	4.39	4.33	4.33	4.68	4.57	4.62	4.48	4.50	
Petroleum Subtotal .....	9.45	9.81	9.69	9.69	9.52	9.54	10.51	10.18	10.23	9.94	9.99	
Natural Gas <sup>6</sup> .....	9.80	10.42	10.29	10.32	10.21	10.19	11.27	10.99	11.20	10.74	10.69	
Metallurgical Coal .....	0.75	0.67	0.67	0.67	0.63	0.63	0.61	0.61	0.61	0.52	0.52	
Steam Coal .....	1.73	1.80	1.79	1.80	1.71	1.72	1.82	1.79	1.74	1.64	1.60	
Net Coal Coke Imports .....	0.06	0.11	0.09	0.09	0.13	0.13	0.15	0.13	0.13	0.21	0.21	
Coal Subtotal .....	2.54	2.59	2.56	2.56	2.48	2.48	2.58	2.53	2.49	2.37	2.33	
Renewable Energy <sup>7</sup> .....	2.15	2.40	2.39	2.39	2.43	2.43	2.63	2.60	2.60	2.75	2.75	
Electricity .....	3.61	3.88	3.83	3.78	3.75	3.74	4.16	4.08	3.88	3.89	3.87	
<b>Delivered Energy</b> .....	<b>27.56</b>	<b>29.10</b>	<b>28.75</b>	<b>28.74</b>	<b>28.40</b>	<b>28.39</b>	<b>31.14</b>	<b>30.38</b>	<b>30.41</b>	<b>29.68</b>	<b>29.63</b>	
Electricity Related Losses .....	7.80	8.21	8.16	7.73	7.87	7.68	8.47	8.46	7.56	7.79	7.48	
<b>Total</b> .....	<b>35.36</b>	<b>37.31</b>	<b>36.91</b>	<b>36.47</b>	<b>36.27</b>	<b>36.06</b>	<b>39.61</b>	<b>38.83</b>	<b>37.97</b>	<b>37.46</b>	<b>37.10</b>	

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
0.78	0.77	0.77	0.72	0.72	0.76	0.75	0.75	0.70	0.70	
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	
0.41	0.40	0.41	0.38	0.38	0.41	0.39	0.40	0.37	0.37	
1.26	1.23	1.25	1.17	1.17	1.23	1.20	1.22	1.13	1.14	
5.78	5.79	5.65	5.53	5.44	6.08	6.11	5.97	5.77	5.68	
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
0.43	0.43	0.42	0.42	0.41	0.43	0.44	0.42	0.43	0.42	
5.27	4.68	4.41	4.24	4.21	5.69	4.79	4.53	4.19	4.18	
<b>12.79</b>	<b>12.19</b>	<b>11.78</b>	<b>11.41</b>	<b>11.28</b>	<b>13.48</b>	<b>12.59</b>	<b>12.19</b>	<b>11.57</b>	<b>11.46</b>	
10.28	9.44	8.32	8.16	7.81	10.65	9.42	8.35	7.61	7.39	
<b>23.08</b>	<b>21.63</b>	<b>20.10</b>	<b>19.57</b>	<b>19.10</b>	<b>24.14</b>	<b>22.01</b>	<b>20.54</b>	<b>19.18</b>	<b>18.85</b>	
0.38	0.38	0.40	0.32	0.32	0.37	0.37	0.39	0.30	0.30	
0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
0.09	0.09	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.10	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
0.62	0.63	0.64	0.56	0.57	0.62	0.62	0.64	0.55	0.55	
4.36	4.25	4.21	4.20	4.13	4.47	4.36	4.40	4.31	4.25	
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.07	0.07	
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
5.35	4.77	4.57	4.66	4.64	5.64	4.85	4.62	4.68	4.66	
<b>10.48</b>	<b>9.80</b>	<b>9.57</b>	<b>9.58</b>	<b>9.49</b>	<b>10.88</b>	<b>9.98</b>	<b>9.83</b>	<b>9.68</b>	<b>9.61</b>	
10.43	9.63	8.61	8.97	8.60	10.56	9.53	8.53	8.50	8.25	
<b>20.91</b>	<b>19.43</b>	<b>18.19</b>	<b>18.54</b>	<b>18.09</b>	<b>21.44</b>	<b>19.51</b>	<b>18.35</b>	<b>18.18</b>	<b>17.86</b>	
1.39	1.35	1.34	1.30	1.30	1.49	1.43	1.42	1.37	1.37	
2.67	2.48	2.51	2.41	2.45	2.85	2.59	2.65	2.51	2.52	
1.61	1.51	1.51	1.46	1.46	1.69	1.57	1.57	1.52	1.52	
0.26	0.25	0.26	0.22	0.22	0.27	0.25	0.26	0.19	0.20	
0.26	0.26	0.26	0.25	0.25	0.28	0.28	0.27	0.27	0.27	
4.81	4.66	4.71	4.55	4.56	5.00	4.77	4.81	4.61	4.64	
11.01	10.51	10.59	10.20	10.24	11.58	10.89	10.99	10.47	10.51	
12.03	11.57	11.91	11.11	11.06	12.71	12.18	12.66	11.64	11.60	
0.55	0.56	0.56	0.43	0.43	0.50	0.51	0.51	0.36	0.36	
1.84	1.80	1.77	1.62	1.59	1.86	1.81	1.78	1.59	1.57	
0.19	0.17	0.17	0.28	0.28	0.22	0.21	0.21	0.33	0.33	
2.58	2.53	2.50	2.33	2.29	2.59	2.52	2.49	2.28	2.26	
2.85	2.81	2.81	3.08	3.08	3.07	3.03	3.02	3.43	3.43	
4.43	4.30	3.94	4.03	4.02	4.76	4.54	4.04	4.18	4.19	
<b>32.90</b>	<b>31.71</b>	<b>31.75</b>	<b>30.74</b>	<b>30.70</b>	<b>34.72</b>	<b>33.16</b>	<b>33.20</b>	<b>32.00</b>	<b>31.99</b>	
8.64	8.67	7.44	7.74	7.46	8.91	8.92	7.46	7.59	7.41	
<b>41.54</b>	<b>40.38</b>	<b>39.19</b>	<b>38.48</b>	<b>38.16</b>	<b>43.63</b>	<b>42.08</b>	<b>40.66</b>	<b>39.59</b>	<b>39.40</b>	

**Table D2. Energy Consumption by Sector and Source (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Transportation</b>											
Distillate Fuel .....	5.13	6.25	6.07	6.03	5.94	5.93	6.98	6.69	6.61	6.42	6.39
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.90	3.89	3.87	3.86	4.49	4.52	4.52	4.42	4.41
Motor Gasoline <sup>2</sup> .....	15.92	17.64	17.49	17.49	16.03	16.02	18.94	18.54	18.53	16.10	16.10
Residual Fuel .....	0.74	0.85	0.85	0.85	0.84	0.84	0.85	0.85	0.85	0.85	0.85
Liquefied Petroleum Gas .....	0.02	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04
Other Petroleum <sup>9</sup> .....	0.26	0.29	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.31
Petroleum Subtotal .....	25.54	28.95	28.63	28.58	27.01	26.97	31.62	30.95	30.86	28.14	28.10
Pipeline Fuel Natural Gas .....	0.66	0.82	0.79	0.81	0.77	0.80	0.90	0.85	0.95	0.85	0.91
Compressed Natural Gas .....	0.02	0.05	0.05	0.05	0.05	0.05	0.09	0.09	0.09	0.08	0.08
Renewable Energy (E85) <sup>10</sup> .....	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
Electricity .....	0.06	0.09	0.09	0.09	0.08	0.08	0.12	0.10	0.10	0.10	0.10
<b>Delivered Energy</b> .....	<b>26.28</b>	<b>29.94</b>	<b>29.58</b>	<b>29.56</b>	<b>27.94</b>	<b>27.94</b>	<b>32.77</b>	<b>32.04</b>	<b>32.05</b>	<b>29.21</b>	<b>29.23</b>
Electricity Related Losses .....	0.13	0.19	0.18	0.17	0.18	0.17	0.24	0.21	0.20	0.20	0.19
<b>Total</b> .....	<b>26.41</b>	<b>30.12</b>	<b>29.77</b>	<b>29.74</b>	<b>28.11</b>	<b>28.11</b>	<b>33.01</b>	<b>32.25</b>	<b>32.25</b>	<b>29.41</b>	<b>29.42</b>
<b>Delivered Energy Consumption for All Sectors</b>											
Distillate Fuel .....	7.48	8.70	8.51	8.47	8.31	8.30	9.46	9.13	9.06	8.76	8.74
Kerosene .....	0.15	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.12	0.12
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.90	3.89	3.87	3.86	4.49	4.52	4.52	4.42	4.41
Liquefied Petroleum Gas .....	2.88	3.02	2.96	2.96	2.89	2.91	3.07	2.94	2.95	2.89	2.90
Motor Gasoline <sup>2</sup> .....	16.17	17.90	17.74	17.74	16.28	16.27	19.22	18.81	18.80	16.37	16.36
Petrochemical Feedstock .....	1.29	1.36	1.33	1.33	1.31	1.31	1.53	1.46	1.46	1.43	1.43
Residual Fuel .....	1.05	1.10	1.10	1.10	1.09	1.09	1.20	1.18	1.19	1.14	1.16
Other Petroleum <sup>12</sup> .....	4.53	4.68	4.66	4.66	4.60	4.60	4.96	4.86	4.90	4.77	4.78
Petroleum Subtotal .....	37.01	40.77	40.33	40.29	38.47	38.46	44.05	43.03	43.02	39.89	39.91
Natural Gas <sup>6</sup> .....	18.50	20.84	20.60	20.61	20.35	20.28	21.99	21.59	21.70	21.15	20.97
Metallurgical Coal .....	0.75	0.67	0.67	0.67	0.63	0.63	0.61	0.61	0.61	0.52	0.52
Steam Coal .....	1.84	1.92	1.91	1.91	1.83	1.83	1.94	1.91	1.87	1.76	1.72
Net Coal Coke Imports .....	0.06	0.11	0.09	0.09	0.13	0.13	0.15	0.13	0.13	0.21	0.21
Coal Subtotal .....	2.65	2.70	2.67	2.68	2.59	2.60	2.70	2.66	2.62	2.49	2.45
Renewable Energy <sup>13</sup> .....	2.65	2.93	2.91	2.91	2.95	2.95	3.17	3.14	3.14	3.27	3.27
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
Electricity .....	11.24	12.93	12.62	12.37	12.34	12.28	14.10	13.37	12.78	12.89	12.78
<b>Delivered Energy</b> .....	<b>72.05</b>	<b>80.17</b>	<b>79.14</b>	<b>78.86</b>	<b>76.71</b>	<b>76.57</b>	<b>86.01</b>	<b>83.80</b>	<b>83.27</b>	<b>79.70</b>	<b>79.40</b>
Electricity Related Losses .....	24.28	27.39	26.85	25.25	25.89	25.21	28.73	27.74	24.90	25.81	24.68
<b>Total</b> .....	<b>96.33</b>	<b>107.56</b>	<b>105.99</b>	<b>104.12</b>	<b>102.60</b>	<b>101.78</b>	<b>114.74</b>	<b>111.54</b>	<b>108.18</b>	<b>105.50</b>	<b>104.08</b>
<b>Electric Generators<sup>14</sup></b>											
Distillate Fuel .....	0.05	0.06	0.05	0.02	0.02	0.02	0.06	0.05	0.02	0.02	0.01
Residual Fuel .....	0.86	0.37	0.26	0.10	0.14	0.09	0.20	0.16	0.08	0.09	0.08
Petroleum Subtotal .....	0.91	0.43	0.32	0.11	0.16	0.11	0.25	0.21	0.10	0.11	0.10
Natural Gas .....	3.83	5.54	4.81	5.30	4.29	5.11	6.96	5.49	8.26	5.89	7.58
Steam Coal .....	18.75	21.67	21.36	18.11	19.48	17.65	22.87	22.44	13.86	17.61	14.27
Nuclear Power .....	7.79	7.90	7.90	7.90	7.90	7.90	7.69	7.69	7.91	7.85	7.85
Renewable Energy <sup>15</sup> .....	3.88	4.17	4.47	5.58	5.80	6.11	4.70	4.90	7.04	6.86	7.30
Electricity Imports <sup>16</sup> .....	0.35	0.61	0.61	0.62	0.61	0.61	0.37	0.51	0.37	0.37	0.37
<b>Total</b> .....	<b>35.52</b>	<b>40.32</b>	<b>39.47</b>	<b>37.62</b>	<b>38.24</b>	<b>37.49</b>	<b>42.83</b>	<b>41.11</b>	<b>37.69</b>	<b>38.69</b>	<b>37.46</b>

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
7.61	7.16	7.08	6.75	6.73	8.21	7.58	7.50	7.05	7.03	
5.22	5.22	5.23	4.99	4.99	5.96	5.90	5.91	5.65	5.65	
20.14	19.46	19.46	16.08	16.08	21.25	20.26	20.25	16.22	16.23	
0.86	0.86	0.86	0.86	0.86	0.86	0.87	0.87	0.87	0.87	
0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.06	
0.33	0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35	0.35	
34.20	33.08	33.01	29.06	29.04	36.70	35.01	34.94	30.20	30.18	
1.01	0.91	0.99	0.88	0.94	1.10	0.96	1.03	0.94	0.98	
0.13	0.12	0.12	0.11	0.11	0.16	0.15	0.15	0.13	0.13	
0.04	0.04	0.04	0.04	0.04	0.04	0.06	0.06	0.05	0.05	
0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	
0.00	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.02	
0.15	0.12	0.12	0.12	0.12	0.17	0.14	0.14	0.14	0.14	
<b>35.53</b>	<b>34.30</b>	<b>34.31</b>	<b>30.24</b>	<b>30.26</b>	<b>38.16</b>	<b>36.34</b>	<b>36.34</b>	<b>31.48</b>	<b>31.50</b>	
0.28	0.25	0.23	0.22	0.22	0.31	0.28	0.26	0.25	0.24	
<b>35.81</b>	<b>34.55</b>	<b>34.53</b>	<b>30.46</b>	<b>30.48</b>	<b>38.47</b>	<b>36.62</b>	<b>36.60</b>	<b>31.73</b>	<b>31.74</b>	
10.15	9.66	9.59	9.10	9.08	10.82	10.13	10.07	9.42	9.40	
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
5.22	5.22	5.23	4.99	4.99	5.96	5.90	5.91	5.65	5.65	
3.23	3.02	3.06	2.93	2.98	3.41	3.12	3.20	3.03	3.04	
20.43	19.74	19.74	16.36	16.36	21.56	20.56	20.55	16.52	16.52	
1.61	1.51	1.51	1.46	1.46	1.69	1.57	1.57	1.52	1.52	
1.21	1.20	1.21	1.17	1.17	1.23	1.22	1.22	1.15	1.16	
5.12	4.96	5.02	4.86	4.86	5.33	5.10	5.14	4.94	4.97	
47.09	45.44	45.49	40.99	41.02	50.13	47.72	47.78	42.35	42.38	
23.30	22.64	22.88	21.83	21.67	24.52	23.75	24.21	22.79	22.64	
0.55	0.56	0.56	0.43	0.43	0.50	0.51	0.51	0.36	0.36	
1.97	1.92	1.90	1.74	1.71	1.99	1.93	1.90	1.71	1.69	
0.19	0.17	0.17	0.28	0.28	0.22	0.21	0.21	0.33	0.33	
2.71	2.65	2.63	2.45	2.41	2.71	2.65	2.62	2.40	2.38	
3.40	3.37	3.36	3.62	3.61	3.64	3.61	3.59	4.00	3.98	
0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	
0.00	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.02	
15.19	13.87	13.05	13.05	12.99	16.25	14.32	13.34	13.18	13.15	
<b>91.70</b>	<b>88.00</b>	<b>87.41</b>	<b>81.96</b>	<b>81.73</b>	<b>97.25</b>	<b>92.07</b>	<b>91.56</b>	<b>84.74</b>	<b>84.56</b>	
29.64	27.99	24.59	25.09	24.09	30.43	28.15	24.60	23.95	23.29	
<b>121.34</b>	<b>115.99</b>	<b>112.01</b>	<b>107.05</b>	<b>105.82</b>	<b>127.68</b>	<b>120.22</b>	<b>116.16</b>	<b>108.68</b>	<b>107.86</b>	
0.06	0.05	0.02	0.02	0.01	0.06	0.06	0.02	0.02	0.01	
0.18	0.16	0.08	0.08	0.07	0.17	0.15	0.08	0.08	0.07	
0.24	0.21	0.10	0.10	0.09	0.23	0.21	0.10	0.09	0.08	
9.29	6.62	9.15	6.79	8.55	11.36	7.56	9.54	7.88	9.32	
23.33	22.87	13.36	17.01	13.72	23.59	23.11	13.12	15.93	13.08	
6.98	6.98	7.54	7.09	7.21	6.51	6.35	6.89	6.14	6.59	
4.76	4.95	7.13	6.91	7.27	4.75	4.99	7.91	6.84	7.13	
0.23	0.23	0.36	0.23	0.23	0.24	0.24	0.37	0.24	0.24	
<b>44.83</b>	<b>41.86</b>	<b>37.64</b>	<b>38.14</b>	<b>37.07</b>	<b>46.68</b>	<b>42.47</b>	<b>37.94</b>	<b>37.12</b>	<b>36.45</b>	

**Table D2. Energy Consumption by Sector and Source (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Total Energy Consumption</b>											
Distillate Fuel .....	7.53	8.77	8.57	8.49	8.34	8.32	9.51	9.18	9.08	8.78	8.75
Kerosene .....	0.15	0.13	0.13	0.13	0.13	0.13	0.12	0.13	0.13	0.12	0.12
Jet Fuel <sup>8</sup> .....	3.46	3.88	3.90	3.89	3.87	3.86	4.49	4.52	4.52	4.42	4.41
Liquefied Petroleum Gas .....	2.88	3.02	2.96	2.96	2.89	2.91	3.07	2.94	2.95	2.89	2.90
Motor Gasoline <sup>2</sup> .....	16.17	17.90	17.74	17.74	16.28	16.27	19.22	18.81	18.80	16.37	16.36
Petrochemical Feedstock .....	1.29	1.36	1.33	1.33	1.31	1.31	1.53	1.46	1.46	1.43	1.43
Residual Fuel .....	1.92	1.48	1.36	1.19	1.23	1.18	1.39	1.34	1.28	1.24	1.24
Other Petroleum <sup>12</sup> .....	4.53	4.68	4.66	4.66	4.60	4.60	4.96	4.86	4.90	4.77	4.78
Petroleum Subtotal .....	37.92	41.21	40.64	40.40	38.63	38.57	44.30	43.24	43.12	40.00	40.00
Natural Gas .....	22.32	26.38	25.42	25.91	24.63	25.39	28.94	27.08	29.97	27.03	28.55
Metallurgical Coal .....	0.75	0.67	0.67	0.67	0.63	0.63	0.61	0.61	0.61	0.52	0.52
Steam Coal .....	20.59	23.59	23.26	20.02	21.30	19.48	24.81	24.35	15.73	19.37	15.99
Net Coal Coke Imports .....	0.06	0.11	0.09	0.09	0.13	0.13	0.15	0.13	0.13	0.21	0.21
Coal Subtotal .....	21.40	24.37	24.03	20.79	22.07	20.24	25.57	25.10	16.48	20.10	16.72
Nuclear Power .....	7.79	7.90	7.90	7.90	7.90	7.90	7.69	7.69	7.91	7.85	7.85
Renewable Energy <sup>17</sup> .....	6.53	7.10	7.38	8.49	8.75	9.06	7.87	8.04	10.18	10.14	10.56
Methanol (M85) <sup>11</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00
Liquid Hydrogen .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
Electricity Imports <sup>16</sup> .....	0.35	0.61	0.61	0.62	0.61	0.61	0.37	0.37	0.51	0.37	0.37
Total .....	96.33	107.56	105.99	104.12	102.60	101.78	114.74	111.54	108.18	105.50	104.08
<b>Energy Use and Related Statistics</b>											
Delivered Energy Use .....	72.05	80.17	79.14	78.86	76.71	76.57	86.01	83.80	83.27	79.70	79.40
Total Energy Use .....	96.33	107.56	105.99	104.12	102.60	101.78	114.74	111.54	108.18	105.50	104.08
Population (millions) .....	273.13	288.02	288.02	288.02	288.02	288.02	300.17	300.17	300.17	300.17	300.17
Gross Domestic Product (billion 1996 dollars) .....	8876	10960	10960	10925	10960	10952	12667	12667	12641	12667	12659
Carbon Dioxide Emissions (million metric tons carbon equivalent) .....	1510.8	1701.4	1669.5	1588.2	1570.2	1533.3	1820.6	1764.6	1581.2	1575.3	1509.9

<sup>1</sup>Includes wood used for residential heating. See Table D18 for estimates of nonmarketed renewable energy consumption for geothermal heat pumps, solar thermal hot water heating, and solar photovoltaic electricity generation.

<sup>2</sup>Includes ethanol (blends of 10 percent or less) and ethers blended into gasoline.

<sup>3</sup>Includes commercial sector electricity cogenerated by using wood and wood waste, landfill gas, municipal solid waste, and other biomass. See Table D18 for estimates of nonmarketed renewable energy consumption for solar thermal hot water heating and solar photovoltaic electricity generation.

<sup>4</sup>Fuel consumption includes consumption for cogeneration, which produces electricity and other useful thermal energy.

<sup>5</sup>Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

<sup>6</sup>Includes lease and plant fuel and consumption by cogenerators; excludes consumption by nonutility generators.

<sup>7</sup>Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass; includes cogeneration, both for sale to the grid and for own use.

<sup>8</sup>Includes only kerosene type.

<sup>9</sup>Includes aviation gas and lubricants.

<sup>10</sup>E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

<sup>11</sup>M85 is 85 percent methanol and 15 percent motor gasoline.

<sup>12</sup>Includes unfinished oils, natural gasoline, motor gasoline blending compounds, aviation gasoline, lubricants, still gas, asphalt, road oil, petroleum coke, and miscellaneous petroleum products.

<sup>13</sup>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.

<sup>14</sup>Includes consumption of energy by all electric power generators for grid-connected power except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>15</sup>Includes conventional hydroelectric, geothermal, wood and wood waste, municipal solid waste, other biomass, petroleum coke, wind, photovoltaic and solar thermal sources. Excludes cogeneration. Excludes net electricity imports.

<sup>16</sup>In 1998 approximately 70 percent of the U.S. electricity imports were provided by renewable sources (hydroelectricity); EIA does not project future proportions for the fuel source of imported electricity.

<sup>17</sup>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.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 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:** 1999 electric utility fuel consumption: Energy Information Administration (EIA), *Electric Power Annual 1998, Volume 1*, DOE/EIA-0348(98)/1 (Washington, DC, April 1999). 1999 nonutility consumption estimates: EIA, Form EIA-860B: "Annual Electric Generator Report - Nonutility." Other 1999 values: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
10.21	9.71	9.61	9.11	9.09	10.88	10.19	10.09	9.44	9.42	
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
5.22	5.22	5.23	4.99	4.99	5.96	5.90	5.91	5.65	5.65	
3.23	3.02	3.06	2.93	2.98	3.41	3.12	3.20	3.03	3.04	
20.43	19.74	19.74	16.36	16.36	21.56	20.56	20.55	16.52	16.52	
1.61	1.51	1.51	1.46	1.46	1.69	1.57	1.57	1.52	1.52	
1.40	1.36	1.29	1.25	1.24	1.41	1.37	1.31	1.23	1.23	
5.12	4.96	5.02	4.86	4.86	5.33	5.10	5.14	4.94	4.97	
47.33	45.66	45.59	41.10	41.11	50.36	47.93	47.88	42.44	42.46	
32.60	29.27	32.02	28.62	30.23	35.88	31.32	33.75	30.66	31.96	
0.55	0.56	0.56	0.43	0.43	0.50	0.51	0.51	0.36	0.36	
25.29	24.79	15.25	18.75	15.43	25.58	25.04	15.02	17.64	14.77	
0.19	0.17	0.17	0.28	0.28	0.22	0.21	0.21	0.33	0.33	
26.03	25.52	15.98	19.46	16.13	26.30	25.76	15.74	18.33	15.46	
6.98	6.98	7.54	7.09	7.21	6.51	6.35	6.89	6.14	6.59	
8.17	8.32	10.49	10.53	10.89	8.38	8.60	11.50	10.84	11.12	
0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	
0.00	0.02	0.02	0.02	0.02	0.00	0.02	0.02	0.02	0.02	
0.23	0.23	0.36	0.23	0.23	0.24	0.24	0.37	0.24	0.24	
<b>121.34</b>	<b>115.99</b>	<b>112.01</b>	<b>107.05</b>	<b>105.82</b>	<b>127.68</b>	<b>120.22</b>	<b>116.16</b>	<b>108.68</b>	<b>107.86</b>	
91.70	88.00	87.41	81.96	81.73	97.25	92.07	91.56	84.74	84.56	
121.34	115.99	112.01	107.05	105.82	127.68	120.22	116.16	108.68	107.86	
312.58	312.58	312.58	312.58	312.58	325.24	325.24	325.24	325.24	325.24	
14635	14635	14631	14635	14641	16515	16515	16513	16515	16514	
1938.1	1846.1	1638.2	1596.8	1533.4	2043.8	1914.0	1689.5	1615.2	1558.4	

**Table D3. Energy Prices by Sector and Source**  
 (1999 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Residential</b> .....	<b>13.18</b>	<b>13.33</b>	<b>13.00</b>	<b>13.61</b>	<b>13.42</b>	<b>13.70</b>	<b>13.41</b>	<b>12.80</b>	<b>14.17</b>	<b>13.32</b>	<b>13.85</b>
Primary Energy <sup>1</sup> .....	6.71	7.50	7.38	7.40	7.16	7.31	7.17	6.91	7.24	6.72	7.10
Petroleum Products <sup>2</sup> .....	7.55	9.17	9.14	9.08	9.02	9.00	9.37	9.36	9.27	8.95	9.10
Distillate Fuel .....	6.27	7.37	7.34	7.28	7.17	7.17	7.57	7.56	7.49	7.31	7.33
Liquefied Petroleum Gas .....	10.36	12.61	12.61	12.58	12.59	12.52	12.82	12.83	12.69	12.04	12.47
Natural Gas .....	6.52	7.13	6.98	7.03	6.75	6.94	6.70	6.39	6.81	6.26	6.69
Electricity .....	23.69	22.29	21.77	23.49	23.23	23.71	22.19	21.52	24.81	23.31	24.02
<b>Commercial</b> .....	<b>13.28</b>	<b>12.71</b>	<b>12.19</b>	<b>13.19</b>	<b>13.09</b>	<b>13.43</b>	<b>12.23</b>	<b>11.33</b>	<b>13.38</b>	<b>12.26</b>	<b>12.94</b>
Primary Energy <sup>1</sup> .....	5.22	5.58	5.44	5.47	5.21	5.37	5.65	5.38	5.72	5.21	5.59
Petroleum Products <sup>2</sup> .....	4.99	6.08	6.04	6.00	5.94	5.92	6.27	6.25	6.17	5.98	6.05
Distillate Fuel .....	4.37	5.17	5.13	5.08	4.96	4.96	5.35	5.34	5.26	5.09	5.10
Residual Fuel .....	2.63	3.64	3.62	3.59	3.60	3.60	3.70	3.68	3.67	3.67	3.67
Natural Gas <sup>3</sup> .....	5.34	5.57	5.41	5.45	5.16	5.35	5.63	5.32	5.73	5.17	5.59
Electricity .....	21.64	20.28	19.59	21.81	21.71	22.25	18.76	17.60	21.65	19.70	20.65
<b>Industrial</b> <sup>4</sup> .....	<b>5.29</b>	<b>5.75</b>	<b>5.60</b>	<b>5.86</b>	<b>5.74</b>	<b>5.86</b>	<b>5.62</b>	<b>5.33</b>	<b>5.99</b>	<b>5.44</b>	<b>5.79</b>
Primary Energy .....	3.91	4.46	4.37	4.37	4.21	4.30	4.45	4.26	4.40	4.03	4.30
Petroleum Products <sup>2</sup> .....	5.54	5.97	5.93	5.90	5.82	5.82	6.07	6.01	5.92	5.60	5.75
Distillate Fuel .....	4.65	5.33	5.30	5.25	5.14	5.14	5.53	5.52	5.45	5.28	5.30
Liquefied Petroleum Gas .....	8.50	7.75	7.73	7.72	7.68	7.64	7.77	7.75	7.62	6.94	7.43
Residual Fuel .....	2.78	3.37	3.36	3.34	3.35	3.34	3.43	3.42	3.42	3.42	3.42
Natural Gas <sup>5</sup> .....	2.79	3.66	3.50	3.54	3.24	3.44	3.46	3.12	3.56	2.96	3.42
Metallurgical Coal .....	1.66	1.58	1.58	1.59	1.59	1.58	1.54	1.54	1.55	1.53	1.53
Steam Coal .....	1.43	1.35	1.34	1.31	1.34	1.30	1.30	1.29	1.20	1.27	1.19
Electricity .....	13.12	12.81	12.38	14.17	14.16	14.53	12.04	11.15	15.09	13.18	14.01
<b>Transportation</b> .....	<b>8.30</b>	<b>9.33</b>	<b>9.29</b>	<b>9.29</b>	<b>8.79</b>	<b>8.79</b>	<b>9.63</b>	<b>9.61</b>	<b>9.63</b>	<b>8.80</b>	<b>8.81</b>
Primary Energy .....	8.29	9.32	9.28	9.27	8.77	8.77	9.61	9.60	9.61	8.78	8.79
Petroleum Products <sup>2</sup> .....	8.28	9.32	9.27	9.27	8.76	8.76	9.61	9.60	9.60	8.77	8.78
Distillate Fuel <sup>6</sup> .....	8.22	8.89	8.88	8.84	8.69	8.69	8.94	9.01	8.98	8.76	8.78
Jet Fuel <sup>7</sup> .....	4.70	5.22	5.21	5.18	5.05	5.05	5.49	5.49	5.48	5.19	5.22
Motor Gasoline <sup>8</sup> .....	9.45	10.75	10.70	10.71	10.07	10.07	11.20	11.19	11.21	10.14	10.14
Residual Fuel .....	2.46	3.11	3.14	3.13	3.13	3.13	3.18	3.25	3.25	3.26	3.26
Liquefied Petroleum Gas <sup>9</sup> .....	12.87	14.07	14.05	14.02	13.99	13.94	14.00	14.02	13.89	13.28	13.64
Natural Gas <sup>10</sup> .....	7.02	7.30	7.11	7.15	6.80	6.99	7.17	6.84	7.27	6.60	7.04
Ethanol (E85) <sup>11</sup> .....	14.42	19.20	19.16	19.17	18.96	18.99	19.13	19.07	19.11	18.75	18.79
Methanol (M85) <sup>12</sup> .....	10.38	13.13	12.97	13.00	12.90	12.76	13.80	13.79	13.80	13.53	13.59
Electricity .....	15.64	14.61	14.27	15.75	15.43	15.95	13.73	13.31	16.64	15.23	16.01
<b>Average End-Use Energy</b> .....	<b>8.52</b>	<b>9.16</b>	<b>8.97</b>	<b>9.26</b>	<b>8.99</b>	<b>9.11</b>	<b>9.16</b>	<b>8.85</b>	<b>9.50</b>	<b>8.76</b>	<b>9.04</b>
Primary Energy .....	6.31	7.16	7.09	7.09	6.71	6.77	7.30	7.18	7.29	6.61	6.79
Electricity .....	19.58	18.71	18.14	20.02	19.90	20.37	17.93	16.96	20.71	18.93	19.75
<b>Electric Generators</b> <sup>13</sup>											
Fossil Fuel Average .....	1.48	1.63	1.54	1.61	1.48	1.58	1.59	1.42	1.98	1.48	1.85
Petroleum Products .....	2.48	3.60	3.69	4.01	3.80	4.04	3.96	4.03	4.22	4.17	4.24
Distillate Fuel .....	4.07	4.65	4.63	4.74	4.62	4.65	4.85	4.85	4.90	4.78	4.86
Residual Fuel .....	2.39	3.43	3.50	3.86	3.66	3.90	3.70	3.75	4.09	4.04	4.13
Natural Gas .....	2.57	3.42	3.24	3.49	3.05	3.38	3.23	2.83	3.60	2.81	3.42
Steam Coal .....	1.21	1.13	1.13	1.05	1.11	1.04	1.06	1.05	1.00	1.02	1.00

Projections										
Reference	2015				2020					
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>13.51</b>	<b>12.85</b>	<b>14.22</b>	<b>13.19</b>	<b>13.54</b>	<b>13.62</b>	<b>12.74</b>	<b>13.88</b>	<b>12.98</b>	<b>13.20</b>	
7.05	6.70	7.02	6.59	6.87	7.01	6.50	6.78	6.36	6.60	
9.35	9.33	9.14	9.17	9.15	9.47	9.38	9.26	9.02	9.07	
7.54	7.46	7.42	7.46	7.47	7.76	7.58	7.55	7.51	7.48	
12.84	13.01	12.46	12.49	12.37	12.71	12.96	12.52	11.90	12.13	
6.59	6.18	6.60	6.10	6.43	6.56	5.98	6.32	5.88	6.15	
22.20	22.16	25.55	23.69	24.07	22.16	22.32	25.20	24.00	24.06	
<b>12.39</b>	<b>11.55</b>	<b>13.66</b>	<b>12.40</b>	<b>12.75</b>	<b>12.55</b>	<b>11.66</b>	<b>13.28</b>	<b>12.43</b>	<b>12.62</b>	
5.62	5.27	5.60	5.16	5.44	5.69	5.18	5.45	5.03	5.27	
6.23	6.20	6.06	6.18	6.16	6.37	6.29	6.16	6.15	6.16	
5.30	5.24	5.18	5.23	5.23	5.51	5.36	5.31	5.27	5.24	
3.78	3.75	3.73	3.74	3.74	3.85	3.82	3.80	3.81	3.81	
5.61	5.20	5.60	5.08	5.41	5.67	5.08	5.42	4.95	5.22	
18.78	18.06	22.34	19.90	20.27	18.83	18.41	21.94	20.22	20.31	
<b>5.65</b>	<b>5.40</b>	<b>6.00</b>	<b>5.57</b>	<b>5.77</b>	<b>5.82</b>	<b>5.47</b>	<b>5.96</b>	<b>5.58</b>	<b>5.73</b>	
4.47	4.25	4.34	4.15	4.31	4.61	4.26	4.35	4.07	4.23	
6.01	5.98	5.80	5.80	5.80	6.12	6.01	5.90	5.64	5.71	
5.49	5.43	5.39	5.43	5.43	5.71	5.56	5.53	5.48	5.45	
7.79	7.87	7.36	7.33	7.30	7.68	7.80	7.44	6.71	6.96	
3.51	3.50	3.49	3.50	3.50	3.58	3.58	3.57	3.58	3.58	
3.56	3.12	3.53	3.00	3.34	3.73	3.11	3.46	2.99	3.26	
1.49	1.48	1.50	1.47	1.47	1.44	1.44	1.45	1.42	1.42	
1.25	1.24	1.16	1.21	1.15	1.21	1.20	1.10	1.11	1.10	
11.97	11.52	15.78	13.29	13.67	12.07	11.77	15.57	13.63	13.71	
<b>9.28</b>	<b>9.18</b>	<b>9.17</b>	<b>8.70</b>	<b>8.69</b>	<b>9.20</b>	<b>9.09</b>	<b>9.09</b>	<b>8.50</b>	<b>8.50</b>	
9.26	9.16	9.14	8.67	8.66	9.18	9.07	9.06	8.47	8.47	
9.26	9.16	9.13	8.67	8.66	9.18	9.07	9.06	8.47	8.46	
8.88	8.83	8.75	8.79	8.79	8.83	8.77	8.73	8.62	8.61	
5.54	5.45	5.41	5.31	5.30	5.72	5.61	5.59	5.42	5.43	
10.70	10.61	10.61	10.03	10.02	10.60	10.52	10.51	9.82	9.81	
3.26	3.37	3.36	3.38	3.38	3.33	3.48	3.48	3.49	3.49	
13.94	14.08	13.60	13.58	13.46	13.64	13.88	13.53	12.91	13.10	
7.28	6.86	7.27	6.65	6.97	7.30	6.73	7.04	6.48	6.74	
19.27	17.79	17.79	16.97	16.97	19.34	16.31	16.32	15.63	15.66	
14.17	14.30	14.30	14.14	13.89	14.35	14.38	14.38	14.14	13.89	
13.43	13.39	17.09	15.45	15.84	13.18	13.18	16.34	15.45	15.37	
<b>9.08</b>	<b>8.73</b>	<b>9.34</b>	<b>8.75</b>	<b>8.90</b>	<b>9.13</b>	<b>8.71</b>	<b>9.20</b>	<b>8.63</b>	<b>8.73</b>	
7.16	6.98	7.04	6.60	6.71	7.20	6.93	6.99	6.46	6.56	
17.93	17.38	21.39	19.05	19.42	17.96	17.56	21.06	19.28	19.35	
1.71	1.44	2.01	1.53	1.86	1.85	1.45	2.02	1.60	1.89	
4.04	4.08	4.34	4.35	4.42	4.20	4.24	4.47	4.51	4.55	
4.83	4.79	4.91	4.95	5.02	5.05	4.90	5.12	5.06	5.12	
3.79	3.84	4.21	4.21	4.31	3.92	3.98	4.33	4.39	4.44	
3.39	2.85	3.55	2.86	3.32	3.62	2.86	3.50	2.91	3.27	
1.02	1.00	0.94	0.98	0.93	0.98	0.96	0.92	0.93	0.89	

**Table D3. Energy Prices by Sector and Source (Continued)**  
 (1999 Dollars per Million Btu, Unless Otherwise Noted)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Average Price to All Users<sup>14</sup></b>											
Petroleum Products <sup>2</sup> .....	7.46	8.48	8.46	8.47	8.06	8.06	8.75	8.74	8.73	8.01	8.06
Distillate Fuel .....	7.25	8.06	8.03	8.00	7.87	7.87	8.20	8.23	8.19	7.99	8.01
Jet Fuel .....	4.70	5.22	5.21	5.18	5.05	5.05	5.49	5.49	5.48	5.19	5.22
Liquefied Petroleum Gas .....	8.84	8.65	8.64	8.63	8.60	8.55	8.66	8.66	8.53	7.85	8.33
Motor Gasoline <sup>3</sup> .....	9.45	10.75	10.70	10.71	10.07	10.07	11.20	11.19	11.21	10.14	10.14
Residual Fuel .....	2.47	3.25	3.26	3.25	3.26	3.25	3.33	3.37	3.37	3.37	3.37
Natural Gas .....	4.04	4.73	4.61	4.66	4.39	4.56	4.43	4.17	4.54	4.02	4.42
Coal .....	1.23	1.15	1.14	1.07	1.13	1.07	1.08	1.07	1.03	1.04	1.02
Ethanol (E85) <sup>11</sup> .....	14.42	19.20	19.16	19.17	18.96	18.99	19.13	19.07	19.11	18.75	18.79
Methanol (M85) <sup>12</sup> .....	10.38	13.13	12.97	13.00	12.90	12.76	13.80	13.79	13.80	13.53	13.59
Electricity .....	19.58	18.71	18.14	20.02	19.90	20.37	17.93	16.96	20.71	18.93	19.75
<b>Non-Renewable Energy Expenditures by Sector (billion 1999 dollars)</b>											
Residential .....	135.11	154.23	149.03	153.94	149.50	151.80	158.26	147.30	158.11	146.97	150.79
Commercial .....	99.11	115.32	107.70	115.39	114.29	116.55	119.82	106.18	122.46	113.78	118.43
Industrial .....	112.11	126.41	121.68	127.64	123.22	125.87	131.84	121.55	137.47	120.88	128.26
Transportation .....	212.64	271.38	267.23	266.79	238.47	238.22	306.12	299.58	299.43	249.63	249.73
Total Non-Renewable Expenditures .....	558.97	667.34	645.64	663.76	625.47	632.44	716.05	674.61	717.47	631.26	647.22
Transportation Renewable Expenditures .....	0.14	0.42	0.42	0.42	0.40	0.40	0.62	0.64	0.64	0.53	0.52
<b>Total Expenditures .....</b>	<b>559.11</b>	<b>667.75</b>	<b>646.06</b>	<b>664.18</b>	<b>625.87</b>	<b>632.84</b>	<b>716.67</b>	<b>675.24</b>	<b>718.11</b>	<b>631.79</b>	<b>647.74</b>

<sup>1</sup>Weighted average price includes fuels below as well as coal.

<sup>2</sup>This quantity is the weighted average for all petroleum products, not just those listed below.

<sup>3</sup>Excludes independent power producers.

<sup>4</sup>Includes cogenerators.

<sup>5</sup>Excludes uses for lease and plant fuel.

<sup>6</sup>Low sulfur diesel fuel. Price includes Federal and State taxes while excluding county and local taxes.

<sup>7</sup>Kerosene-type jet fuel. Price includes Federal and State taxes while excluding county and local taxes.

<sup>8</sup>Sales weighted-average price for all grades. Includes Federal and State taxes and excludes county and local taxes.

<sup>9</sup>Includes Federal and State taxes while excluding county and local taxes.

<sup>10</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

<sup>11</sup>E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

<sup>12</sup>M85 is 85 percent methanol and 15 percent motor gasoline.

<sup>13</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>14</sup>Weighted averages of end-use fuel prices are derived from the prices shown in each sector and the corresponding sectoral consumption.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 prices for gasoline, distillate, and jet fuel are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380(99/03-2000/04) (Washington, DC, 1999-2000). 1999 prices for all other petroleum products are derived from the EIA, *State Energy Price and Expenditure Report 1997*, DOE/EIA-0376(97) (Washington, DC, July 2000). 1999 industrial gas delivered prices are based on EIA, *Manufacturing Energy Consumption Survey 1994*. 1999 residential and commercial natural gas delivered prices: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 coal prices based on EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. 1999 electricity prices for commercial, industrial, and transportation: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
8.50	8.43	8.37	7.99	7.99	8.49	8.39	8.35	7.81	7.82	
8.16	8.09	8.02	8.07	8.07	8.20	8.09	8.05	7.97	7.95	
5.54	5.45	5.41	5.31	5.30	5.72	5.61	5.59	5.42	5.43	
8.63	8.75	8.25	8.21	8.16	8.48	8.64	8.29	7.57	7.81	
10.70	10.61	10.61	10.02	10.01	10.60	10.51	10.51	9.82	9.81	
3.41	3.47	3.47	3.48	3.48	3.49	3.58	3.57	3.58	3.58	
4.41	4.06	4.44	3.97	4.26	4.50	3.97	4.32	3.88	4.12	
1.04	1.02	0.97	1.00	0.95	0.99	0.98	0.95	0.95	0.91	
19.27	17.79	17.79	16.97	16.97	19.34	16.31	16.32	15.63	15.66	
14.17	14.30	14.30	14.14	13.89	14.35	14.38	14.38	14.14	13.89	
17.93	17.38	21.39	19.05	19.42	17.96	17.56	21.06	19.28	19.35	
167.03	151.11	161.49	145.00	147.17	177.68	154.78	163.27	144.71	145.78	
128.83	112.29	129.63	117.72	119.92	135.53	115.34	129.39	119.34	120.23	
139.94	128.69	144.02	127.32	131.32	152.08	136.38	149.45	132.17	135.34	
319.67	306.38	305.39	255.44	255.08	340.13	321.55	320.86	259.97	259.56	
755.47	698.47	740.53	645.49	653.49	805.42	728.05	762.97	656.20	660.91	
0.74	0.77	0.76	0.67	0.67	0.85	0.93	0.93	0.79	0.79	
<b>756.21</b>	<b>699.23</b>	<b>741.29</b>	<b>646.16</b>	<b>654.16</b>	<b>806.27</b>	<b>728.98</b>	<b>763.90</b>	<b>656.99</b>	<b>661.70</b>	

**Table D4. Residential Sector Key Indicators and End-Use Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Key Indicators</b>												
<b>Households (millions)</b>												
Single-Family .....	75.70	81.28	81.28	81.28	81.26	81.25	85.38	85.39	85.38	85.36	85.36	
Multifamily .....	21.79	23.06	23.06	23.06	23.04	23.04	24.16	24.17	24.16	24.14	24.13	
Mobile Homes .....	6.59	6.93	6.93	6.93	6.93	6.93	7.19	7.20	7.19	7.19	7.19	
<b>Total</b> .....	<b>104.08</b>	<b>111.26</b>	<b>111.27</b>	<b>111.26</b>	<b>111.22</b>	<b>111.22</b>	<b>116.74</b>	<b>116.75</b>	<b>116.73</b>	<b>116.70</b>	<b>116.68</b>	
<b>Average House Square Footage</b> .....												
<b>Energy Intensity</b> <b>(million Btu per household)</b>												
Delivered Energy Consumption .....	102.4	107.7	106.8	105.4	103.9	103.3	104.7	102.2	99.2	98.1	96.8	
Total Energy Consumption .....	183.5	194.5	192.5	185.5	185.7	183.0	190.3	184.6	172.6	173.4	168.7	
<b>(thousand Btu per square foot)</b>												
Delivered Energy Consumption .....	61.2	63.3	62.7	61.9	61.0	60.7	60.7	59.3	57.6	56.9	56.2	
Total Energy Consumption .....	109.7	114.3	113.1	109.0	109.1	107.5	110.4	107.1	100.2	100.6	97.9	
<b>Delivered Energy Consumption by Fuel</b>												
<b>Electricity</b>												
Space Heating .....	0.38	0.45	0.46	0.44	0.43	0.43	0.47	0.48	0.44	0.44	0.44	
Space Cooling .....	0.54	0.57	0.58	0.56	0.55	0.54	0.60	0.60	0.56	0.53	0.53	
Water Heating .....	0.39	0.42	0.42	0.41	0.40	0.40	0.42	0.39	0.35	0.36	0.36	
Refrigeration .....	0.42	0.38	0.38	0.38	0.38	0.38	0.34	0.33	0.33	0.33	0.33	
Cooking .....	0.10	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12	0.12	0.12	
Clothes Dryers .....	0.21	0.24	0.24	0.24	0.24	0.24	0.25	0.25	0.24	0.25	0.25	
Freezers .....	0.12	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	
Lighting .....	0.34	0.41	0.41	0.40	0.38	0.38	0.46	0.46	0.43	0.40	0.39	
Clothes Washers <sup>1</sup> .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Dishwashers <sup>1</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	
Color Televisions .....	0.12	0.17	0.16	0.16	0.16	0.16	0.19	0.18	0.17	0.17	0.17	
Personal Computers .....	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
Furnace Fans .....	0.07	0.09	0.09	0.09	0.08	0.08	0.10	0.10	0.09	0.09	0.09	
Other Uses <sup>2</sup> .....	1.10	1.48	1.39	1.36	1.36	1.35	1.73	1.50	1.44	1.46	1.44	
<b>Delivered Energy</b> .....	<b>3.91</b>	<b>4.56</b>	<b>4.48</b>	<b>4.37</b>	<b>4.34</b>	<b>4.31</b>	<b>4.91</b>	<b>4.64</b>	<b>4.40</b>	<b>4.39</b>	<b>4.34</b>	
<b>Natural Gas</b>												
Space Heating .....	3.24	3.76	3.76	3.72	3.63	3.61	3.77	3.79	3.69	3.62	3.55	
Space Cooling .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Water Heating .....	1.27	1.37	1.35	1.35	1.35	1.34	1.34	1.32	1.30	1.31	1.29	
Cooking .....	0.19	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	
Clothes Dryers .....	0.07	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.08	
Other Uses <sup>3</sup> .....	0.11	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	0.11	
<b>Delivered Energy</b> .....	<b>4.88</b>	<b>5.55</b>	<b>5.53</b>	<b>5.49</b>	<b>5.40</b>	<b>5.36</b>	<b>5.54</b>	<b>5.54</b>	<b>5.42</b>	<b>5.36</b>	<b>5.26</b>	
<b>Distillate</b>												
Space Heating .....	0.73	0.74	0.74	0.74	0.72	0.72	0.69	0.69	0.69	0.65	0.65	
Water Heating .....	0.13	0.13	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11	
Other Uses <sup>4</sup> .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Delivered Energy</b> .....	<b>0.86</b>	<b>0.87</b>	<b>0.87</b>	<b>0.87</b>	<b>0.84</b>	<b>0.84</b>	<b>0.80</b>	<b>0.79</b>	<b>0.80</b>	<b>0.76</b>	<b>0.76</b>	
<b>Liquefied Petroleum Gas</b>												
Space Heating .....	0.31	0.32	0.31	0.31	0.30	0.30	0.29	0.29	0.29	0.28	0.28	
Water Heating .....	0.11	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	
Cooking .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
Other Uses <sup>3</sup> .....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
<b>Delivered Energy</b> .....	<b>0.46</b>	<b>0.46</b>	<b>0.45</b>	<b>0.45</b>	<b>0.44</b>	<b>0.44</b>	<b>0.43</b>	<b>0.42</b>	<b>0.42</b>	<b>0.41</b>	<b>0.41</b>	
Marketed Renewables (wood) <sup>5</sup> .....	0.41	0.42	0.42	0.42	0.41	0.41	0.42	0.42	0.42	0.41	0.41	
Other Fuels <sup>6</sup> .....	0.14	0.13	0.13	0.13	0.13	0.13	0.12	0.12	0.12	0.12	0.12	

Projections										
Reference	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
89.83	89.84	89.82	89.81	89.80	94.28	94.29	94.28	94.26	94.26	
25.62	25.62	25.61	25.60	25.59	27.03	27.03	27.02	27.01	27.00	
7.57	7.57	7.57	7.57	7.57	7.97	7.97	7.97	7.97	7.97	
<b>123.02</b>	<b>123.03</b>	<b>123.01</b>	<b>122.97</b>	<b>122.97</b>	<b>129.28</b>	<b>129.29</b>	<b>129.27</b>	<b>129.24</b>	<b>129.23</b>	
<b>1744</b>	<b>1744</b>	<b>1744</b>	<b>1744</b>	<b>1744</b>	<b>1763</b>	<b>1763</b>	<b>1763</b>	<b>1763</b>	<b>1763</b>	
104.0	99.1	95.8	92.8	91.8	104.3	97.4	94.3	89.5	88.7	
187.6	175.8	163.4	159.1	155.3	186.7	170.2	158.9	148.4	145.9	
59.6	56.8	54.9	53.2	52.6	59.2	55.2	53.5	50.8	50.3	
107.6	100.8	93.7	91.2	89.1	105.9	96.6	90.1	84.2	82.8	
0.49	0.49	0.45	0.45	0.45	0.51	0.51	0.46	0.45	0.45	
0.64	0.60	0.56	0.53	0.53	0.71	0.63	0.59	0.56	0.56	
0.41	0.35	0.29	0.32	0.31	0.41	0.29	0.23	0.25	0.25	
0.32	0.29	0.29	0.28	0.27	0.32	0.27	0.27	0.24	0.24	
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	
0.26	0.26	0.25	0.26	0.26	0.28	0.27	0.27	0.27	0.27	
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
0.49	0.47	0.44	0.39	0.38	0.52	0.49	0.45	0.37	0.37	
0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	
0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	
0.21	0.19	0.18	0.18	0.18	0.24	0.21	0.20	0.19	0.19	
0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11	
0.11	0.10	0.10	0.09	0.09	0.12	0.11	0.11	0.09	0.09	
1.97	1.57	1.50	1.40	1.39	2.21	1.64	1.57	1.37	1.37	
<b>5.27</b>	<b>4.68</b>	<b>4.41</b>	<b>4.24</b>	<b>4.21</b>	<b>5.69</b>	<b>4.79</b>	<b>4.53</b>	<b>4.19</b>	<b>4.18</b>	
3.98	4.02	3.89	3.76	3.69	4.24	4.31	4.17	3.98	3.90	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1.35	1.33	1.31	1.33	1.31	1.37	1.33	1.32	1.33	1.31	
0.24	0.24	0.24	0.24	0.24	0.25	0.25	0.25	0.25	0.25	
0.09	0.10	0.09	0.09	0.09	0.10	0.11	0.10	0.10	0.10	
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	
<b>5.78</b>	<b>5.79</b>	<b>5.65</b>	<b>5.53</b>	<b>5.44</b>	<b>6.08</b>	<b>6.11</b>	<b>5.97</b>	<b>5.77</b>	<b>5.68</b>	
0.67	0.67	0.67	0.63	0.63	0.66	0.65	0.66	0.61	0.61	
0.11	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>0.78</b>	<b>0.77</b>	<b>0.77</b>	<b>0.72</b>	<b>0.72</b>	<b>0.76</b>	<b>0.75</b>	<b>0.75</b>	<b>0.70</b>	<b>0.70</b>	
0.29	0.28	0.28	0.26	0.27	0.29	0.27	0.28	0.26	0.26	
0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
<b>0.41</b>	<b>0.40</b>	<b>0.41</b>	<b>0.38</b>	<b>0.38</b>	<b>0.41</b>	<b>0.39</b>	<b>0.40</b>	<b>0.37</b>	<b>0.37</b>	
0.43	0.43	0.42	0.42	0.41	0.43	0.44	0.42	0.43	0.42	
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	

**Table D4. Residential Sector Key Indicators and End-Use Consumption (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Delivered Energy Consumption by End-Use</b>											
Space Heating .....	5.21	5.81	5.82	5.76	5.62	5.59	5.77	5.79	5.65	5.53	5.45
Space Cooling .....	0.54	0.58	0.58	0.56	0.55	0.55	0.60	0.60	0.56	0.54	0.53
Water Heating .....	1.90	2.02	1.99	1.98	1.97	1.95	1.96	1.90	1.85	1.87	1.84
Refrigeration .....	0.42	0.38	0.38	0.38	0.38	0.38	0.34	0.33	0.33	0.33	0.33
Cooking .....	0.32	0.37	0.36	0.37	0.37	0.36	0.37	0.37	0.37	0.37	0.37
Clothes Dryers .....	0.28	0.32	0.32	0.32	0.32	0.32	0.34	0.34	0.33	0.33	0.33
Freezers .....	0.12	0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09
Lighting .....	0.34	0.41	0.41	0.40	0.38	0.38	0.46	0.46	0.43	0.40	0.39
Clothes Washers .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Dishwashers .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Color Televisions .....	0.12	0.17	0.16	0.16	0.16	0.16	0.19	0.18	0.17	0.17	0.17
Personal Computers .....	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Furnace Fans .....	0.07	0.09	0.09	0.09	0.08	0.08	0.10	0.10	0.09	0.09	0.09
Other Uses <sup>7</sup> .....	1.22	1.60	1.52	1.49	1.49	1.48	1.85	1.63	1.56	1.58	1.56
<b>Delivered Energy</b> .....	<b>10.66</b>	<b>11.99</b>	<b>11.88</b>	<b>11.73</b>	<b>11.55</b>	<b>11.49</b>	<b>12.22</b>	<b>11.93</b>	<b>11.58</b>	<b>11.44</b>	<b>11.30</b>
<b>Electricity Related Losses</b> .....	<b>8.44</b>	<b>9.66</b>	<b>9.54</b>	<b>8.91</b>	<b>9.10</b>	<b>8.85</b>	<b>10.00</b>	<b>9.62</b>	<b>8.57</b>	<b>8.79</b>	<b>8.39</b>
<b>Total Energy Consumption by End-Use</b> .....											
Space Heating .....	6.02	6.77	6.81	6.65	6.53	6.48	6.72	6.79	6.50	6.41	6.29
Space Cooling .....	1.70	1.79	1.81	1.69	1.70	1.66	1.82	1.84	1.66	1.60	1.55
Water Heating .....	2.75	2.90	2.88	2.81	2.82	2.78	2.82	2.71	2.54	2.60	2.53
Refrigeration .....	1.34	1.18	1.18	1.15	1.17	1.15	1.04	1.02	0.97	0.99	0.97
Cooking .....	0.54	0.60	0.61	0.60	0.60	0.60	0.62	0.62	0.61	0.61	0.60
Clothes Dryers .....	0.75	0.83	0.84	0.80	0.82	0.80	0.85	0.86	0.81	0.83	0.81
Freezers .....	0.37	0.30	0.30	0.30	0.30	0.30	0.27	0.27	0.26	0.27	0.26
Lighting .....	1.07	1.27	1.29	1.21	1.19	1.16	1.39	1.41	1.26	1.20	1.15
Clothes Washers .....	0.09	0.10	0.09	0.09	0.09	0.09	0.10	0.08	0.08	0.08	0.07
Dishwashers .....	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Color Televisions .....	0.38	0.52	0.50	0.48	0.49	0.48	0.57	0.54	0.50	0.52	0.50
Personal Computers .....	0.20	0.29	0.30	0.28	0.29	0.28	0.28	0.29	0.27	0.28	0.27
Furnace Fans .....	0.23	0.27	0.27	0.26	0.26	0.26	0.29	0.30	0.27	0.28	0.27
Other Uses <sup>7</sup> .....	3.59	4.73	4.48	4.26	4.33	4.25	5.37	4.74	4.36	4.49	4.34
<b>Total</b> .....	<b>19.10</b>	<b>21.65</b>	<b>21.42</b>	<b>20.64</b>	<b>20.65</b>	<b>20.35</b>	<b>22.22</b>	<b>21.55</b>	<b>20.15</b>	<b>20.23</b>	<b>19.69</b>
<b>Non-Marketed Renewables</b>											
Geothermal <sup>8</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02
Solar <sup>9</sup> .....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<b>Total</b> .....	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>

<sup>1</sup>Does not include electric water heating portion of load.

<sup>2</sup>Includes small electric devices, heating elements, and motors.

<sup>3</sup>Includes such appliances as swimming pool heaters, outdoor grills, and outdoor lighting (natural gas).

<sup>4</sup>Includes such appliances as swimming pool and hot tub heaters.

<sup>5</sup>Includes wood used for primary and secondary heating in wood stoves or fireplaces as reported in the *Residential Energy Consumption Survey 1997*.

<sup>6</sup>Includes kerosene and coal.

<sup>7</sup>Includes all other uses listed above.

<sup>8</sup>Includes primary energy displaced by geothermal heat pumps in space heating and cooling applications.

<sup>9</sup>Includes primary energy displaced by solar thermal water heaters and electricity generated using photovoltaics.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999: Energy Information Administration (EIA), *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
5.97	6.00	5.83	5.63	5.55	6.24	6.30	6.12	5.84	5.76	
0.64	0.60	0.57	0.53	0.53	0.71	0.63	0.60	0.57	0.57	
1.96	1.85	1.79	1.81	1.79	1.96	1.78	1.72	1.74	1.72	
0.32	0.29	0.29	0.28	0.27	0.32	0.27	0.27	0.24	0.24	
0.40	0.39	0.40	0.39	0.39	0.42	0.42	0.42	0.42	0.42	
0.36	0.36	0.35	0.35	0.35	0.38	0.38	0.37	0.37	0.37	
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	
0.49	0.47	0.44	0.39	0.38	0.52	0.49	0.45	0.37	0.37	
0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	
0.03	0.03	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03	
0.21	0.19	0.18	0.18	0.18	0.24	0.21	0.20	0.19	0.19	
0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.11	
0.11	0.10	0.10	0.09	0.09	0.12	0.11	0.11	0.09	0.09	
2.09	1.69	1.62	1.52	1.51	2.32	1.76	1.69	1.49	1.48	
<b>12.79</b>	<b>12.19</b>	<b>11.78</b>	<b>11.41</b>	<b>11.28</b>	<b>13.48</b>	<b>12.59</b>	<b>12.19</b>	<b>11.57</b>	<b>11.46</b>	
<b>10.28</b>	<b>9.44</b>	<b>8.32</b>	<b>8.16</b>	<b>7.81</b>	<b>10.65</b>	<b>9.42</b>	<b>8.35</b>	<b>7.61</b>	<b>7.39</b>	
6.92	7.00	6.67	6.49	6.38	7.20	7.31	6.98	6.67	6.57	
1.89	1.81	1.63	1.55	1.51	2.03	1.86	1.69	1.59	1.56	
2.76	2.55	2.34	2.42	2.36	2.72	2.35	2.15	2.20	2.16	
0.95	0.87	0.83	0.80	0.78	0.93	0.80	0.76	0.68	0.67	
0.64	0.65	0.63	0.64	0.63	0.66	0.68	0.66	0.66	0.65	
0.87	0.88	0.82	0.84	0.82	0.89	0.91	0.86	0.86	0.85	
0.25	0.26	0.25	0.25	0.24	0.25	0.26	0.25	0.24	0.24	
1.44	1.42	1.26	1.13	1.09	1.49	1.44	1.29	1.05	1.03	
0.09	0.07	0.06	0.06	0.06	0.08	0.06	0.06	0.06	0.06	
0.08	0.08	0.07	0.07	0.07	0.08	0.08	0.08	0.07	0.07	
0.63	0.58	0.53	0.53	0.51	0.69	0.62	0.57	0.54	0.53	
0.29	0.30	0.28	0.29	0.28	0.33	0.34	0.31	0.32	0.31	
0.31	0.31	0.29	0.27	0.27	0.33	0.33	0.30	0.27	0.26	
5.94	4.85	4.44	4.22	4.10	6.45	4.97	4.59	3.97	3.90	
<b>23.08</b>	<b>21.63</b>	<b>20.10</b>	<b>19.57</b>	<b>19.10</b>	<b>24.14</b>	<b>22.01</b>	<b>20.54</b>	<b>19.18</b>	<b>18.85</b>	
0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
<b>0.04</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.04</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	

**Table D5. Commercial Sector Key Indicators and Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Key Indicators</b>											
<b>Total Floor Space (billion square feet)</b>											
Surviving .....	60.8	69.0	69.0	69.0	69.0	69.0	74.0	74.0	74.0	74.0	74.0
New Additions .....	2.0	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
<b>Total</b> .....	<b>62.8</b>	<b>70.9</b>	<b>70.9</b>	<b>70.9</b>	<b>70.9</b>	<b>70.9</b>	<b>75.8</b>	<b>75.8</b>	<b>75.8</b>	<b>75.8</b>	<b>75.8</b>
<b>Energy Consumption Intensity (thousand Btu per square foot)</b>											
Delivered Energy Consumption .....	120.2	129.2	125.8	124.6	124.4	123.6	130.4	124.8	121.9	123.6	122.0
Electricity Related Losses .....	126.0	131.7	126.6	119.1	123.4	120.1	132.3	124.8	113.1	119.3	113.9
Total Energy Consumption .....	246.2	260.9	252.5	243.7	247.9	243.7	262.7	249.7	235.1	242.9	235.9
<b>Delivered Energy Consumption by Fuel</b>											
<b>Purchased Electricity</b>											
Space Heating <sup>1</sup> .....	0.14	0.16	0.16	0.15	0.14	0.14	0.16	0.16	0.15	0.14	0.14
Space Cooling <sup>1</sup> .....	0.45	0.44	0.41	0.40	0.40	0.40	0.45	0.40	0.38	0.39	0.39
Water Heating <sup>1</sup> .....	0.14	0.15	0.15	0.14	0.15	0.15	0.16	0.15	0.14	0.15	0.15
Ventilation .....	0.17	0.19	0.18	0.18	0.18	0.17	0.20	0.18	0.17	0.18	0.17
Cooking .....	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Lighting .....	1.21	1.31	1.22	1.17	1.21	1.19	1.40	1.27	1.18	1.27	1.25
Refrigeration .....	0.18	0.20	0.20	0.19	0.19	0.19	0.21	0.20	0.20	0.20	0.20
Office Equipment (PC) .....	0.10	0.18	0.18	0.18	0.18	0.18	0.24	0.25	0.25	0.25	0.25
Office Equipment (non-PC) .....	0.30	0.41	0.40	0.40	0.40	0.40	0.51	0.51	0.50	0.51	0.51
Other Uses <sup>2</sup> .....	0.94	1.34	1.29	1.28	1.29	1.28	1.56	1.40	1.39	1.40	1.39
<b>Delivered Energy</b> .....	<b>3.66</b>	<b>4.40</b>	<b>4.22</b>	<b>4.13</b>	<b>4.17</b>	<b>4.14</b>	<b>4.92</b>	<b>4.56</b>	<b>4.40</b>	<b>4.51</b>	<b>4.47</b>
<b>Natural Gas<sup>3</sup></b>											
Space Heating <sup>1</sup> .....	1.42	1.64	1.60	1.60	1.57	1.55	1.71	1.66	1.62	1.66	1.62
Space Cooling <sup>1</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Water Heating <sup>1</sup> .....	0.64	0.70	0.68	0.68	0.67	0.67	0.76	0.73	0.72	0.72	0.71
Cooking .....	0.21	0.23	0.23	0.23	0.23	0.22	0.25	0.25	0.25	0.25	0.24
Other Uses <sup>4</sup> .....	0.86	1.40	1.40	1.40	1.43	1.42	1.45	1.44	1.44	1.46	1.45
<b>Delivered Energy</b> .....	<b>3.14</b>	<b>3.99</b>	<b>3.94</b>	<b>3.93</b>	<b>3.92</b>	<b>3.88</b>	<b>4.19</b>	<b>4.12</b>	<b>4.05</b>	<b>4.12</b>	<b>4.04</b>
<b>Distillate</b>											
Space Heating <sup>1</sup> .....	0.23	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.27	0.24	0.25
Water Heating <sup>1</sup> .....	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.08	0.08
Other Uses <sup>5</sup> .....	0.04	0.03	0.02	0.02	0.01	0.01	0.03	0.03	0.03	0.01	0.01
<b>Delivered Energy</b> .....	<b>0.36</b>	<b>0.37</b>	<b>0.38</b>	<b>0.38</b>	<b>0.35</b>	<b>0.35</b>	<b>0.38</b>	<b>0.38</b>	<b>0.39</b>	<b>0.34</b>	<b>0.34</b>
<b>Other Fuels<sup>6</sup></b> .....	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.30</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>	<b>0.31</b>
<b>Marketed Renewable Fuels</b>											
Biomass .....	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<b>Delivered Energy</b> .....	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>
<b>Delivered Energy Consumption by End-</b>											
Space Heating <sup>1</sup> .....	1.79	2.06	2.02	2.01	1.97	1.95	2.14	2.09	2.05	2.04	2.01
Space Cooling <sup>1</sup> .....	0.46	0.46	0.43	0.42	0.42	0.42	0.47	0.43	0.41	0.42	0.42
Water Heating <sup>1</sup> .....	0.87	0.94	0.92	0.92	0.90	0.90	1.00	0.97	0.95	0.95	0.94
Ventilation .....	0.17	0.19	0.18	0.18	0.18	0.17	0.20	0.18	0.17	0.18	0.17
Cooking .....	0.24	0.26	0.26	0.26	0.26	0.25	0.28	0.29	0.28	0.28	0.27
Lighting .....	1.21	1.31	1.22	1.17	1.21	1.19	1.40	1.27	1.18	1.27	1.25
Refrigeration .....	0.18	0.20	0.20	0.19	0.19	0.19	0.21	0.20	0.20	0.20	0.20
Office Equipment (PC) .....	0.10	0.18	0.18	0.18	0.18	0.18	0.24	0.25	0.25	0.25	0.25
Office Equipment (non-PC) .....	0.30	0.41	0.40	0.40	0.40	0.40	0.51	0.51	0.50	0.51	0.51
Other Uses <sup>7</sup> .....	2.23	3.15	3.10	3.09	3.10	3.09	3.43	3.26	3.24	3.26	3.23
<b>Delivered Energy</b> .....	<b>7.55</b>	<b>9.15</b>	<b>8.92</b>	<b>8.83</b>	<b>8.82</b>	<b>8.76</b>	<b>9.88</b>	<b>9.46</b>	<b>9.24</b>	<b>9.36</b>	<b>9.24</b>

Projections										
Reference	2015					2020				
	CEF-JL Moderate	CEF Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
78.1	78.1	78.1	78.1	78.1	80.7	80.7	80.7	80.7	80.7	
1.5	1.5	1.5	1.5	1.5	1.3	1.3	1.3	1.3	1.3	
<b>79.6</b>	<b>79.6</b>	<b>79.6</b>	<b>79.6</b>	<b>79.6</b>	<b>81.9</b>	<b>81.9</b>	<b>81.9</b>	<b>81.9</b>	<b>81.9</b>	
131.7	123.1	120.3	120.3	119.2	132.8	121.8	119.9	118.2	117.3	
131.0	120.9	108.2	112.6	108.0	128.9	116.3	104.1	103.7	100.7	
262.7	244.0	228.4	232.9	227.2	261.7	238.1	224.0	221.9	217.9	
0.16	0.16	0.15	0.13	0.13	0.16	0.16	0.15	0.12	0.12	
0.46	0.39	0.37	0.38	0.38	0.46	0.37	0.35	0.36	0.36	
0.16	0.14	0.13	0.14	0.14	0.16	0.14	0.12	0.13	0.13	
0.21	0.18	0.17	0.17	0.17	0.21	0.18	0.17	0.17	0.17	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
1.45	1.27	1.16	1.23	1.22	1.45	1.24	1.13	1.19	1.18	
0.22	0.21	0.20	0.21	0.20	0.22	0.21	0.20	0.21	0.21	
0.28	0.30	0.29	0.30	0.30	0.29	0.30	0.29	0.30	0.30	
0.60	0.61	0.60	0.61	0.61	0.69	0.68	0.67	0.70	0.70	
1.79	1.47	1.46	1.46	1.45	1.98	1.54	1.52	1.47	1.47	
<b>5.35</b>	<b>4.77</b>	<b>4.57</b>	<b>4.66</b>	<b>4.64</b>	<b>5.64</b>	<b>4.85</b>	<b>4.62</b>	<b>4.68</b>	<b>4.66</b>	
1.77	1.71	1.66	1.73	1.69	1.80	1.74	1.67	1.77	1.74	
0.03	0.04	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.04	
0.81	0.77	0.75	0.76	0.74	0.84	0.80	0.76	0.78	0.77	
0.26	0.27	0.26	0.26	0.25	0.27	0.28	0.27	0.27	0.26	
1.49	1.46	1.51	1.42	1.41	1.54	1.50	1.66	1.45	1.44	
<b>4.36</b>	<b>4.25</b>	<b>4.21</b>	<b>4.20</b>	<b>4.13</b>	<b>4.47</b>	<b>4.36</b>	<b>4.40</b>	<b>4.31</b>	<b>4.25</b>	
0.26	0.26	0.28	0.23	0.23	0.25	0.26	0.28	0.21	0.21	
0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.08	0.08	
0.03	0.03	0.03	0.01	0.01	0.03	0.03	0.03	0.01	0.01	
<b>0.38</b>	<b>0.38</b>	<b>0.40</b>	<b>0.32</b>	<b>0.32</b>	<b>0.37</b>	<b>0.37</b>	<b>0.39</b>	<b>0.30</b>	<b>0.30</b>	
<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.31</b>	<b>0.31</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	<b>0.32</b>	
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	
2.19	2.14	2.08	2.08	2.05	2.21	2.15	2.10	2.10	2.07	
0.48	0.43	0.41	0.42	0.42	0.48	0.41	0.39	0.40	0.40	
1.05	1.01	0.97	0.98	0.97	1.08	1.02	0.97	0.99	0.98	
0.21	0.18	0.17	0.17	0.17	0.21	0.18	0.17	0.17	0.17	
0.29	0.30	0.29	0.29	0.28	0.30	0.31	0.30	0.30	0.29	
1.45	1.27	1.16	1.23	1.22	1.45	1.24	1.13	1.19	1.18	
0.22	0.21	0.20	0.21	0.20	0.22	0.21	0.20	0.21	0.21	
0.28	0.30	0.29	0.30	0.30	0.29	0.30	0.29	0.30	0.30	
0.60	0.61	0.60	0.61	0.61	0.69	0.68	0.67	0.70	0.70	
3.71	3.36	3.40	3.29	3.27	3.96	3.47	3.61	3.34	3.32	
<b>10.48</b>	<b>9.80</b>	<b>9.57</b>	<b>9.58</b>	<b>9.49</b>	<b>10.88</b>	<b>9.98</b>	<b>9.83</b>	<b>9.68</b>	<b>9.61</b>	

**Table D5. Commercial Sector Key Indicators and Consumption (Continued)**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Electricity Related Losses</b> .....	<b>7.91</b>	<b>9.33</b>	<b>8.97</b>	<b>8.44</b>	<b>8.75</b>	<b>8.51</b>	<b>10.02</b>	<b>9.46</b>	<b>8.57</b>	<b>9.04</b>	<b>8.63</b>
<b>Total Energy Consumption by End-Use</b>											
Space Heating <sup>1</sup> .....	2.09	2.39	2.35	2.32	2.27	2.25	2.47	2.42	2.34	2.32	2.27
Space Cooling <sup>1</sup> .....	1.43	1.38	1.31	1.24	1.26	1.24	1.39	1.27	1.16	1.20	1.17
Water Heating <sup>1</sup> .....	1.18	1.27	1.24	1.21	1.21	1.20	1.33	1.28	1.22	1.25	1.22
Ventilation .....	0.55	0.59	0.56	0.53	0.54	0.53	0.61	0.56	0.51	0.53	0.51
Cooking .....	0.31	0.32	0.33	0.32	0.32	0.32	0.34	0.35	0.34	0.34	0.33
Lighting .....	3.81	4.09	3.80	3.56	3.73	3.65	4.25	3.91	3.49	3.81	3.65
Refrigeration .....	0.58	0.63	0.61	0.59	0.60	0.59	0.65	0.63	0.59	0.61	0.59
Office Equipment (PC) .....	0.33	0.55	0.57	0.55	0.56	0.56	0.72	0.78	0.74	0.75	0.73
Office Equipment (non-PC) .....	0.93	1.28	1.26	1.22	1.25	1.23	1.54	1.56	1.48	1.52	1.48
Other Uses <sup>7</sup> .....	4.25	5.98	5.85	5.71	5.81	5.72	6.61	6.16	5.94	6.06	5.92
<b>Total</b> .....	<b>15.46</b>	<b>18.48</b>	<b>17.89</b>	<b>17.27</b>	<b>17.56</b>	<b>17.27</b>	<b>19.90</b>	<b>18.91</b>	<b>17.81</b>	<b>18.40</b>	<b>17.87</b>
<b>Non-Marketed Renewable Fuels</b>											
Solar <sup>8</sup> .....	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03
<b>Total</b> .....	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>

<sup>1</sup>Includes fuel consumption for district services.

<sup>2</sup>Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, and medical equipment.

<sup>3</sup>Excludes estimated consumption from independent power producers.

<sup>4</sup>Includes miscellaneous uses, such as pumps, emergency electric generators, cogeneration in commercial buildings, and manufacturing performed in commercial buildings.

<sup>5</sup>Includes miscellaneous uses, such as cooking, emergency electric generators, and cogeneration in commercial buildings.

<sup>6</sup>Includes residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

<sup>7</sup>Includes miscellaneous uses, such as service station equipment, automated teller machines, telecommunications equipment, medical equipment, pumps, lighting, emergency electric generators, cogeneration in commercial buildings, manufacturing performed in commercial buildings, and cooking (distillate), plus residual fuel oil, liquefied petroleum gas, coal, motor gasoline, and kerosene.

<sup>8</sup>Includes primary energy displaced by solar thermal space heating and water heating, and electricity generation by solar photovoltaic systems.

Btu = British thermal unit.

PC = Personal computer.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999: Energy Information Administration (EIA), *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
10.43	<b>9.63</b>	<b>8.61</b>	<b>8.97</b>	<b>8.60</b>	<b>10.56</b>	<b>9.53</b>	<b>8.53</b>	<b>8.50</b>	<b>8.25</b>	
2.51	2.46	2.36	2.33	2.29	2.51	2.46	2.36	2.32	2.29	
1.38	1.22	1.10	1.15	1.12	1.34	1.14	1.04	1.06	1.05	
1.36	1.30	1.22	1.25	1.23	1.37	1.29	1.20	1.23	1.21	
0.61	0.55	0.49	0.51	0.49	0.60	0.53	0.47	0.48	0.47	
0.35	0.36	0.34	0.34	0.34	0.35	0.36	0.35	0.34	0.34	
4.28	3.84	3.36	3.60	3.48	4.16	3.67	3.21	3.34	3.26	
0.65	0.63	0.58	0.60	0.58	0.64	0.62	0.57	0.58	0.57	
0.82	0.90	0.85	0.87	0.85	0.84	0.89	0.84	0.84	0.83	
1.77	1.84	1.73	1.79	1.74	1.98	2.03	1.91	1.96	1.93	
7.19	6.34	6.15	6.10	5.96	7.67	6.50	6.41	6.02	5.92	
<b>20.91</b>	<b>19.43</b>	<b>18.19</b>	<b>18.54</b>	<b>18.09</b>	<b>21.44</b>	<b>19.51</b>	<b>18.35</b>	<b>18.18</b>	<b>17.86</b>	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	

**Table D6. Industrial Sector Key Indicators and Consumption**  
 (Quadrillion Btu per Year, Unless Otherwise Noted)

Key Indicators and Consumption	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Key Indicators</b>												
<b>Value of Gross Output (billion 1992 dollars)</b>												
Manufacturing .....	3749	4372	4371	4367	4362	4360	5061	5059	5061	5055	5053	
Nonmanufacturing .....	972	1067	1063	1060	1056	1055	1162	1156	1153	1150	1149	
<b>Total</b> .....	<b>4722</b>	<b>5438</b>	<b>5434</b>	<b>5428</b>	<b>5418</b>	<b>5414</b>	<b>6223</b>	<b>6215</b>	<b>6214</b>	<b>6205</b>	<b>6203</b>	
<b>Energy Prices (1999 dollars per million Btu)</b>												
Electricity .....	13.12	12.81	12.38	14.17	14.16	14.53	12.04	11.15	15.09	13.18	14.01	
Natural Gas .....	2.79	3.66	3.50	3.54	3.24	3.44	3.46	3.12	3.56	2.96	3.42	
Steam Coal .....	1.43	1.35	1.34	1.31	1.34	1.30	1.30	1.29	1.20	1.27	1.19	
Residual Oil .....	2.78	3.37	3.36	3.34	3.35	3.34	3.43	3.42	3.42	3.42	3.42	
Distillate Oil .....	4.65	5.33	5.30	5.25	5.14	5.14	5.53	5.52	5.45	5.28	5.30	
Liquefied Petroleum Gas .....	8.50	7.75	7.73	7.72	7.68	7.64	7.77	7.75	7.62	6.94	7.43	
Motor Gasoline .....	9.42	10.73	10.66	10.67	10.02	10.02	11.19	11.12	11.16	10.07	10.07	
Metallurgical Coal .....	1.66	1.58	1.58	1.59	1.59	1.58	1.54	1.54	1.55	1.53	1.53	
<b>Energy Consumption</b>												
<b>Consumption<sup>1</sup></b>												
Purchased Electricity .....	3.61	3.88	3.83	3.78	3.75	3.74	4.16	4.08	3.88	3.89	3.87	
Natural Gas <sup>2</sup> .....	9.80	10.42	10.29	10.32	10.21	10.19	11.27	10.99	11.20	10.74	10.69	
Steam Coal .....	1.73	1.80	1.79	1.80	1.71	1.72	1.82	1.79	1.74	1.64	1.60	
Metallurgical Coal and Coke <sup>3</sup> .....	0.81	0.78	0.77	0.77	0.76	0.76	0.76	0.75	0.75	0.73	0.73	
Residual Fuel .....	0.22	0.16	0.16	0.16	0.15	0.15	0.25	0.24	0.25	0.20	0.22	
Distillate .....	1.13	1.21	1.20	1.19	1.18	1.18	1.30	1.27	1.26	1.24	1.24	
Liquefied Petroleum Gas .....	2.32	2.44	2.38	2.39	2.33	2.35	2.51	2.39	2.40	2.35	2.36	
Petrochemical Feedstocks .....	1.29	1.36	1.33	1.33	1.31	1.31	1.53	1.46	1.46	1.43	1.43	
Other Petroleum <sup>4</sup> .....	4.50	4.64	4.61	4.62	4.55	4.55	4.92	4.81	4.86	4.72	4.74	
Renewables <sup>5</sup> .....	2.15	2.40	2.39	2.39	2.43	2.43	2.63	2.60	2.60	2.75	2.75	
<b>Delivered Energy</b> .....	<b>27.56</b>	<b>29.10</b>	<b>28.75</b>	<b>28.74</b>	<b>28.40</b>	<b>28.39</b>	<b>31.14</b>	<b>30.38</b>	<b>30.41</b>	<b>29.68</b>	<b>29.63</b>	
Electricity Related Losses .....	7.80	8.21	8.16	7.73	7.87	7.68	8.47	8.46	7.56	7.79	7.48	
<b>Total</b> .....	<b>35.36</b>	<b>37.31</b>	<b>36.91</b>	<b>36.47</b>	<b>36.27</b>	<b>36.06</b>	<b>39.61</b>	<b>38.83</b>	<b>37.97</b>	<b>37.46</b>	<b>37.10</b>	
<b>Consumption per Unit of Output<sup>1</sup></b>												
<b>(thousand Btu per 1992 dollars)</b>												
Purchased Electricity .....	0.76	0.71	0.71	0.70	0.69	0.69	0.67	0.66	0.62	0.63	0.62	
Natural Gas <sup>2</sup> .....	2.08	1.92	1.89	1.90	1.88	1.88	1.81	1.77	1.80	1.73	1.72	
Steam Coal .....	0.37	0.33	0.33	0.33	0.32	0.32	0.29	0.29	0.28	0.26	0.26	
Metallurgical Coal and Coke <sup>3</sup> .....	0.17	0.14	0.14	0.14	0.14	0.14	0.12	0.12	0.12	0.12	0.12	
Residual Fuel .....	0.05	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.03	0.04	
Distillate .....	0.24	0.22	0.22	0.22	0.22	0.22	0.21	0.20	0.20	0.20	0.20	
Liquefied Petroleum Gas .....	0.49	0.45	0.44	0.44	0.43	0.43	0.40	0.38	0.39	0.38	0.38	
Petrochemical Feedstocks .....	0.27	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.24	0.23	0.23	
Other Petroleum <sup>4</sup> .....	0.95	0.85	0.85	0.85	0.84	0.84	0.79	0.77	0.78	0.76	0.76	
Renewables <sup>5</sup> .....	0.46	0.44	0.44	0.44	0.45	0.45	0.42	0.42	0.42	0.44	0.44	
<b>Delivered Energy</b> .....	<b>5.84</b>	<b>5.35</b>	<b>5.29</b>	<b>5.30</b>	<b>5.24</b>	<b>5.24</b>	<b>5.00</b>	<b>4.89</b>	<b>4.89</b>	<b>4.78</b>	<b>4.78</b>	
Electricity Related Losses .....	1.65	1.51	1.50	1.42	1.45	1.42	1.36	1.36	1.22	1.25	1.21	
<b>Total</b> .....	<b>7.49</b>	<b>6.86</b>	<b>6.79</b>	<b>6.72</b>	<b>6.69</b>	<b>6.66</b>	<b>6.37</b>	<b>6.25</b>	<b>6.11</b>	<b>6.04</b>	<b>5.98</b>	

<sup>1</sup>Fuel consumption includes consumption for cogeneration.

<sup>2</sup>Includes lease and plant fuel.

<sup>3</sup>Includes net coke coal imports.

<sup>4</sup>Includes petroleum coke, asphalt, road oil, lubricants, motor gasoline, still gas, and miscellaneous petroleum products.

<sup>5</sup>Includes consumption of energy from hydroelectric, wood and wood waste, municipal solid waste, and other biomass.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 prices for gasoline and distillate are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380 (99/03-2000/04) (Washington, DC, 1999-2000). 1999 coal prices are based on EIA, *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. 1999 electricity prices: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. Other 1999 prices derived from EIA, *State Energy Data Report 1997*, DOE/EIA-0214(97) (Washington, DC, September 1999). Other 1999 values: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>. **Projections:** EIA, AEO2001 National Energy Modeling System runs

Projections										
Reference	2015				2020					
	CEF-JL Moderate	CEF Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
5816	5808	5812	5802	5802	6712	6707	6710	6698	6699	
1266	1255	1251	1245	1246	1371	1356	1350	1344	1344	
<b>7082</b>	<b>7063</b>	<b>7062</b>	<b>7047</b>	<b>7049</b>	<b>8083</b>	<b>8062</b>	<b>8060</b>	<b>8042</b>	<b>8043</b>	
11.97	11.52	15.78	13.29	13.67	12.07	11.77	15.57	13.63	13.71	
3.56	3.12	3.53	3.00	3.34	3.73	3.11	3.46	2.99	3.26	
1.25	1.24	1.16	1.21	1.15	1.21	1.20	1.10	1.11	1.10	
3.51	3.50	3.49	3.50	3.50	3.58	3.58	3.57	3.58	3.58	
5.49	5.43	5.39	5.43	5.43	5.71	5.56	5.53	5.48	5.45	
7.79	7.87	7.36	7.33	7.30	7.68	7.80	7.44	6.71	6.96	
10.68	10.52	10.52	9.94	9.93	10.56	10.40	10.39	9.70	9.69	
1.49	1.48	1.50	1.47	1.47	1.44	1.44	1.45	1.42	1.42	
4.43	4.30	3.94	4.03	4.02	4.76	4.54	4.04	4.18	4.19	
12.03	11.57	11.91	11.11	11.06	12.71	12.18	12.66	11.64	11.60	
1.84	1.80	1.77	1.62	1.59	1.86	1.81	1.78	1.59	1.57	
0.74	0.73	0.73	0.71	0.71	0.72	0.72	0.72	0.69	0.69	
0.26	0.25	0.26	0.22	0.22	0.27	0.25	0.26	0.19	0.20	
1.39	1.35	1.34	1.30	1.30	1.49	1.43	1.42	1.37	1.37	
2.67	2.48	2.51	2.41	2.45	2.85	2.59	2.65	2.51	2.52	
1.61	1.51	1.51	1.46	1.46	1.69	1.57	1.57	1.52	1.52	
5.08	4.92	4.97	4.81	4.81	5.28	5.05	5.08	4.88	4.91	
2.85	2.81	2.81	3.08	3.08	3.07	3.03	3.02	3.43	3.43	
<b>32.90</b>	<b>31.71</b>	<b>31.75</b>	<b>30.74</b>	<b>30.70</b>	<b>34.72</b>	<b>33.16</b>	<b>33.20</b>	<b>32.00</b>	<b>31.99</b>	
8.64	8.67	7.44	7.74	7.46	8.91	8.92	7.46	7.59	7.41	
<b>41.54</b>	<b>40.38</b>	<b>39.19</b>	<b>38.48</b>	<b>38.16</b>	<b>43.63</b>	<b>42.08</b>	<b>40.66</b>	<b>39.59</b>	<b>39.40</b>	
0.63	0.61	0.56	0.57	0.57	0.59	0.56	0.50	0.52	0.52	
1.70	1.64	1.69	1.58	1.57	1.57	1.51	1.57	1.45	1.44	
0.26	0.25	0.25	0.23	0.22	0.23	0.22	0.22	0.20	0.20	
0.10	0.10	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.09	
0.04	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	
0.20	0.19	0.19	0.19	0.18	0.18	0.18	0.18	0.17	0.17	
0.38	0.35	0.35	0.34	0.35	0.35	0.32	0.33	0.31	0.31	
0.23	0.21	0.21	0.21	0.21	0.21	0.19	0.19	0.19	0.19	
0.72	0.70	0.70	0.68	0.68	0.65	0.63	0.63	0.61	0.61	
0.40	0.40	0.40	0.44	0.44	0.38	0.38	0.38	0.43	0.43	
<b>4.65</b>	<b>4.49</b>	<b>4.50</b>	<b>4.36</b>	<b>4.36</b>	<b>4.30</b>	<b>4.11</b>	<b>4.12</b>	<b>3.98</b>	<b>3.98</b>	
1.22	1.23	1.05	1.10	1.06	1.10	1.11	0.93	0.94	0.92	
<b>5.87</b>	<b>5.72</b>	<b>5.55</b>	<b>5.46</b>	<b>5.41</b>	<b>5.40</b>	<b>5.22</b>	<b>5.04</b>	<b>4.92</b>	<b>4.90</b>	

**Table D7. Transportation Sector Key Indicators and Delivered Energy Consumption**

Key Indicators and Consumption	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Key Indicators</b>												
Level of Travel (billions)												
Light-Duty Vehicles <8,500 pounds (VMT)	2394	2765	2766	2765	2579	2578	3059	3061	3060	2816	2816	
Commercial Light Trucks (VMT) <sup>1</sup>	73	83	83	83	80	80	93	92	92	89	89	
Freight Trucks >10,000 pounds (VMT)	204	247	247	247	246	246	279	275	275	275	275	
Air (seat miles available)	1099	1305	1309	1308	1296	1294	1586	1594	1594	1588	1586	
Rail (ton miles traveled)	1353	1569	1570	1486	1515	1472	1708	1680	1453	1545	1462	
Domestic Shipping (ton miles traveled)	661	736	726	721	716	716	778	754	748	739	738	
<b>Energy Efficiency Indicators</b>												
New Light-Duty Vehicle (miles per gallon) <sup>2</sup>	24.2	26.1	26.5	26.5	28.8	28.8	27.2	28.0	28.1	31.6	31.6	
New Car (miles per gallon) <sup>2</sup>	27.9	30.9	32.2	32.2	34.4	34.4	32.5	34.5	34.5	38.0	38.0	
New Light Truck (miles per gallon) <sup>2</sup>	20.8	22.3	22.3	22.3	24.5	24.5	23.3	23.5	23.5	26.9	26.9	
Light-Duty Fleet (miles per gallon) <sup>3</sup>	20.5	20.7	20.9	20.9	21.5	21.5	21.0	21.2	21.3	22.8	22.8	
New Commercial Light Truck (MPG) <sup>1</sup>	20.1	21.2	21.3	21.3	21.9	21.9	22.1	22.4	22.4	24.3	24.3	
Stock Commercial Light Truck (MPG) <sup>1</sup>	14.8	15.6	15.6	15.6	15.6	15.6	16.1	16.1	16.1	16.5	16.5	
Aircraft Efficiency (seat miles per gallon)	51.7	54.0	54.0	54.0	54.0	54.0	56.1	56.2	56.2	57.5	57.5	
Freight Truck Efficiency (miles per gallon)	6.0	6.2	6.5	6.5	6.5	6.5	6.4	6.8	6.8	6.8	6.8	
Rail Efficiency (ton miles per thousand Btu)	2.8	2.9	2.9	2.9	3.1	3.1	3.1	3.1	3.1	3.3	3.3	
Domestic Shipping Efficiency (ton miles per thousand Btu)	2.3	2.5	2.5	2.5	2.5	2.5	2.7	2.7	2.7	2.7	2.7	
<b>Energy Use by Mode (quadrillion Btu)</b>												
Light-Duty Vehicles	14.88	16.91	16.81	16.80	15.30	15.29	18.43	18.14	18.13	15.57	15.57	
Commercial Light Trucks <sup>1</sup>	0.62	0.67	0.67	0.67	0.64	0.64	0.72	0.72	0.72	0.67	0.67	
Freight Trucks <sup>4</sup>	4.55	5.28	5.07	5.06	5.05	5.05	5.76	5.42	5.42	5.39	5.39	
Air <sup>5</sup>	3.50	3.93	3.94	3.94	3.91	3.91	4.55	4.56	4.56	4.46	4.45	
Rail <sup>6</sup>	0.57	0.62	0.62	0.59	0.58	0.57	0.65	0.64	0.57	0.57	0.54	
Marine <sup>7</sup>	1.29	1.44	1.43	1.43	1.43	1.43	1.46	1.45	1.45	1.44	1.44	
Pipeline Fuel	0.66	0.82	0.79	0.81	0.77	0.80	0.90	0.85	0.95	0.85	0.91	
Lubricants	0.22	0.25	0.25	0.25	0.25	0.25	0.26	0.26	0.26	0.26	0.26	
<b>Total</b>	<b>26.28</b>	<b>29.94</b>	<b>29.58</b>	<b>29.56</b>	<b>27.94</b>	<b>27.94</b>	<b>32.77</b>	<b>32.04</b>	<b>32.05</b>	<b>29.21</b>	<b>29.23</b>	
<b>Energy Use by Mode</b>												
(million barrels per day oil equivalent)												
Light-Duty Vehicles	7.76	8.87	8.81	8.81	8.03	8.02	9.66	9.50	9.50	8.17	8.16	
Commercial Light Trucks <sup>1</sup>	0.32	0.35	0.35	0.35	0.34	0.34	0.38	0.37	0.37	0.35	0.35	
Freight Trucks <sup>4</sup>	2.03	2.37	2.27	2.27	2.26	2.26	2.59	2.43	2.43	2.42	2.42	
Railroad	0.23	0.25	0.25	0.24	0.23	0.23	0.26	0.26	0.22	0.22	0.21	
Domestic Shipping	0.13	0.14	0.13	0.13	0.13	0.13	0.14	0.13	0.13	0.13	0.13	
International Shipping	0.30	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	
Air <sup>5</sup>	1.46	1.66	1.67	1.66	1.65	1.65	1.94	1.95	1.95	1.90	1.89	
Military Use	0.28	0.29	0.29	0.29	0.29	0.29	0.32	0.32	0.32	0.32	0.32	
Bus Transportation	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.08	0.08	0.08	0.08	
Rail Transportation <sup>6</sup>	0.04	0.04	0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05	0.05	
Recreational Boats	0.16	0.17	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.18	0.18	
Lubricants	0.10	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Pipeline Fuel	0.33	0.42	0.40	0.41	0.39	0.40	0.46	0.43	0.48	0.43	0.46	
<b>Total</b>	<b>13.24</b>	<b>15.11</b>	<b>14.94</b>	<b>14.93</b>	<b>14.09</b>	<b>14.09</b>	<b>16.53</b>	<b>16.17</b>	<b>16.18</b>	<b>14.71</b>	<b>14.72</b>	

<sup>1</sup>Commercial trucks 8,500 to 10,000 pounds.

<sup>2</sup>Environmental Protection Agency rated miles per gallon.

<sup>3</sup>Combined car and light truck "on-the-road" estimate.

<sup>4</sup>Includes energy use by buses and military distillate consumption.

<sup>5</sup>Includes jet fuel and aviation gasoline.

<sup>6</sup>Includes passenger rail.

<sup>7</sup>Includes military residual fuel use and recreation boats.

Btu = British thermal unit.

VMT=Vehicle miles traveled.

MPG = Miles per gallon.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999: U.S. Department of Transportation, Research and Special Programs Administration, *Air Carrier Statistics Monthly*, December 1999/1998 (Washington, DC, 1999); Energy Information Administration (EIA), *Short-Term Energy Outlook*, April 2001, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf>; EIA, *Fuel Oil and Kerosene Sales 1998*, DOE/EIA-0535(98) (Washington, DC, August 1999); and United States Department of Defense, Defense Fuel Supply Center. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections									
2015					2020				
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
3331	3335	3335	3058	3059	3575	3579	3579	3315	3316
103	102	102	97	97	112	111	111	106	106
313	305	305	304	304	352	339	338	337	337
1933	1948	1949	1941	1941	2316	2340	2340	2332	2332
1840	1782	1522	1623	1525	1967	1881	1609	1693	1594
834	789	779	764	767	890	826	812	795	796
27.6	28.6	28.6	33.6	33.6	28.1	29.0	29.0	34.4	34.4
32.5	34.5	34.5	39.6	39.6	32.5	34.5	34.5	40.1	40.1
24.0	24.3	24.3	29.2	29.2	24.7	25.0	25.0	30.0	30.0
21.3	21.7	21.7	24.4	24.4	21.5	22.1	22.1	25.8	25.8
22.8	23.2	23.2	26.5	26.5	23.4	23.9	23.9	27.4	27.4
16.6	16.7	16.7	17.6	17.6	17.0	17.2	17.2	18.7	18.7
58.2	59.0	58.9	61.8	61.8	60.3	62.5	62.3	65.4	65.4
6.7	7.1	7.1	7.2	7.2	6.9	7.4	7.4	7.6	7.6
3.3	3.3	3.3	3.6	3.6	3.4	3.5	3.5	3.9	3.9
2.8	2.8	2.8	2.8	2.8	3.0	3.0	3.0	3.0	3.0
19.76	19.26	19.26	15.71	15.71	20.92	20.20	20.20	15.97	15.98
0.77	0.76	0.76	0.69	0.69	0.83	0.81	0.81	0.71	0.71
6.23	5.73	5.73	5.63	5.63	6.73	6.06	6.06	5.88	5.88
5.28	5.25	5.26	5.03	5.02	6.04	5.91	5.92	5.66	5.66
0.67	0.65	0.57	0.56	0.54	0.69	0.65	0.58	0.56	0.53
1.49	1.46	1.46	1.45	1.46	1.52	1.48	1.47	1.47	1.47
1.01	0.91	0.99	0.88	0.94	1.10	0.96	1.03	0.94	0.98
0.29	0.29	0.29	0.29	0.29	0.31	0.31	0.31	0.31	0.31
<b>35.53</b>	<b>34.30</b>	<b>34.31</b>	<b>30.24</b>	<b>30.26</b>	<b>38.16</b>	<b>36.34</b>	<b>36.34</b>	<b>31.48</b>	<b>31.50</b>
10.35	10.09	10.09	8.24	8.24	10.95	10.59	10.58	8.37	8.37
0.41	0.40	0.40	0.36	0.36	0.43	0.42	0.42	0.37	0.37
2.81	2.58	2.58	2.54	2.54	3.04	2.74	2.73	2.66	2.66
0.27	0.26	0.22	0.21	0.20	0.27	0.25	0.22	0.20	0.19
0.14	0.13	0.13	0.12	0.13	0.14	0.13	0.12	0.12	0.12
0.36	0.35	0.35	0.35	0.35	0.36	0.35	0.35	0.35	0.35
2.28	2.26	2.27	2.15	2.15	2.63	2.56	2.57	2.44	2.44
0.34	0.34	0.34	0.34	0.34	0.36	0.36	0.36	0.36	0.36
0.09	0.08	0.08	0.08	0.08	0.09	0.08	0.08	0.08	0.08
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06
0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.20	0.19	0.19
0.14	0.14	0.14	0.14	0.14	0.15	0.15	0.15	0.15	0.15
0.51	0.46	0.50	0.45	0.48	0.55	0.48	0.52	0.47	0.50
<b>17.90</b>	<b>17.32</b>	<b>17.33</b>	<b>15.22</b>	<b>15.23</b>	<b>19.22</b>	<b>18.36</b>	<b>18.36</b>	<b>15.83</b>	<b>15.84</b>

**Table D8. Electricity Supply, Disposition, Prices, and Emissions**  
 (Billion Kilowatthours, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Generation by Fuel Type</b>												
<b>Electric Generators<sup>1</sup></b>												
Coal .....	1830	2105	2079	1777	1910	1735	2238	2221	1357	1737	1395	
Petroleum .....	85	42	31	12	17	12	25	21	11	12	10	
Natural Gas <sup>2</sup> .....	370	582	509	686	525	671	826	616	1138	800	1090	
Nuclear Power .....	730	740	740	740	740	740	720	720	741	735	735	
Pumped Storage .....	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	
Renewable Sources <sup>3</sup> .....	355	372	384	454	471	485	396	406	543	555	578	
<b>Total</b> .....	<b>3369</b>	<b>3839</b>	<b>3742</b>	<b>3669</b>	<b>3662</b>	<b>3642</b>	<b>4204</b>	<b>3983</b>	<b>3788</b>	<b>3838</b>	<b>3807</b>	
Nonutility Generation for Own Use .....	16	17	17	23	21	21	17	16	22	21	19	
Distributed Generation .....	0	0	0	0	0	0	1	1	0	1	0	
<b>Cogenerators<sup>4</sup></b>												
Coal .....	47	53	53	52	52	52	51	51	46	48	44	
Petroleum .....	9	10	10	10	10	10	10	10	10	10	10	
Natural Gas .....	206	236	236	245	239	239	259	256	303	267	269	
Other Gaseous Fuels <sup>5</sup> .....	4	6	6	6	6	6	7	7	7	6	6	
Renewable Sources <sup>3</sup> .....	31	34	34	34	35	35	39	39	39	42	42	
Other <sup>6</sup> .....	5	5	5	5	5	5	5	5	5	5	5	
<b>Total</b> .....	<b>303</b>	<b>344</b>	<b>344</b>	<b>352</b>	<b>347</b>	<b>347</b>	<b>372</b>	<b>368</b>	<b>410</b>	<b>379</b>	<b>376</b>	
<b>Other End-Use Generators<sup>7</sup></b> .....												
Sales to Utilities .....	151	172	171	171	171	171	179	179	181	178	173	
Generation for Own Use .....	156	177	177	186	181	181	197	193	234	206	208	
<b>Net Imports<sup>8</sup></b> .....	<b>33</b>	<b>57</b>	<b>57</b>	<b>59</b>	<b>57</b>	<b>57</b>	<b>35</b>	<b>35</b>	<b>49</b>	<b>35</b>	<b>35</b>	
<b>Electricity Sales by Sector</b>												
Residential .....	1145	1337	1313	1280	1271	1265	1438	1359	1290	1286	1273	
Commercial .....	1073	1291	1235	1212	1222	1215	1442	1336	1289	1323	1309	
Industrial .....	1058	1137	1124	1109	1100	1096	1219	1195	1138	1139	1134	
Transportation .....	17	26	25	25	25	25	34	30	30	29	29	
<b>Total</b> .....	<b>3294</b>	<b>3790</b>	<b>3697</b>	<b>3625</b>	<b>3618</b>	<b>3600</b>	<b>4133</b>	<b>3920</b>	<b>3747</b>	<b>3777</b>	<b>3745</b>	
<b>End-Use Prices (1999 cents per kWh)<sup>9</sup></b>												
Residential .....	8.1	7.6	7.4	8.0	7.9	8.1	7.6	7.3	8.5	8.0	8.2	
Commercial .....	7.4	6.9	6.7	7.4	7.4	7.6	6.4	6.0	7.4	6.7	7.0	
Industrial .....	4.5	4.4	4.2	4.8	4.8	5.0	4.1	3.8	5.1	4.5	4.8	
Transportation .....	5.3	5.0	4.9	5.4	5.3	5.4	4.7	4.5	5.7	5.2	5.5	
<b>All Sectors Average</b> .....	<b>6.7</b>	<b>6.4</b>	<b>6.2</b>	<b>6.8</b>	<b>6.8</b>	<b>6.9</b>	<b>6.1</b>	<b>5.8</b>	<b>7.1</b>	<b>6.5</b>	<b>6.7</b>	
<b>Prices by Service Category<sup>9</sup></b> <b>(1999 cents per kilowatthour)</b>												
Generation .....	4.1	3.8	3.6	4.2	4.2	4.3	3.4	3.1	4.2	3.7	3.9	
Transmission .....	0.6	0.6	0.6	0.7	0.6	0.7	0.7	0.7	0.8	0.7	0.8	
Distribution .....	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.1	
<b>Emissions (million short tons)</b>												
Sulfur Dioxide .....	13.49	10.39	10.39	6.34	10.39	6.34	9.70	9.70	2.99	9.70	2.99	
Nitrogen Oxide .....	5.43	4.30	4.21	2.66	3.87	2.64	4.34	4.20	1.74	3.52	1.78	

<sup>1</sup>Includes grid-connected generation at all utilities and nonutilities except for cogenerators. Includes small power producers and exempt wholesale generators.

<sup>2</sup>Includes electricity generation by fuel cells.

<sup>3</sup>Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar, and wind power.

<sup>4</sup>Cogenerators produce electricity and other useful thermal energy. Includes sales to utilities and generation for own use.

<sup>5</sup>Other gaseous fuels include refinery and still gas.

<sup>6</sup>Other includes hydrogen, sulfur, batteries, chemicals, fish oil, and spent sulfite liquor.

<sup>7</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid.

<sup>8</sup>In 1999 approximately 70 percent of the U.S. electricity imports were provided by renewable sources (hydroelectricity); EIA does not project future proportions for the fuel source of imported electricity.

<sup>9</sup>Prices represent average revenue per kilowatthour.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
Reference	2015				2020					
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
2279	2269	1307	1677	1339	2302	2296	1284	1567	1276	
24	22	11	11	10	23	21	11	10	9	
1168	771	1271	964	1260	1488	908	1330	1181	1416	
653	653	706	664	675	610	595	646	575	617	
-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	
400	409	550	558	575	399	413	624	551	561	
<b>4524</b>	<b>4123</b>	<b>3845</b>	<b>3873</b>	<b>3857</b>	<b>4821</b>	<b>4231</b>	<b>3893</b>	<b>3883</b>	<b>3878</b>	
17	16	21	21	19	16	16	21	20	19	
3	1	0	1	0	5	2	0	1	0	
52	51	46	47	44	52	51	42	43	41	
10	10	10	10	10	10	10	10	10	10	
287	282	385	301	300	317	322	494	349	343	
8	7	8	7	7	8	8	9	7	7	
44	43	43	49	49	48	47	46	56	56	
5	5	5	5	5	6	5	6	5	5	
<b>406</b>	<b>400</b>	<b>497</b>	<b>419</b>	<b>414</b>	<b>440</b>	<b>443</b>	<b>607</b>	<b>470</b>	<b>463</b>	
5	5	5	5	5	5	5	5	5	5	
193	192	206	193	189	208	209	239	210	206	
218	212	296	232	231	237	239	373	265	261	
<b>22</b>	<b>22</b>	<b>34</b>	<b>22</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>35</b>	<b>23</b>	<b>23</b>	
1545	1372	1293	1243	1235	1668	1404	1328	1227	1224	
1567	1399	1339	1367	1359	1653	1421	1355	1370	1365	
1298	1260	1156	1180	1179	1394	1331	1185	1224	1227	
43	36	36	34	34	49	42	41	40	40	
<b>4453</b>	<b>4066</b>	<b>3824</b>	<b>3824</b>	<b>3807</b>	<b>4763</b>	<b>4197</b>	<b>3910</b>	<b>3862</b>	<b>3855</b>	
7.6	7.6	8.7	8.1	8.2	7.6	7.6	8.6	8.2	8.2	
6.4	6.2	7.6	6.8	6.9	6.4	6.3	7.5	6.9	6.9	
4.1	3.9	5.4	4.5	4.7	4.1	4.0	5.3	4.6	4.7	
4.6	4.6	5.8	5.3	5.4	4.5	4.5	5.6	5.3	5.2	
<b>6.1</b>	<b>5.9</b>	<b>7.3</b>	<b>6.5</b>	<b>6.6</b>	<b>6.1</b>	<b>6.0</b>	<b>7.2</b>	<b>6.6</b>	<b>6.6</b>	
3.4	3.2	4.5	3.7	3.8	3.5	3.3	4.4	3.8	3.8	
0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.7	0.7	
2.0	2.1	2.1	2.1	2.1	2.0	2.1	2.1	2.1	2.1	
8.95	8.95	2.64	6.70	2.64	8.95	8.95	2.24	4.48	2.24	
4.44	4.28	1.70	3.41	1.71	4.48	4.33	1.67	3.18	1.64	

**Table D9. Electricity Generating Capability**  
(Gigawatts)

Net Summer Capability <sup>1</sup>	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Electric Generators<sup>2</sup></b>												
<b>Capability</b>												
Coal Steam .....	305.1	303.9	303.9	302.8	302.8	302.8	317.8	321.5	258.6	280.7	258.1	
Other Fossil Steam <sup>3</sup> .....	137.4	124.9	125.4	113.8	114.6	105.3	117.4	117.0	102.9	100.3	90.0	
Combined Cycle .....	21.0	52.4	51.8	92.4	64.0	87.2	107.3	72.2	151.2	102.6	147.7	
Combustion Turbine/Diesel .....	86.8	126.4	123.4	129.1	116.4	113.3	149.8	138.2	134.5	125.9	123.5	
Nuclear Power .....	97.4	97.5	97.5	97.5	97.5	97.5	93.7	93.7	96.9	96.1	96.1	
Pumped Storage .....	19.3	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	
Renewable Sources <sup>4</sup> .....	88.8	94.7	96.5	100.6	105.6	107.7	97.9	99.8	119.6	126.1	131.5	
Distributed Generation <sup>5</sup> .....	0.0	0.8	0.6	0.2	0.6	0.1	2.5	1.6	0.5	1.4	0.4	
<b>Total</b> .....	<b>755.9</b>	<b>820.0</b>	<b>818.6</b>	<b>855.9</b>	<b>820.9</b>	<b>833.4</b>	<b>906.0</b>	<b>863.7</b>	<b>883.8</b>	<b>852.6</b>	<b>867.1</b>	
<b>Cumulative Planned Additions<sup>6</sup></b>												
Coal Steam .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Other Fossil Steam <sup>3</sup> .....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Combined Cycle .....	0.0	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	
Combustion Turbine/Diesel .....	0.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	
Renewable Sources <sup>4</sup> .....	0.0	5.1	5.1	5.1	5.1	5.1	6.7	6.7	6.7	6.7	6.7	
Distributed Generation <sup>5</sup> .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Total</b> .....	<b>0.0</b>	<b>32.0</b>	<b>32.0</b>	<b>32.0</b>	<b>32.0</b>	<b>32.0</b>	<b>33.7</b>	<b>33.7</b>	<b>33.7</b>	<b>33.7</b>	<b>33.7</b>	
<b>Cumulative Unplanned Additions<sup>6</sup></b>												
Coal Steam .....	0.0	1.1	1.1	0.0	0.0	0.0	18.2	22.0	0.0	0.5	0.0	
Other Fossil Steam <sup>3</sup> .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Combined Cycle .....	0.0	18.6	18.0	58.6	30.2	53.4	73.6	38.6	117.5	68.9	114.1	
Combustion Turbine/Diesel .....	0.0	30.9	28.0	23.0	24.6	14.3	55.4	43.7	29.5	35.9	25.2	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Renewable Sources <sup>4</sup> .....	0.0	0.4	2.1	6.3	11.3	13.4	1.9	3.8	23.6	30.1	35.6	
Distributed Generation <sup>5</sup> .....	0.0	0.8	0.6	0.2	0.6	0.1	2.5	1.6	0.5	1.4	0.4	
<b>Total</b> .....	<b>0.0</b>	<b>51.7</b>	<b>49.9</b>	<b>88.1</b>	<b>66.7</b>	<b>81.2</b>	<b>151.5</b>	<b>109.7</b>	<b>171.1</b>	<b>136.7</b>	<b>175.2</b>	
<b>Cumulative Total Additions</b> .....	<b>0.0</b>	<b>83.7</b>	<b>81.9</b>	<b>120.1</b>	<b>98.7</b>	<b>113.2</b>	<b>185.2</b>	<b>143.4</b>	<b>204.8</b>	<b>170.4</b>	<b>208.9</b>	
<b>Cumulative Retirements<sup>7</sup></b>												
Coal Steam .....	0.0	2.3	2.3	2.3	2.3	2.3	5.5	5.6	46.5	25.0	47.0	
Other Fossil Steam <sup>3</sup> .....	0.0	12.7	12.2	23.8	23.0	32.3	20.2	20.6	34.8	37.4	47.6	
Combined Cycle .....	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.1	0.1	0.1	
Combustion Turbine/Diesel .....	0.0	5.5	5.5	4.9	6.2	9.0	6.6	6.4	6.0	8.0	9.6	
Nuclear Power .....	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.7	0.6	1.4	1.4	
Pumped Storage .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Fuel Cells .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Renewable Sources <sup>4</sup> .....	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
<b>Total</b> .....	<b>0.0</b>	<b>20.6</b>	<b>20.2</b>	<b>31.2</b>	<b>31.7</b>	<b>43.8</b>	<b>36.4</b>	<b>36.8</b>	<b>88.1</b>	<b>71.9</b>	<b>105.9</b>	

Projections									
2015					2020				
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF Advanced	CEF Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF Advanced	CEF Advanced with Emissions Limits
317.9	325.2	246.1	277.1	250.4	317.3	325.4	240.6	270.2	239.2
116.4	115.8	98.7	98.8	87.8	114.9	112.6	94.0	90.5	79.1
152.6	89.7	165.7	122.7	166.2	199.0	105.5	173.4	149.5	186.8
174.4	144.6	136.1	127.6	129.6	197.4	154.6	136.9	128.6	129.9
81.5	81.5	90.1	82.8	84.3	76.3	74.4	81.9	70.3	76.9
19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5	19.5
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
98.9	100.9	122.5	127.7	132.6	99.4	102.0	142.9	128.1	133.0
5.8	2.5	0.8	1.5	0.7	11.0	3.9	1.0	1.6	0.8
<b>967.2</b>	<b>879.8</b>	<b>879.8</b>	<b>858.0</b>	<b>871.3</b>	<b>1035.1</b>	<b>898.2</b>	<b>890.5</b>	<b>858.6</b>	<b>865.4</b>
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
7.7	7.7	7.7	7.7	7.7	8.1	8.1	8.1	8.1	8.1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>34.8</b>	<b>34.8</b>	<b>34.8</b>	<b>34.8</b>	<b>34.8</b>	<b>35.3</b>	<b>35.3</b>	<b>35.3</b>	<b>35.3</b>	<b>35.3</b>
18.8	26.2	0.0	0.5	0.0	19.5	27.7	0.0	0.5	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
119.0	56.1	132.5	89.0	132.8	165.4	71.9	140.2	116.1	153.5
80.1	51.2	31.2	38.0	31.3	103.1	61.2	31.9	39.0	31.7
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.9	3.8	25.5	30.7	35.6	1.9	4.5	45.4	30.7	35.6
5.8	2.5	0.8	1.5	0.7	11.0	3.9	1.0	1.6	0.8
<b>225.5</b>	<b>139.8</b>	<b>190.0</b>	<b>159.7</b>	<b>200.4</b>	<b>300.8</b>	<b>169.2</b>	<b>218.6</b>	<b>188.0</b>	<b>221.5</b>
<b>260.4</b>	<b>174.6</b>	<b>224.9</b>	<b>194.6</b>	<b>235.2</b>	<b>336.1</b>	<b>204.5</b>	<b>253.9</b>	<b>223.3</b>	<b>256.8</b>
6.0	6.2	59.1	28.6	54.7	7.3	7.4	64.5	35.4	66.0
21.2	21.8	38.9	38.9	49.8	22.7	25.0	43.6	47.1	58.5
0.2	0.2	0.6	0.1	0.5	0.2	0.2	0.6	0.5	0.5
6.7	7.5	6.1	8.4	9.7	6.7	7.5	6.1	8.4	9.7
16.0	16.0	7.3	14.7	13.1	21.2	23.1	15.6	27.2	20.6
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>50.3</b>	<b>51.8</b>	<b>112.1</b>	<b>90.7</b>	<b>128.0</b>	<b>58.1</b>	<b>63.3</b>	<b>130.5</b>	<b>118.7</b>	<b>155.5</b>

**Table D9. Electricity Generating Capability (Continued)**  
(Gigawatts)

Net Summer Capability <sup>1</sup>	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Cogenerators<sup>8</sup></b>												
<b>Capability</b>												
Coal .....	8.4	8.9	8.9	8.9	8.9	8.9	8.6	8.5	7.6	7.7	7.3	
Petroleum .....	2.7	2.9	2.9	2.9	2.8	2.8	2.9	2.9	2.9	2.9	2.9	
Natural Gas .....	34.6	39.7	39.8	41.1	40.3	40.3	43.1	42.6	49.2	44.4	44.8	
Other Gaseous Fuels .....	0.2	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	
Renewable Sources <sup>4</sup> .....	5.4	5.9	5.9	5.8	6.0	6.0	6.8	6.7	6.7	7.3	7.3	
Other .....	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
<b>Total</b> .....	<b>52.4</b>	<b>59.1</b>	<b>59.1</b>	<b>60.4</b>	<b>59.7</b>	<b>59.7</b>	<b>63.1</b>	<b>62.4</b>	<b>68.2</b>	<b>63.9</b>	<b>63.9</b>	
<b>Cumulative Additions<sup>6</sup></b> .....	<b>0.0</b>	<b>6.7</b>	<b>6.7</b>	<b>8.0</b>	<b>7.3</b>	<b>7.3</b>	<b>10.7</b>	<b>10.0</b>	<b>15.8</b>	<b>11.5</b>	<b>11.4</b>	
<b>Other End-Use Generators<sup>9</sup></b>												
Renewable Sources <sup>10</sup> .....	1.0	1.1	1.1	1.1	1.1	1.1	1.3	1.3	1.3	1.3	1.3	
Cumulative Additions .....	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.3	

<sup>1</sup>Net summer capability is the steady hourly output that generating equipment is expected to supply to system load (exclusive of auxiliary power), as demonstrated by tests during summer peak demand.

<sup>2</sup>Includes grid-connected utilities and nonutilities except for cogenerators. Includes small power producers and exempt wholesale generators.

<sup>3</sup>Includes oil-, gas-, and dual-fired capability.

<sup>4</sup>Includes conventional hydroelectric, geothermal, wood, wood waste, municipal solid waste, landfill gas, other biomass, solar and wind power.

<sup>5</sup>Primarily peak-load capacity fueled by natural gas

<sup>6</sup>Cumulative additions after December 31, 1999.

<sup>7</sup>Cumulative total retirements after December 31, 1999.

<sup>8</sup>Nameplate capacity is reported for nonutilities on Form EIA-860B, "Annual Electric Generator Report - Nonutility." Nameplate capacity is designated by the manufacturer. The nameplate capacity has been converted to the net summer capability based on historic relationships.

<sup>9</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

<sup>10</sup>See Table D17 for more detail.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model estimates and may differ slightly from official EIA data reports. Net summer capability has been estimated for nonutility generators to be consistent with capability for electric utility generators.

**Source:** Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
Reference	2015				2020					
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF Advanced	CEF Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF Advanced	CEF Advanced with Emissions Limits	
8.6	8.5	7.5	7.7	7.3	8.6	8.5	7.5	7.1	7.1	
2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.0	2.9	2.9	
46.9	46.2	60.3	49.0	48.9	51.2	51.6	75.2	55.5	54.9	
1.0	1.0	1.1	0.9	0.9	1.1	1.0	1.2	0.9	0.9	
7.6	7.4	7.4	8.5	8.5	8.3	8.1	8.1	9.7	9.7	
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
<b>67.9</b>	<b>66.8</b>	<b>80.1</b>	<b>69.8</b>	<b>69.3</b>	<b>73.0</b>	<b>73.0</b>	<b>95.8</b>	<b>77.0</b>	<b>76.3</b>	
<b>15.5</b>	<b>14.4</b>	<b>27.7</b>	<b>17.3</b>	<b>16.9</b>	<b>20.5</b>	<b>20.6</b>	<b>43.3</b>	<b>24.6</b>	<b>23.9</b>	
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	

**Table D10. Electricity Trade**  
(Billion Kilowatthours, Unless Otherwise Noted)

Electricity Trade	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Interregional Electricity Trade</b>											
Gross Domestic Firm Power Trade .....	182.2	125.3	125.3	125.3	125.3	125.3	102.9	102.9	102.9	102.9	102.9
Gross Domestic Economy Trade .....	152.1	199.1	204.3	144.1	141.2	129.2	154.6	165.7	95.2	111.2	98.3
<b>Gross Domestic Trade .....</b>	<b>334.3</b>	<b>324.4</b>	<b>329.6</b>	<b>269.4</b>	<b>266.5</b>	<b>254.4</b>	<b>257.5</b>	<b>268.6</b>	<b>198.1</b>	<b>214.2</b>	<b>201.2</b>
Gross Domestic Firm Power Sales (million 1999 dollars) .....	8588.1	5905.8	5905.8	5905.8	5905.8	5905.8	4851.2	4851.2	4851.2	4851.2	4851.2
Gross Domestic Economy Sales (million 1999 dollars) .....	4204.3	6352.8	6072.6	5400.5	5164.1	4980.0	4407.4	4386.1	3794.4	3712.1	3612.1
<b>Gross Domestic Sales (million 1999 dollars) .....</b>	<b>12792.4</b>	<b>12258.6</b>	<b>11978.4</b>	<b>11306.3</b>	<b>11069.9</b>	<b>10885.8</b>	<b>9258.7</b>	<b>9237.3</b>	<b>8645.6</b>	<b>8563.3</b>	<b>8463.3</b>
<b>International Electricity Trade</b>											
Firm Power Imports From Canada & Mexico <sup>1</sup>	27.0	10.7	10.7	11.8	10.7	10.7	5.8	5.8	19.1	5.8	5.8
Economy Imports From Canada & Mexico <sup>1</sup>	21.9	63.5	63.5	63.5	63.5	63.5	45.9	45.9	45.9	45.9	45.9
<b>Gross Imports From Canada and Mexico<sup>1</sup></b>	<b>48.9</b>	<b>74.1</b>	<b>74.1</b>	<b>75.3</b>	<b>74.1</b>	<b>74.1</b>	<b>51.7</b>	<b>51.7</b>	<b>65.0</b>	<b>51.7</b>	<b>51.7</b>
Firm Power Exports To Canada and Mexico	9.2	9.7	9.7	9.7	9.7	9.7	8.7	8.7	8.7	8.7	8.7
Economy Exports To Canada and Mexico	6.3	7.0	7.0	7.0	7.0	7.0	7.7	7.7	7.7	7.7	7.7
<b>Gross Exports To Canada and Mexico ..</b>	<b>15.5</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.4</b>	<b>16.4</b>	<b>16.4</b>	<b>16.4</b>	<b>16.4</b>

<sup>1</sup>Historically electricity imports were primarily from renewable resources, principally hydroelectric.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports. Firm Power Sales are capacity sales, meaning the delivery of the power is scheduled as part of the normal operating conditions of the affected electric systems. Economy Sales are subject to curtailment or cessation of delivery by the supplier in accordance with prior agreements or under specified conditions.

Source: Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEM.R.D092701A.

Projections										
Reference	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
45.7	45.7	45.7	45.7	45.7	0.0	0.0	0.0	0.0	0.0	
154.5	160.2	89.8	102.3	92.5	146.4	160.4	104.5	110.6	95.6	
<b>200.2</b>	<b>205.9</b>	<b>135.5</b>	<b>148.0</b>	<b>138.2</b>	<b>146.4</b>	<b>160.4</b>	<b>104.5</b>	<b>110.6</b>	<b>95.6</b>	
2156.1	2156.1	2156.1	2156.1	2156.1	0.0	0.0	0.0	0.0	0.0	
4560.7	4350.8	3814.3	3467.5	3313.5	4448.7	4345.2	4179.3	3734.3	3344.9	
<b>6716.8</b>	<b>6506.9</b>	<b>5970.4</b>	<b>5623.6</b>	<b>5469.6</b>	<b>4448.7</b>	<b>4345.2</b>	<b>4179.3</b>	<b>3734.3</b>	<b>3344.9</b>	
2.6	2.6	14.7	2.6	2.6	0.0	0.0	12.1	0.0	0.0	
30.8	30.8	30.8	30.8	30.8	30.6	30.6	30.6	30.6	30.6	
<b>33.4</b>	<b>33.4</b>	<b>45.6</b>	<b>33.4</b>	<b>33.4</b>	<b>30.6</b>	<b>30.6</b>	<b>42.7</b>	<b>30.6</b>	<b>30.6</b>	
3.9	3.9	3.9	3.9	3.9	0.0	0.0	0.0	0.0	0.0	
7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	
<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>11.5</b>	<b>7.7</b>	<b>7.7</b>	<b>7.7</b>	<b>7.7</b>	<b>7.7</b>	

**Table D11. Petroleum Supply and Disposition Balance**  
(Million Barrels per Day, Unless Otherwise Noted)

Supply and Disposition	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Crude Oil</b>											
Domestic Crude Production <sup>1</sup>	5.88	5.69	5.67	5.68	5.68	5.68	5.30	5.28	5.27	5.23	5.26
Alaska	1.05	0.79	0.79	0.79	0.79	0.79	0.65	0.65	0.65	0.65	0.65
Lower 48 States	4.83	4.90	4.88	4.89	4.89	4.89	4.66	4.63	4.62	4.58	4.62
Net Imports	8.61	9.80	9.81	9.80	9.69	9.69	10.31	10.34	10.39	10.27	10.22
Gross Imports	8.73	9.87	9.87	9.86	9.75	9.75	10.36	10.39	10.44	10.31	10.27
Exports	0.12	0.07	0.06	0.07	0.07	0.07	0.05	0.05	0.05	0.05	0.05
Other Crude Supply <sup>2</sup>	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total Crude Supply</b>	<b>14.80</b>	<b>15.49</b>	<b>15.48</b>	<b>15.48</b>	<b>15.37</b>	<b>15.37</b>	<b>15.61</b>	<b>15.62</b>	<b>15.66</b>	<b>15.49</b>	<b>15.49</b>
<b>Natural Gas Plant Liquids</b>	<b>1.85</b>	<b>2.19</b>	<b>2.10</b>	<b>2.17</b>	<b>2.06</b>	<b>2.13</b>	<b>2.37</b>	<b>2.21</b>	<b>2.45</b>	<b>2.22</b>	<b>2.34</b>
<b>Other Inputs<sup>3</sup></b>	<b>0.60</b>	<b>0.19</b>	<b>0.30</b>	<b>0.30</b>	<b>0.26</b>	<b>0.29</b>	<b>0.20</b>	<b>0.30</b>	<b>0.21</b>	<b>0.29</b>	<b>0.20</b>
<b>Refinery Processing Gain<sup>4</sup></b>	<b>0.89</b>	<b>0.93</b>	<b>0.91</b>	<b>0.89</b>	<b>0.91</b>	<b>0.89</b>	<b>0.99</b>	<b>0.94</b>	<b>0.94</b>	<b>0.90</b>	<b>0.91</b>
<b>Net Product Imports<sup>5</sup></b>	<b>1.30</b>	<b>2.25</b>	<b>1.98</b>	<b>1.82</b>	<b>1.13</b>	<b>1.02</b>	<b>3.44</b>	<b>2.96</b>	<b>2.73</b>	<b>1.47</b>	<b>1.44</b>
Gross Refined Product Imports <sup>6</sup>	1.73	2.45	2.35	2.23	1.58	1.48	3.43	3.03	2.87	1.83	1.82
Unfinished Oil Imports	0.32	0.56	0.40	0.37	0.32	0.32	0.79	0.72	0.64	0.38	0.36
Ether Imports	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Exports	0.82	0.76	0.78	0.78	0.77	0.78	0.78	0.78	0.78	0.75	0.74
<b>Total Primary Supply<sup>7</sup></b>	<b>19.44</b>	<b>21.05</b>	<b>20.77</b>	<b>20.66</b>	<b>19.72</b>	<b>19.70</b>	<b>22.61</b>	<b>22.04</b>	<b>21.99</b>	<b>20.37</b>	<b>20.38</b>
<b>Refined Petroleum Products Supplied</b>											
Motor Gasoline <sup>8</sup>	8.43	9.37	9.29	9.29	8.53	8.52	10.06	9.85	9.84	8.57	8.57
Jet Fuel <sup>9</sup>	1.67	1.88	1.88	1.88	1.87	1.87	2.17	2.18	2.19	2.13	2.13
Distillate Fuel <sup>10</sup>	3.54	4.12	4.03	3.99	3.92	3.91	4.48	4.32	4.27	4.13	4.12
Residual Fuel	0.74	0.64	0.59	0.52	0.53	0.51	0.61	0.58	0.56	0.54	0.54
Other <sup>11</sup>	5.07	5.09	5.02	5.03	4.93	4.95	5.33	5.16	5.19	5.05	5.07
<b>Total</b>	<b>19.46</b>	<b>21.10</b>	<b>20.82</b>	<b>20.71</b>	<b>19.78</b>	<b>19.76</b>	<b>22.64</b>	<b>22.09</b>	<b>22.04</b>	<b>20.43</b>	<b>20.43</b>
<b>Refined Petroleum Products Supplied</b>											
Residential and Commercial	1.10	1.10	1.10	1.10	1.06	1.06	1.05	1.04	1.05	0.99	1.00
Industrial <sup>12</sup>	5.19	5.22	5.15	5.15	5.06	5.07	5.56	5.37	5.40	5.25	5.28
Transportation	12.86	14.58	14.43	14.40	13.59	13.57	15.92	15.58	15.55	14.14	14.12
Electric Generators <sup>13</sup>	0.31	0.19	0.14	0.05	0.07	0.05	0.11	0.09	0.04	0.05	0.04
<b>Total</b>	<b>19.46</b>	<b>21.10</b>	<b>20.82</b>	<b>20.71</b>	<b>19.78</b>	<b>19.76</b>	<b>22.64</b>	<b>22.09</b>	<b>22.04</b>	<b>20.43</b>	<b>20.43</b>
<b>Discrepancy<sup>14</sup></b>	<b>-0.02</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.06</b>	<b>-0.06</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.06</b>	<b>-0.05</b>
<b>World Oil Price (1999 dollars per barrel)<sup>15</sup></b>	<b>17.22</b>	<b>20.83</b>	<b>20.83</b>	<b>20.83</b>	<b>20.83</b>	<b>20.83</b>	<b>21.37</b>	<b>21.37</b>	<b>21.37</b>	<b>21.37</b>	<b>21.37</b>
<b>Import Share of Product Supplied</b>	<b>0.51</b>	<b>0.57</b>	<b>0.57</b>	<b>0.56</b>	<b>0.55</b>	<b>0.54</b>	<b>0.61</b>	<b>0.60</b>	<b>0.60</b>	<b>0.57</b>	<b>0.57</b>
<b>Net Expenditures for Imported Crude Oil and Petroleum Products (billion 1999 dollars)</b>	<b>59.74</b>	<b>94.30</b>	<b>92.14</b>	<b>90.82</b>	<b>82.64</b>	<b>81.80</b>	<b>112.23</b>	<b>108.55</b>	<b>106.91</b>	<b>92.56</b>	<b>91.93</b>
<b>Domestic Refinery Distillation Capacity<sup>16</sup></b>	<b>16.5</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>	<b>16.7</b>
<b>Capacity Utilization Rate (percent)</b>	<b>93.0</b>	<b>92.6</b>	<b>92.7</b>	<b>92.6</b>	<b>92.0</b>	<b>92.1</b>	<b>93.3</b>	<b>93.5</b>	<b>93.7</b>	<b>92.8</b>	<b>92.7</b>

<sup>1</sup>Includes lease condensate.

<sup>2</sup>Strategic petroleum reserve stock additions plus unaccounted for crude oil and crude stock withdrawals minus crude products supplied.

<sup>3</sup>Includes alcohols, ethers, petroleum product stock withdrawals, domestic sources of blending components, and other hydrocarbons.

<sup>4</sup>Represents volumetric gain in refinery distillation and cracking processes.

<sup>5</sup>Includes net imports of finished petroleum products, unfinished oils, other hydrocarbons, alcohols, ethers, and blending components.

<sup>6</sup>Includes blending components.

<sup>7</sup>Total crude supply plus natural gas plant liquids, other inputs, refinery processing gain, and net petroleum imports.

<sup>8</sup>Includes ethanol and ethers blended into gasoline.

<sup>9</sup>Includes naphtha and kerosene types.

<sup>10</sup>Includes distillate and kerosene.

<sup>11</sup>Includes aviation gasoline, liquefied petroleum gas, petrochemical feedstocks, lubricants, waxes, asphalt, road oil, still gas, special naphthas, petroleum coke, crude oil product supplied, and miscellaneous petroleum products.

<sup>12</sup>Includes consumption by cogenerators.

<sup>13</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>14</sup>Balancing item. Includes unaccounted for supply, losses and gains.

<sup>15</sup>Average refiner acquisition cost for imported crude oil.

<sup>16</sup>End-of-year capacity.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 product supplied data from Table D2. Other 1999 data: Energy Information Administration (EIA), *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEM.R092701A.

		Projections								
Reference	CEF Moderate	2015				2020				
		CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
5.23	5.15	5.22	5.08	5.18	5.22	5.07	5.17	5.06	5.11	
0.70	0.70	0.70	0.70	0.70	0.64	0.64	0.64	0.64	0.64	
4.53	4.44	4.52	4.38	4.48	4.58	4.43	4.54	4.42	4.47	
11.59	11.39	11.29	10.67	10.57	11.89	12.07	11.89	11.07	11.07	
11.64	11.43	11.33	10.71	10.61	11.93	12.11	11.93	11.11	11.11	
0.05	0.04	0.05	0.04	0.04	0.05	0.04	0.04	0.04	0.04	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16.82	<b>16.53</b>	<b>16.51</b>	<b>15.75</b>	<b>15.75</b>	<b>17.11</b>	<b>17.15</b>	<b>17.06</b>	<b>16.13</b>	<b>16.17</b>	
2.65	<b>2.38</b>	<b>2.59</b>	<b>2.33</b>	<b>2.45</b>	<b>2.92</b>	<b>2.53</b>	<b>2.72</b>	<b>2.48</b>	<b>2.58</b>	
0.21	<b>0.39</b>	<b>0.34</b>	<b>0.35</b>	<b>0.31</b>	<b>0.22</b>	<b>0.66</b>	<b>0.63</b>	<b>0.58</b>	<b>0.48</b>	
0.96	<b>0.92</b>	<b>0.92</b>	<b>0.90</b>	<b>0.90</b>	<b>0.98</b>	<b>0.91</b>	<b>0.90</b>	<b>0.89</b>	<b>0.91</b>	
3.51	<b>3.05</b>	<b>2.88</b>	<b>1.58</b>	<b>1.52</b>	<b>4.46</b>	<b>3.16</b>	<b>3.11</b>	<b>1.51</b>	<b>1.46</b>	
3.51	3.27	3.17	1.95	1.91	4.40	3.45	3.43	1.92	1.87	
0.78	0.55	0.48	0.39	0.38	0.89	0.52	0.51	0.42	0.42	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.79	0.77	0.77	0.76	0.77	0.83	0.82	0.83	0.83	0.83	
<b>24.14</b>	<b>23.26</b>	<b>23.25</b>	<b>20.91</b>	<b>20.93</b>	<b>25.69</b>	<b>24.41</b>	<b>24.43</b>	<b>21.59</b>	<b>21.60</b>	
10.70	10.34	10.34	8.58	8.57	11.29	10.78	10.77	8.66	8.66	
2.52	2.52	2.53	2.41	2.41	2.88	2.85	2.86	2.73	2.73	
4.80	4.57	4.52	4.29	4.28	5.12	4.79	4.74	4.44	4.43	
0.61	0.59	0.56	0.54	0.54	0.61	0.60	0.57	0.54	0.53	
5.55	5.28	5.34	5.14	5.18	5.82	5.45	5.52	5.28	5.30	
<b>24.18</b>	<b>23.31</b>	<b>23.29</b>	<b>20.96</b>	<b>20.98</b>	<b>25.73</b>	<b>24.46</b>	<b>24.46</b>	<b>21.64</b>	<b>21.65</b>	
1.03	1.01	1.03	0.95	0.95	1.01	0.99	1.02	0.92	0.93	
5.83	5.55	5.59	5.39	5.42	6.15	5.75	5.82	5.54	5.56	
17.21	16.65	16.62	14.58	14.57	18.46	17.62	17.59	15.14	15.13	
0.11	0.10	0.04	0.05	0.04	0.10	0.09	0.04	0.04	0.04	
<b>24.18</b>	<b>23.31</b>	<b>23.29</b>	<b>20.96</b>	<b>20.98</b>	<b>25.73</b>	<b>24.46</b>	<b>24.46</b>	<b>21.64</b>	<b>21.65</b>	
<b>-0.04</b>	<b>-0.05</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.05</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.04</b>	
<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>21.89</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>	<b>22.41</b>	
0.62	<b>0.62</b>	<b>0.61</b>	<b>0.58</b>	<b>0.58</b>	<b>0.64</b>	<b>0.62</b>	<b>0.61</b>	<b>0.58</b>	<b>0.58</b>	
<b>128.03</b>	<b>120.87</b>	<b>118.43</b>	<b>98.53</b>	<b>97.20</b>	<b>143.48</b>	<b>130.13</b>	<b>128.10</b>	<b>103.05</b>	<b>102.53</b>	
17.9	17.5	17.5	16.9	16.9	18.1	18.1	18.0	17.1	17.1	
94.0	94.5	94.5	93.2	93.4	94.7	95.1	95.0	94.6	94.6	

**Table D12. Petroleum Product Prices**  
(1999 Cents per Gallon, Unless Otherwise Noted)

Sector and Fuel	1999	Projections									
		2005					2010				
		Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
World Oil Price (1999 dollars per barrel)	17.22	20.83	20.83	20.83	20.83	20.83	21.37	21.37	21.37	21.37	21.37
<b>Delivered Sector Product Prices</b>											
<b>Residential</b>											
Distillate Fuel .....	87.0	102.3	101.8	101.0	99.5	99.4	105.0	104.9	103.9	101.4	101.6
Liquefied Petroleum Gas .....	89.4	108.9	108.8	108.5	108.7	108.1	110.6	110.8	109.5	103.9	107.6
<b>Commercial</b>											
Distillate Fuel .....	60.6	71.7	71.2	70.4	68.8	68.7	74.2	74.1	73.0	70.6	70.7
Residual Fuel .....	39.3	54.5	54.2	53.8	53.9	53.8	55.5	55.1	54.9	55.0	54.9
Residual Fuel (1999 dollars per barrel)	16.53	22.91	22.75	22.59	22.66	22.61	23.29	23.13	23.05	23.09	23.08
<b>Industrial<sup>1</sup></b>											
Distillate Fuel .....	64.5	73.9	73.5	72.8	71.3	71.3	76.8	76.5	75.5	73.2	73.5
Liquefied Petroleum Gas .....	73.4	66.9	66.7	66.7	66.3	66.0	67.0	66.9	65.7	59.9	64.1
Residual Fuel .....	41.7	50.5	50.3	50.0	50.2	50.1	51.4	51.3	51.1	51.2	51.3
Residual Fuel (1999 dollars per barrel)	17.50	21.22	21.14	20.99	21.07	21.02	21.58	21.53	21.48	21.51	21.53
<b>Transportation</b>											
Diesel Fuel (distillate) <sup>2</sup> .....	114.0	123.3	123.2	122.6	120.6	120.6	124.0	124.9	124.5	121.4	121.8
Jet Fuel <sup>3</sup> .....	63.5	70.5	70.4	69.9	68.2	68.2	74.1	74.2	74.0	70.1	70.5
Motor Gasoline <sup>4</sup> .....	118.2	134.0	133.4	133.5	125.4	125.4	139.6	139.4	139.8	126.3	126.3
Liquified Petroleum Gas .....	111.1	121.4	121.2	121.0	120.7	120.3	120.8	121.0	119.9	114.6	117.7
Residual Fuel .....	36.8	46.5	46.9	46.8	46.9	46.9	47.6	48.6	48.6	48.7	48.7
Residual Fuel (1999 dollars per barrel)	15.45	19.54	19.71	19.65	19.70	19.69	19.99	20.42	20.41	20.47	20.47
Ethanol (E85) .....	129.2	171.9	171.6	171.6	169.7	170.0	171.2	170.7	171.1	167.8	168.2
Methanol (M85) .....	76.2	96.3	95.1	95.4	94.6	93.6	101.2	101.1	101.2	99.2	99.7
<b>Electric Generators<sup>5</sup></b>											
Distillate Fuel .....	56.4	64.6	64.3	65.8	64.1	64.5	67.3	67.3	67.9	66.3	67.4
Residual Fuel .....	35.8	51.3	52.3	57.8	54.8	58.3	55.4	56.1	61.2	60.4	61.9
Residual Fuel (1999 dollars per barrel)	15.03	21.56	21.98	24.29	23.02	24.49	23.26	23.56	25.71	25.38	25.98
<b>Refined Petroleum Product Prices<sup>6</sup></b>											
Distillate Fuel .....	100.5	111.8	111.4	110.9	109.1	109.1	113.7	114.1	113.6	110.8	111.1
Jet Fuel <sup>3</sup> .....	63.5	70.5	70.4	69.9	68.2	68.2	74.1	74.2	74.0	70.1	70.5
Liquefied Petroleum Gas .....	76.3	74.7	74.6	74.5	74.2	73.8	74.7	74.8	73.7	67.8	71.9
Motor Gasoline <sup>4</sup> .....	118.2	134.0	133.3	133.5	125.4	125.4	139.6	139.4	139.8	126.3	126.3
Residual Fuel .....	37.0	48.7	48.9	48.6	48.7	48.7	49.9	50.4	50.4	50.5	50.5
Residual Fuel (1999 dollars per barrel)	15.54	20.44	20.52	20.43	20.47	20.45	20.96	21.18	21.16	21.21	21.21
Average .....	97.8	110.7	110.4	110.5	105.1	105.1	114.5	114.5	114.5	104.9	105.5

<sup>1</sup>Includes cogenerators. Includes Federal and State taxes while excluding county and state taxes.

<sup>2</sup>Low sulfur diesel fuel. Includes Federal and State taxes while excluding county and local taxes.

<sup>3</sup>Kerosene-type jet fuel.

<sup>4</sup>Sales weighted-average price for all grades. Includes Federal and State taxes while excluding county and local taxes.

<sup>5</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>6</sup>Weighted averages of end-use fuel prices are derived from the prices in each sector and the corresponding sectoral consumption.

Note: Data for 1999 are model results and may differ slightly from official EIA data reports.

CEF = Clean Energy Future.

**Sources:** 1999 prices for gasoline, distillate, and jet fuel are based on prices in various issues of Energy Information Administration (EIA), *Petroleum Marketing Monthly*, DOE/EIA-0380 (99/03-2000/04) (Washington, DC, 1999-2000). 1999 prices for all other petroleum products are derived from EIA, *State Energy Price and Expenditure Report 1997*, DOE/EIA-0376(97) (Washington, DC, July 2000). **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
2015					2020					
Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
21.89	21.89	21.89	21.89	21.89	22.41	22.41	22.41	22.41	22.41	
104.6	103.5	102.9	103.5	103.6	107.6	105.2	104.8	104.1	103.7	
110.8	112.3	107.6	107.8	106.8	109.7	111.9	108.1	102.8	104.7	
73.5	72.7	71.9	72.5	72.6	76.5	74.3	73.7	73.2	72.7	
56.6	56.1	55.9	56.0	56.0	57.7	57.1	56.9	57.0	57.0	
23.77	23.57	23.48	23.51	23.50	24.23	23.99	23.91	23.96	23.95	
76.1	75.3	74.7	75.3	75.4	79.2	77.1	76.8	76.0	75.6	
67.2	68.0	63.6	63.3	63.0	66.3	67.3	64.2	57.9	60.1	
52.5	52.4	52.3	52.5	52.4	53.7	53.6	53.5	53.5	53.5	
22.06	22.02	21.96	22.03	22.03	22.54	22.49	22.46	22.48	22.48	
123.1	122.4	121.4	121.9	121.9	122.4	121.7	121.1	119.5	119.4	
74.8	73.6	73.0	71.7	71.6	77.2	75.7	75.4	73.2	73.3	
133.4	132.2	132.1	124.8	124.7	132.0	130.9	130.9	122.3	122.2	
120.3	121.5	117.4	117.2	116.2	117.8	119.8	116.8	111.4	113.0	
48.7	50.4	50.3	50.6	50.6	49.8	52.1	52.1	52.2	52.2	
20.47	21.16	21.15	21.24	21.24	20.93	21.88	21.87	21.94	21.94	
172.5	159.2	159.2	151.9	151.9	173.1	146.0	146.1	139.9	140.2	
103.9	104.8	104.8	103.7	101.9	105.3	105.4	105.5	103.7	101.8	
67.0	66.4	68.1	68.7	69.6	70.1	68.0	71.1	70.2	71.0	
56.7	57.5	63.0	63.1	64.4	58.7	59.5	64.8	65.7	66.5	
23.80	24.13	26.48	26.49	27.07	24.66	25.01	27.22	27.59	27.92	
113.2	112.2	111.3	111.9	111.9	113.7	112.2	111.7	110.5	110.3	
74.8	73.6	73.0	71.7	71.6	77.2	75.7	75.4	73.2	73.3	
74.5	75.5	71.2	70.9	70.5	73.2	74.6	71.5	65.3	67.4	
133.4	132.2	132.1	124.8	124.7	132.0	130.9	130.9	122.3	122.1	
51.0	52.0	52.0	52.1	52.1	52.2	53.5	53.5	53.6	53.6	
21.43	21.83	21.82	21.90	21.89	21.92	22.48	22.47	22.53	22.52	
111.2	110.3	109.6	104.6	104.4	110.6	109.7	109.1	102.2	102.3	

**Table D13. Natural Gas Supply and Disposition**  
(Trillion Cubic Feet per Year)

Supply and Disposition	1999	Projections									
		2005					2010				
		Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Production</b>											
Dry Gas Production <sup>1</sup> .....	18.67	21.32	20.45	21.09	20.02	20.74	23.36	21.81	24.24	21.89	23.09
Supplemental Natural Gas <sup>2</sup> .....	0.10	0.11	0.11	0.11	0.11	0.11	0.06	0.06	0.06	0.06	0.06
<b>Net Imports</b>											
Canada .....	3.38	4.70	4.64	4.48	4.29	4.33	5.01	4.75	5.16	4.61	4.91
Mexico .....	3.29	4.49	4.43	4.27	4.09	4.12	4.72	4.48	4.86	4.35	4.63
Liquefied Natural Gas .....	-0.01	-0.18	-0.18	-0.18	-0.18	-0.18	-0.25	-0.25	-0.25	-0.25	-0.25
Total Supply .....	0.10	0.39	0.39	0.39	0.38	0.39	0.53	0.51	0.54	0.51	0.53
<b>Total Supply</b> .....	<b>22.15</b>	<b>26.14</b>	<b>25.20</b>	<b>25.69</b>	<b>24.42</b>	<b>25.18</b>	<b>28.42</b>	<b>26.61</b>	<b>29.45</b>	<b>26.56</b>	<b>28.06</b>
<b>Consumption by Sector</b>											
Residential .....	4.75	5.40	5.39	5.35	5.26	5.22	5.39	5.39	5.27	5.22	5.12
Commercial .....	3.06	3.89	3.84	3.83	3.81	3.78	4.08	4.01	3.95	4.01	3.93
Industrial <sup>3</sup> .....	8.31	8.78	8.70	8.70	8.65	8.59	9.48	9.29	9.37	9.04	8.93
Electric Generators <sup>4</sup> .....	3.76	5.44	4.72	5.20	4.21	5.02	6.83	5.39	8.11	5.78	7.44
Lease and Plant Fuel <sup>5</sup> .....	1.23	1.36	1.32	1.35	1.30	1.33	1.50	1.42	1.53	1.42	1.48
Pipeline Fuel .....	0.64	0.80	0.77	0.79	0.75	0.78	0.88	0.83	0.92	0.83	0.88
Transportation <sup>6</sup> .....	0.02	0.05	0.05	0.05	0.05	0.05	0.09	0.09	0.09	0.08	0.08
<b>Total</b> .....	<b>21.77</b>	<b>25.73</b>	<b>24.79</b>	<b>25.27</b>	<b>24.02</b>	<b>24.77</b>	<b>28.24</b>	<b>26.41</b>	<b>29.24</b>	<b>26.37</b>	<b>27.86</b>
<b>Discrepancy<sup>7</sup></b> .....	<b>0.38</b>	<b>0.41</b>	<b>0.41</b>	<b>0.41</b>	<b>0.40</b>	<b>0.41</b>	<b>0.19</b>	<b>0.20</b>	<b>0.21</b>	<b>0.19</b>	<b>0.20</b>

<sup>1</sup>Marketed production (wet) minus extraction losses.

<sup>2</sup>Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Represents natural gas used in the field gathering and processing plant machinery.

<sup>6</sup>Compressed natural gas used as vehicle fuel.

<sup>7</sup>Balancing item. Natural gas lost as a result of converting flow data measured at varying temperatures and pressures to a standard temperature and pressure and the merger of different data reporting systems which vary in scope, format, definition, and respondent type. In addition, 1999 values include net storage injections.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 supplemental natural gas: Energy Information Administration (EIA), *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). 1999 transportation sector consumption: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. Other 1999 consumption: EIA, *Short-Term Energy Outlook, April 2001*, <http://www.eia.doe.gov/pub/forecasting/steo/oldsteos/apr01.pdf> with adjustments to end-use sector consumption levels for consumption of natural gas by electric wholesale generators based on EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections									
2015					2020				
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
26.50 0.06	23.69 0.06	25.89 0.06	23.17 0.06	24.48 0.06	29.34 0.06	25.45 0.06	27.43 0.06	24.89 0.06	25.96 0.06
<b>5.44</b> <b>5.12</b> -0.33 0.65	<b>4.99</b> 4.69 -0.33 0.62	<b>5.49</b> 5.17 -0.33 0.65	<b>4.86</b> 4.58 -0.33 0.61	<b>5.14</b> 4.84 -0.33 0.64	<b>5.78</b> 5.39 -0.40 0.79	<b>5.21</b> 4.89 -0.40 0.73	<b>5.62</b> 5.26 -0.40 0.77	<b>5.13</b> 4.81 -0.40 0.72	<b>5.33</b> 4.99 -0.40 0.74
<b>32.00</b>	<b>28.73</b>	<b>31.43</b>	<b>28.09</b>	<b>29.68</b>	<b>35.17</b>	<b>30.71</b>	<b>33.11</b>	<b>30.07</b>	<b>31.35</b>
5.63 4.24 10.03 9.12 1.68 0.98 0.13 <b>31.81</b>	5.64 4.14 9.72 6.50 1.54 0.89 0.12 <b>28.55</b>	5.50 4.10 9.95 8.98 1.64 0.96 0.12 <b>31.25</b>	5.39 4.09 9.30 6.66 1.52 0.86 0.10 <b>27.92</b>	5.29 4.02 9.20 8.39 1.58 0.92 0.10 <b>29.50</b>	5.92 4.36 10.52 11.15 1.86 1.07 0.15 <b>35.03</b>	5.95 4.24 10.20 7.42 1.66 0.93 0.15 <b>30.56</b>	5.81 4.29 10.57 9.36 1.75 1.01 0.14 <b>32.94</b>	5.62 4.20 9.70 7.73 1.63 0.91 0.13 <b>29.92</b>	5.53 4.14 9.62 9.15 1.68 0.96 0.12 <b>31.19</b>
0.18	0.18	0.18	0.17	0.18	0.15	0.16	0.17	0.15	0.16

**Table D14. Natural Gas Prices, Margins, and Revenue**  
 (1999 Dollars per Thousand Cubic Feet, Unless Otherwise Noted)

Prices, Margins, and Revenue	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Source Price</b>											
Average Lower 48 Wellhead Price <sup>1</sup> .....	2.08	2.99	2.80	2.83	2.52	2.72	2.82	2.45	2.91	2.28	2.76
Average Import Price .....	2.29	2.99	2.95	2.99	2.80	2.93	2.66	2.55	2.78	2.44	2.70
<b>Average<sup>2</sup></b> .....	<b>2.11</b>	<b>2.99</b>	<b>2.83</b>	<b>2.86</b>	<b>2.57</b>	<b>2.76</b>	<b>2.79</b>	<b>2.47</b>	<b>2.89</b>	<b>2.31</b>	<b>2.75</b>
<b>Delivered Prices</b>											
Residential .....	6.69	7.33	7.17	7.22	6.93	7.13	6.88	6.56	7.00	6.43	6.87
Commercial .....	5.49	5.72	5.56	5.60	5.30	5.50	5.78	5.46	5.89	5.31	5.74
Industrial <sup>3</sup> .....	2.87	3.76	3.59	3.63	3.33	3.53	3.55	3.20	3.65	3.04	3.51
Electric Generators <sup>4</sup> .....	2.62	3.49	3.30	3.56	3.11	3.45	3.30	2.88	3.66	2.86	3.48
Transportation <sup>5</sup> .....	7.21	7.50	7.31	7.35	6.98	7.18	7.36	7.02	7.46	6.78	7.23
<b>Average<sup>6</sup></b> .....	<b>4.14</b>	<b>4.85</b>	<b>4.72</b>	<b>4.78</b>	<b>4.50</b>	<b>4.68</b>	<b>4.55</b>	<b>4.27</b>	<b>4.66</b>	<b>4.13</b>	<b>4.54</b>
<b>Transmission &amp; Distribution Margins<sup>7</sup></b>											
Residential .....	4.58	4.34	4.34	4.36	4.36	4.37	4.09	4.09	4.11	4.12	4.13
Commercial .....	3.37	2.73	2.73	2.74	2.73	2.74	2.99	2.99	3.00	2.99	2.99
Industrial <sup>3</sup> .....	0.76	0.78	0.77	0.77	0.76	0.77	0.76	0.73	0.77	0.73	0.76
Electric Generators <sup>4</sup> .....	0.51	0.50	0.47	0.70	0.54	0.69	0.51	0.41	0.78	0.55	0.74
Transportation <sup>5</sup> .....	5.10	4.52	4.48	4.49	4.41	4.42	4.57	4.55	4.58	4.47	4.48
<b>Average<sup>6</sup></b> .....	<b>2.03</b>	<b>1.87</b>	<b>1.90</b>	<b>1.92</b>	<b>1.93</b>	<b>1.92</b>	<b>1.76</b>	<b>1.80</b>	<b>1.78</b>	<b>1.81</b>	<b>1.79</b>
<b>Transmission &amp; Distribution Revenue (billion 1999 dollars)</b>											
Residential .....	21.77	23.45	23.39	23.32	22.92	22.81	22.07	22.07	21.68	21.49	21.14
Commercial .....	10.32	10.62	10.49	10.52	10.42	10.35	12.19	12.01	11.84	12.02	11.78
Industrial <sup>3</sup> .....	6.28	6.82	6.70	6.74	6.57	6.64	7.20	6.81	7.19	6.61	6.81
Electric Generators <sup>4</sup> .....	1.90	2.74	2.24	3.63	2.28	3.45	3.46	2.23	6.32	3.18	5.47
Transportation <sup>5</sup> .....	0.08	0.24	0.23	0.23	0.21	0.21	0.40	0.39	0.39	0.34	0.34
<b>Total</b> .....	<b>40.35</b>	<b>43.87</b>	<b>43.05</b>	<b>44.44</b>	<b>42.40</b>	<b>43.46</b>	<b>45.33</b>	<b>43.52</b>	<b>47.43</b>	<b>43.64</b>	<b>45.54</b>

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Quantity-weighted average of the average lower 48 wellhead price and the average price of imports at the U.S. border.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Compressed natural gas used as a vehicle fuel. Price includes estimated motor vehicle fuel taxes.

<sup>6</sup>Weighted average prices and margins. Weights used are the sectoral consumption values excluding lease, plant, and pipeline fuel.

<sup>7</sup>Within the table, "transmission and distribution" margins equal the difference between the delivered price and the source price (average of the wellhead price and the price of imports at the U.S. border) of natural gas and, thus, reflect the total cost of bringing natural gas to market. When the term "transmission and distribution" margins is used in today's natural gas market, it generally does not include the cost of independent natural gas marketers or costs associated with aggregation of supplies, provisions of storage, and other services. As used here, the term includes the cost of all services and the cost of pipeline fuel used in compressor stations.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 industrial delivered prices based on Energy Information Administration (EIA), *Manufacturing Energy Consumption Survey 1994*. 1999 residential and commercial delivered prices, average lower 48 wellhead price, and average import price: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). **Other 1999 values and projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
2015					2020					
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
2.92	2.48	2.91	2.37	2.71	3.10	2.48	2.82	2.36	2.61	
2.65	2.48	2.73	2.39	2.62	2.71	2.49	2.73	2.39	2.60	
<b>2.87</b>	<b>2.48</b>	<b>2.87</b>	<b>2.37</b>	<b>2.69</b>	<b>3.03</b>	<b>2.48</b>	<b>2.80</b>	<b>2.36</b>	<b>2.61</b>	
6.77	6.35	6.78	6.26	6.60	6.74	6.14	6.49	6.03	6.32	
5.76	5.34	5.76	5.22	5.56	5.82	5.22	5.57	5.09	5.36	
3.66	3.20	3.62	3.08	3.43	3.84	3.19	3.55	3.07	3.35	
3.46	2.90	3.62	2.91	3.38	3.68	2.91	3.57	2.96	3.33	
7.48	7.04	7.47	6.82	7.16	7.50	6.91	7.23	6.65	6.92	
<b>4.52</b>	<b>4.17</b>	<b>4.56</b>	<b>4.07</b>	<b>4.37</b>	<b>4.61</b>	<b>4.08</b>	<b>4.43</b>	<b>3.98</b>	<b>4.23</b>	
3.90	3.87	3.91	3.89	3.91	3.71	3.66	3.69	3.67	3.71	
2.89	2.86	2.88	2.85	2.86	2.79	2.74	2.76	2.72	2.75	
0.78	0.72	0.75	0.71	0.74	0.81	0.71	0.75	0.71	0.74	
0.58	0.42	0.74	0.54	0.69	0.66	0.43	0.76	0.60	0.72	
4.60	4.56	4.60	4.45	4.47	4.47	4.44	4.43	4.29	4.31	
<b>1.65</b>	<b>1.69</b>	<b>1.68</b>	<b>1.70</b>	<b>1.68</b>	<b>1.59</b>	<b>1.60</b>	<b>1.63</b>	<b>1.62</b>	<b>1.62</b>	
21.94	21.82	21.51	20.96	20.72	21.95	21.78	21.43	20.63	20.51	
12.25	11.83	11.81	11.65	11.52	12.16	11.63	11.84	11.42	11.39	
7.85	7.01	7.45	6.60	6.81	8.50	7.29	7.89	6.89	7.16	
5.32	2.74	6.66	3.59	5.79	7.33	3.23	7.15	4.64	6.58	
0.58	0.55	0.55	0.47	0.46	0.68	0.65	0.64	0.54	0.53	
<b>47.93</b>	<b>43.95</b>	<b>47.96</b>	<b>43.25</b>	<b>45.31</b>	<b>50.61</b>	<b>44.58</b>	<b>48.94</b>	<b>44.12</b>	<b>46.17</b>	

**Table D15. Oil and Gas Supply**

Production and Supply	1999	Projections									
		2005					2010				
		Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Crude Oil</b>											
Lower 48 Average Wellhead Price <sup>1</sup> (1999 dollars per barrel) .....	16.49	20.48	20.49	20.51	20.46	20.46	20.80	20.76	20.86	20.96	20.95
Production (million barrels per day) <sup>2</sup>											
U.S. Total .....	<b>5.88</b>	<b>5.69</b>	<b>5.67</b>	<b>5.68</b>	<b>5.68</b>	<b>5.68</b>	<b>5.30</b>	<b>5.28</b>	<b>5.27</b>	<b>5.23</b>	<b>5.26</b>
Lower 48 Onshore .....	3.27	2.80	2.80	2.81	2.80	2.80	2.50	2.49	2.50	2.47	2.50
Conventional .....	2.59	2.18	2.17	2.17	2.16	2.16	1.81	1.78	1.80	1.76	1.79
Enhanced Oil Recovery .....	0.68	0.62	0.63	0.64	0.63	0.64	0.69	0.70	0.69	0.71	0.71
Lower 48 Offshore .....	1.56	2.09	2.08	2.08	2.09	2.09	2.16	2.15	2.12	2.11	2.12
Alaska .....	1.05	0.79	0.79	0.79	0.79	0.79	0.65	0.65	0.65	0.65	0.65
Lower 48 End of Year Reserves <sup>2</sup> (billion barrels) .....	<b>18.33</b>	<b>15.76</b>	<b>15.74</b>	<b>15.77</b>	<b>15.78</b>	<b>15.76</b>	<b>14.43</b>	<b>14.36</b>	<b>14.41</b>	<b>14.27</b>	<b>14.39</b>
<b>Natural Gas</b>											
Lower 48 Average Wellhead Price <sup>1</sup> (1999 dollars per thousand cubic feet) ...	<b>2.08</b>	<b>2.99</b>	<b>2.80</b>	<b>2.83</b>	<b>2.52</b>	<b>2.72</b>	<b>2.82</b>	<b>2.45</b>	<b>2.91</b>	<b>2.28</b>	<b>2.76</b>
Dry Production (trillion cubic feet) <sup>3</sup>											
U.S. Total .....	<b>18.67</b>	<b>21.32</b>	<b>20.45</b>	<b>21.09</b>	<b>20.02</b>	<b>20.74</b>	<b>23.36</b>	<b>21.81</b>	<b>24.24</b>	<b>21.89</b>	<b>23.09</b>
Lower 48 Onshore .....	12.83	14.37	13.75	14.15	13.44	13.91	16.42	15.39	16.84	15.24	16.06
Associated-Dissolved <sup>4</sup> .....	1.80	1.51	1.51	1.51	1.51	1.51	1.32	1.31	1.32	1.30	1.32
Non-Associated .....	11.03	12.86	12.24	12.64	11.92	12.40	15.10	14.08	15.52	13.94	14.75
Conventional .....	6.64	7.62	7.25	7.51	7.04	7.34	7.79	7.54	7.98	7.86	7.59
Unconventional .....	4.39	5.24	4.99	5.13	4.88	5.06	7.30	6.55	7.54	6.08	7.15
Lower 48 Offshore .....	5.43	6.49	6.24	6.48	6.12	6.36	6.44	5.92	6.90	6.16	6.53
Associated-Dissolved <sup>4</sup> .....	0.93	1.06	1.06	1.06	1.07	1.07	1.09	1.09	1.09	1.10	1.09
Non-Associated .....	4.50	5.42	5.17	5.42	5.05	5.30	5.35	4.83	5.82	5.06	5.44
Alaska .....	0.42	0.47	0.46	0.46	0.46	0.46	0.50	0.50	0.49	0.49	0.49
Lower 48 End of Year Dry Reserves <sup>3</sup> (trillion cubic feet) .....	<b>157.41</b>	<b>169.38</b>	<b>170.64</b>	<b>170.85</b>	<b>171.60</b>	<b>171.95</b>	<b>184.15</b>	<b>177.59</b>	<b>181.09</b>	<b>167.11</b>	<b>181.36</b>
Supplemental Gas Supplies <sup>5</sup> (trillion cubic feet) .....	<b>0.10</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>
Total Lower 48 Wells (thousands) .....	<b>17.93</b>	<b>29.02</b>	<b>27.77</b>	<b>27.63</b>	<b>25.40</b>	<b>27.10</b>	<b>29.30</b>	<b>25.50</b>	<b>29.61</b>	<b>23.75</b>	<b>28.50</b>

<sup>1</sup>Represents lower 48 onshore and offshore supplies.

<sup>2</sup>Includes lease condensate.

<sup>3</sup>Marketed production (wet) minus extraction losses.

<sup>4</sup>Gas which occurs in crude oil reserves either as free gas (associated) or as gas in solution with crude oil (dissolved).

<sup>5</sup>Synthetic natural gas, propane air, coke oven gas, refinery gas, biomass gas, air injected for Btu stabilization, and manufactured gas commingled and distributed with natural gas.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

**Sources:** 1999 lower 48 onshore, lower 48 offshore, and Alaska crude oil production: Energy Information Administration (EIA), *Petroleum Supply Annual 1999*, DOE/EIA-0340(99/1) (Washington, DC, June 2000). 1999 natural gas lower 48 average wellhead price, Alaska and total natural gas production, and supplemental gas supplies: EIA, *Natural Gas Monthly*, DOE/EIA-0130(2000/06) (Washington, DC, June 2000). Other 1999 values: EIA, Office of Integrated Analysis and Forecasting. **Projections:** EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
2015					2020					
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
21.16	<b>20.94</b>	<b>20.96</b>	<b>21.12</b>	<b>21.17</b>	<b>21.50</b>	<b>21.43</b>	<b>21.34</b>	<b>21.43</b>	<b>21.44</b>	
5.23	<b>5.15</b>	<b>5.22</b>	<b>5.08</b>	<b>5.18</b>	<b>5.22</b>	<b>5.07</b>	<b>5.17</b>	<b>5.06</b>	<b>5.11</b>	
<b>2.56</b>	2.52	2.56	2.49	2.53	2.71	2.61	2.68	2.59	2.65	
1.77	1.72	1.77	1.70	1.75	1.96	1.88	1.95	1.86	1.92	
0.79	0.80	0.78	0.80	0.78	0.74	0.73	0.73	0.74	0.73	
1.98	1.93	1.97	1.88	1.94	1.88	1.82	1.86	1.83	1.82	
0.70	0.70	0.70	0.70	0.70	0.64	0.64	0.64	0.64	0.64	
<b>13.99</b>	<b>13.73</b>	<b>13.95</b>	<b>13.54</b>	<b>13.78</b>	<b>14.01</b>	<b>13.62</b>	<b>13.86</b>	<b>13.44</b>	<b>13.71</b>	
2.92	<b>2.48</b>	<b>2.91</b>	<b>2.37</b>	<b>2.71</b>	<b>3.10</b>	<b>2.48</b>	<b>2.82</b>	<b>2.36</b>	<b>2.61</b>	
<b>26.50</b>	<b>23.69</b>	<b>25.89</b>	<b>23.17</b>	<b>24.48</b>	<b>29.34</b>	<b>25.45</b>	<b>27.43</b>	<b>24.89</b>	<b>25.96</b>	
19.04	16.97	18.44	16.16	17.31	21.10	18.57	19.92	18.06	18.98	
1.30	1.27	1.30	1.26	1.29	1.38	1.34	1.38	1.33	1.36	
17.74	15.70	17.14	14.90	16.02	19.72	17.22	18.54	16.73	17.61	
9.54	9.01	9.26	9.27	8.78	11.05	10.40	10.38	10.50	10.14	
8.20	6.69	7.87	5.63	7.24	8.66	6.83	8.16	6.23	7.47	
6.92	6.19	6.93	6.49	6.65	7.66	6.33	6.96	6.28	6.44	
1.06	1.06	1.06	1.05	1.06	1.04	1.02	1.03	1.03	1.03	
5.86	5.13	5.87	5.44	5.59	6.63	5.31	5.92	5.25	5.42	
0.54	0.53	0.52	0.52	0.52	0.57	0.55	0.55	0.55	0.55	
<b>195.05</b>	<b>183.39</b>	<b>192.00</b>	<b>168.28</b>	<b>190.38</b>	<b>199.35</b>	<b>190.58</b>	<b>199.18</b>	<b>175.54</b>	<b>198.28</b>	
<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	<b>0.06</b>	
<b>32.27</b>	<b>28.43</b>	<b>32.12</b>	<b>27.20</b>	<b>30.41</b>	<b>38.07</b>	<b>32.33</b>	<b>34.78</b>	<b>30.37</b>	<b>32.22</b>	

**Table D16. Coal Supply, Disposition, and Prices**  
 (Million Short Tons per Year, Unless Otherwise Noted)

Supply, Disposition, and Prices	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Production<sup>1</sup></b>											
Appalachia .....	434	432	417	364	402	352	425	410	283	358	279
Interior .....	182	185	179	144	167	143	183	183	123	157	120
West .....	486	612	623	538	552	525	681	676	410	509	437
East of the Mississippi .....	558	569	548	482	521	465	564	548	400	474	393
West of the Mississippi .....	544	659	671	564	600	556	725	721	416	551	442
<b>Total</b> .....	<b>1102</b>	<b>1228</b>	<b>1219</b>	<b>1046</b>	<b>1121</b>	<b>1020</b>	<b>1289</b>	<b>1270</b>	<b>817</b>	<b>1025</b>	<b>836</b>
<b>Net Imports</b>											
Imports .....	9	16	16	12	12	12	17	17	9	9	9
Exports .....	58	60	60	60	60	60	58	58	60	57	60
<b>Total</b> .....	<b>-49</b>	<b>-44</b>	<b>-44</b>	<b>-48</b>	<b>-48</b>	<b>-48</b>	<b>-40</b>	<b>-40</b>	<b>-51</b>	<b>-49</b>	<b>-51</b>
<b>Total Supply<sup>2</sup></b> .....	<b>1053</b>	<b>1184</b>	<b>1175</b>	<b>997</b>	<b>1073</b>	<b>972</b>	<b>1249</b>	<b>1229</b>	<b>766</b>	<b>976</b>	<b>785</b>
<b>Consumption by Sector</b>											
Residential and Commercial .....	5	5	5	5	5	5	5	5	5	5	5
Industrial <sup>3</sup> .....	79	82	82	82	78	78	83	81	80	75	73
Coke Plants .....	28	25	25	25	24	24	23	23	23	19	19
Electric Generators <sup>4</sup> .....	920	1073	1064	886	968	867	1139	1121	658	876	687
<b>Total</b> .....	<b>1031</b>	<b>1185</b>	<b>1176</b>	<b>998</b>	<b>1074</b>	<b>973</b>	<b>1250</b>	<b>1231</b>	<b>766</b>	<b>976</b>	<b>785</b>
<b>Discrepancy and Stock Change<sup>5</sup></b> .....	<b>21</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-2</b>	<b>-0</b>	<b>0</b>	<b>-0</b>
<b>Average Minemouth Price</b>											
(1999 dollars per short ton) .....	17.13	15.22	14.79	14.66	14.94	14.46	14.19	13.93	15.08	13.88	14.27
(1999 dollars per million Btu) .....	0.82	0.74	0.72	0.70	0.72	0.69	0.69	0.68	0.70	0.67	0.67
<b>Delivered Prices<sup>6</sup> (1999 dollars per short ton)</b>											
Industrial .....	31.37	29.65	29.38	28.66	29.34	28.57	28.56	28.26	26.35	27.77	26.16
Coke Plants .....	44.38	42.40	42.43	42.52	42.58	42.46	41.25	41.15	41.62	41.10	40.92
Electric Generators (1999 dollars per short ton) .....	24.69	22.92	22.59	21.42	22.37	21.26	21.26	20.92	21.16	20.51	20.77
(1999 dollars per million Btu) .....	1.21	1.13	1.13	1.05	1.11	1.04	1.06	1.05	1.00	1.02	1.00
<b>Average</b> .....	<b>25.74</b>	<b>23.80</b>	<b>23.49</b>	<b>22.55</b>	<b>23.32</b>	<b>22.37</b>	<b>22.11</b>	<b>21.79</b>	<b>22.32</b>	<b>21.48</b>	<b>21.77</b>
Exports <sup>7</sup> .....	37.50	36.41	36.29	35.91	36.32	35.86	35.57	35.37	34.64	35.06	33.96

<sup>1</sup>Includes anthracite, bituminous coal, lignite, and waste coal delivered to independent power producers. Waste coal deliveries totaled 8.5 million tons in 1995, 8.8 million tons in 1996, 8.1 million tons in 1997, 8.6 million tons in 1998, and are projected to reach 9.6 million tons in 1999, and 12.2 million tons in 2000.

<sup>2</sup>Production plus net imports and net storage withdrawals.

<sup>3</sup>Includes consumption by cogenerators.

<sup>4</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators.

<sup>5</sup>Balancing item: the sum of production, net imports, and net storage minus total consumption.

<sup>6</sup>Sectoral prices weighted by consumption tonnage; weighted average excludes residential/ commercial prices and export free-alongside-ship (f.a.s.) prices.

<sup>7</sup>F.a.s. price at U.S. port of exit.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 data based on Energy Information Administration (EIA), *Quarterly Coal Report*, DOE/EIA-0121(2000/1Q) (Washington, DC, August 2000) and EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
Reference	2015				2020					
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
404	391	274	321	272	396	384	258	275	254	
171	171	126	126	119	164	166	117	99	117	
742	727	395	551	411	775	757	412	580	395	
536	523	394	411	385	526	515	370	348	365	
782	766	401	587	417	810	794	418	606	400	
<b>1317</b>	<b>1289</b>	<b>794</b>	<b>998</b>	<b>802</b>	<b>1336</b>	<b>1308</b>	<b>788</b>	<b>954</b>	<b>766</b>	
18	18	9	9	9	20	20	9	9	9	
56	54	60	55	60	56	56	60	58	59	
-37	-35	-51	-46	-51	-36	-36	-51	-49	-50	
<b>1280</b>	<b>1254</b>	<b>743</b>	<b>952</b>	<b>751</b>	<b>1300</b>	<b>1272</b>	<b>737</b>	<b>905</b>	<b>716</b>	
5	5	5	5	5	5	5	5	5	5	
84	82	81	74	72	85	83	82	73	72	
21	21	21	16	16	19	19	19	13	13	
1172	1149	636	858	658	1190	1167	633	814	625	
<b>1282</b>	<b>1257</b>	<b>744</b>	<b>953</b>	<b>751</b>	<b>1299</b>	<b>1274</b>	<b>739</b>	<b>906</b>	<b>715</b>	
-2	-3	-1	-1	-0	1	-2	-2	-1	1	
13.40	13.24	14.44	12.71	13.79	12.93	12.78	13.47	11.51	13.45	
0.66	0.65	0.67	0.62	0.64	0.64	0.63	0.63	0.57	0.63	
27.43	27.22	25.28	26.43	25.26	26.49	26.19	24.08	24.22	24.11	
39.93	39.63	40.18	39.50	39.44	38.50	38.56	38.83	38.02	38.17	
20.24	19.96	19.76	19.39	19.34	19.34	19.05	19.07	18.21	18.60	
1.02	1.00	0.94	0.98	0.93	0.98	0.96	0.92	0.93	0.89	
<b>21.03</b>	<b>20.77</b>	<b>20.94</b>	<b>20.28</b>	<b>20.34</b>	<b>20.09</b>	<b>19.81</b>	<b>20.14</b>	<b>18.99</b>	<b>19.53</b>	
34.66	34.18	32.87	33.48	32.43	33.07	33.01	31.82	31.56	31.70	

**Table D17. Renewable Energy Generating Capability and Generation**  
(Gigawatts, Unless Otherwise Noted)

Capacity and Generation	1999	Projections										
		2005					2010					
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
<b>Electric Generators<sup>1</sup></b>												
<b>(excluding cogenerators)</b>												
<b>Net Summer Capability</b>												
Conventional Hydropower .....	78.77	79.26	79.26	79.26	79.26	79.26	79.38	79.38	79.71	79.62	79.62	
Geothermal <sup>2</sup> .....	2.87	3.36	4.33	6.61	6.85	7.79	4.81	5.37	9.50	7.86	9.34	
Municipal Solid Waste <sup>3</sup> .....	2.61	2.96	3.17	3.87	3.95	3.96	3.42	3.66	4.34	4.36	4.36	
Wood and Other Biomass <sup>4</sup> .....	1.57	1.75	1.98	1.89	1.75	1.81	2.12	2.35	2.48	2.12	2.18	
Solar Thermal .....	0.33	0.35	0.35	0.35	0.35	0.35	0.40	0.40	0.40	0.40	0.40	
Solar Photovoltaic .....	0.01	0.08	0.08	0.08	0.08	0.08	0.21	0.21	0.21	0.21	0.21	
Wind .....	2.66	6.92	7.27	8.56	13.36	14.48	7.52	8.43	22.96	31.52	35.43	
<b>Total</b> .....	<b>88.83</b>	<b>94.68</b>	<b>96.45</b>	<b>100.62</b>	<b>105.60</b>	<b>107.73</b>	<b>97.85</b>	<b>99.79</b>	<b>119.61</b>	<b>126.08</b>	<b>131.53</b>	
<b>Generation (billion kilowatthours)</b>												
Conventional Hydropower .....	309.55	301.20	301.16	301.15	301.15	301.14	301.13	301.04	302.12	301.85	301.85	
Geothermal <sup>2</sup> .....	13.21	17.71	25.79	44.55	46.43	54.16	29.92	34.57	68.42	54.74	66.98	
Municipal Solid Waste <sup>3</sup> .....	18.12	20.68	22.38	27.86	28.49	28.53	23.88	25.68	31.09	31.18	31.19	
Wood and Other Biomass <sup>4</sup> .....	8.76	14.92	15.96	57.92	57.16	59.70	21.22	21.31	65.67	62.27	59.76	
Dedicated Plants .....	7.73	9.17	10.72	10.09	9.20	9.60	11.36	12.91	13.87	11.41	11.81	
Cofiring .....	1.03	5.75	5.24	47.83	47.96	50.10	9.86	8.40	51.80	50.86	47.95	
Solar Thermal .....	0.89	0.96	0.96	0.96	0.96	0.96	1.11	1.11	1.11	1.11	1.11	
Solar Photovoltaic .....	0.03	0.20	0.20	0.20	0.20	0.20	0.51	0.51	0.51	0.51	0.51	
Wind .....	4.61	16.30	17.49	21.85	36.42	40.23	18.16	21.38	73.65	103.09	116.99	
<b>Total</b> .....	<b>355.16</b>	<b>371.97</b>	<b>383.94</b>	<b>454.49</b>	<b>470.82</b>	<b>484.92</b>	<b>395.92</b>	<b>405.60</b>	<b>542.57</b>	<b>554.75</b>	<b>578.39</b>	
<b>Cogenerators<sup>5</sup></b>												
<b>Net Summer Capability</b>												
Municipal Solid Waste .....	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
Biomass .....	4.65	5.19	5.15	5.15	5.32	5.31	6.09	5.99	5.99	6.57	6.55	
<b>Total</b> .....	<b>5.35</b>	<b>5.89</b>	<b>5.85</b>	<b>5.85</b>	<b>6.02</b>	<b>6.01</b>	<b>6.79</b>	<b>6.69</b>	<b>6.69</b>	<b>7.27</b>	<b>7.25</b>	
<b>Generation (billion kilowatthours)</b>												
Municipal Solid Waste .....	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	
Biomass .....	27.08	30.04	29.83	29.79	30.81	30.76	35.20	34.62	34.53	38.03	37.92	
<b>Total</b> .....	<b>31.12</b>	<b>34.08</b>	<b>33.88</b>	<b>33.83</b>	<b>34.86</b>	<b>34.80</b>	<b>39.24</b>	<b>38.67</b>	<b>38.58</b>	<b>42.07</b>	<b>41.97</b>	
<b>Other End-Use Generators<sup>6</sup></b>												
<b>Net Summer Capability</b>												
Conventional Hydropower <sup>7</sup> .....	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
Geothermal .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Solar Photovoltaic .....	0.01	0.10	0.10	0.10	0.10	0.10	0.35	0.35	0.35	0.35	0.35	
<b>Total</b> .....	<b>1.00</b>	<b>1.09</b>	<b>1.09</b>	<b>1.09</b>	<b>1.09</b>	<b>1.09</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	
<b>Generation (billion kilowatthours)</b>												
Conventional Hydropower <sup>7</sup> .....	4.57	4.44	4.44	4.44	4.44	4.44	4.43	4.43	4.43	4.43	4.43	
Geothermal .....	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Solar Photovoltaic .....	0.02	0.20	0.20	0.20	0.20	0.20	0.75	0.75	0.75	0.75	0.75	
<b>Total</b> .....	<b>4.59</b>	<b>4.64</b>	<b>4.64</b>	<b>4.64</b>	<b>4.64</b>	<b>4.64</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	

<sup>1</sup>Includes grid-connected utilities and nonutilities other than cogenerators. These nonutility facilities include small power producers and exempt wholesale generators.

<sup>2</sup>Includes hydrothermal resources only (hot water and steam).

<sup>3</sup>Includes landfill gas.

<sup>4</sup>Includes projections for energy crops after 2010.

<sup>5</sup>Cogenerators produce electricity and other useful thermal energy.

<sup>6</sup>Includes small on-site generating systems in the residential, commercial, and industrial sectors used primarily for own-use generation, but which may also sell some power to the grid. Excludes off-grid photovoltaics and other generators not connected to the distribution or transmission systems.

<sup>7</sup>Represents own-use industrial hydroelectric power.

CEP = Clean Energy Future.  
Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports. Net summer capability has been estimated for nonutility generators for AEO2001. Net summer capability is used to be consistent with electric utility capacity estimates. Additional retirements are determined on the basis of the size and age of the units.

Sources: 1999 electric utility capability: Energy Information Administration (EIA), Form EIA-860A: "Annual Electric Generator Report - Utility." 1999 nonutility and cogenerator capability: EIA, Form EIA-860B: "Annual Electric Generator Report - Nonutility." 1999 generation: EIA, Annual Energy Review 1999, DOE/EIA-0384(99) (Washington, DC, July 2000).

Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEM.R092701A.

Projections										
2015					2020					
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
79.38	79.38	79.71	79.62	79.62	79.38	79.38	79.71	79.62	79.62	
4.83	5.37	9.50	7.87	9.34	4.83	5.37	9.59	7.87	9.34	
3.79	4.02	4.72	4.72	4.72	3.93	4.17	4.86	4.87	4.87	
2.40	2.63	2.80	2.40	2.46	2.45	2.68	2.92	2.45	2.51	
0.44	0.44	0.44	0.44	0.44	0.48	0.48	0.48	0.48	0.48	
0.37	0.37	0.37	0.37	0.37	0.54	0.54	0.54	0.54	0.54	
7.72	8.66	25.00	32.28	35.62	7.74	9.36	44.80	32.31	35.65	
<b>98.92</b>	<b>100.88</b>	<b>122.53</b>	<b>127.70</b>	<b>132.58</b>	<b>99.35</b>	<b>101.97</b>	<b>142.91</b>	<b>128.13</b>	<b>133.01</b>	
300.57	300.43	301.50	301.21	301.20	300.06	299.85	300.91	300.60	300.59	
30.10	34.59	68.44	54.75	67.00	30.13	34.60	69.25	54.76	67.00	
26.72	28.50	33.95	33.99	34.00	27.76	29.52	34.97	35.00	35.01	
22.27	20.82	63.70	59.58	52.93	19.29	21.21	61.08	51.69	37.65	
13.47	15.02	16.22	13.52	13.92	13.82	15.36	17.03	13.86	14.27	
8.79	5.80	47.48	46.06	39.01	5.47	5.85	44.05	37.82	23.38	
1.24	1.24	1.24	1.24	1.24	1.37	1.37	1.37	1.37	1.37	
0.92	0.92	0.92	0.92	0.92	1.36	1.36	1.36	1.36	1.36	
18.67	22.03	80.44	105.91	117.50	18.77	24.66	155.05	106.01	117.60	
<b>400.49</b>	<b>408.53</b>	<b>550.19</b>	<b>557.60</b>	<b>574.79</b>	<b>398.74</b>	<b>412.57</b>	<b>623.99</b>	<b>550.78</b>	<b>560.59</b>	
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	
6.90	6.74	6.73	7.79	7.77	7.59	7.38	7.35	8.96	8.95	
<b>7.60</b>	<b>7.44</b>	<b>7.43</b>	<b>8.48</b>	<b>8.47</b>	<b>8.29</b>	<b>8.08</b>	<b>8.05</b>	<b>9.66</b>	<b>9.65</b>	
4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	
39.84	38.94	38.77	45.11	45.03	43.82	42.65	42.39	52.01	51.94	
<b>43.88</b>	<b>42.98</b>	<b>42.81</b>	<b>49.16</b>	<b>49.08</b>	<b>47.87</b>	<b>46.69</b>	<b>46.44</b>	<b>56.05</b>	<b>55.99</b>	
0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	
<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	<b>1.34</b>	
4.42	4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41	4.41	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.18</b>	<b>5.17</b>	<b>5.17</b>	<b>5.17</b>	<b>5.17</b>	<b>5.17</b>	

**Table D18. Renewable Energy Consumption by Sector and Source<sup>1</sup>**  
 (Quadrillion Btu per Year)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Marketed Renewable Energy<sup>2</sup></b>											
<b>Residential</b>	<b>0.41</b>	<b>0.42</b>	<b>0.42</b>	<b>0.42</b>	<b>0.41</b>	<b>0.41</b>	<b>0.42</b>	<b>0.42</b>	<b>0.42</b>	<b>0.41</b>	<b>0.41</b>
Wood	0.41	0.42	0.42	0.42	0.41	0.41	0.42	0.42	0.42	0.41	0.41
<b>Commercial</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>
Biomass	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
<b>Industrial<sup>3</sup></b>	<b>2.15</b>	<b>2.40</b>	<b>2.39</b>	<b>2.39</b>	<b>2.43</b>	<b>2.43</b>	<b>2.63</b>	<b>2.60</b>	<b>2.60</b>	<b>2.75</b>	<b>2.75</b>
Conventional Hydroelectric	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Municipal Solid Waste	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Biomass	1.97	2.22	2.20	2.20	2.25	2.24	2.44	2.41	2.41	2.56	2.56
<b>Transportation</b>	<b>0.12</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.18</b>	<b>0.18</b>	<b>0.21</b>	<b>0.22</b>	<b>0.22</b>	<b>0.19</b>	<b>0.19</b>
Ethanol used in E85 <sup>4</sup>	0.00	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.02	0.02
Ethanol used in Gasoline Blending	0.12	0.18	0.18	0.18	0.17	0.17	0.19	0.19	0.19	0.17	0.17
<b>Electric Generators<sup>5</sup></b>	<b>3.88</b>	<b>4.17</b>	<b>4.47</b>	<b>5.58</b>	<b>5.80</b>	<b>6.11</b>	<b>4.70</b>	<b>4.90</b>	<b>7.04</b>	<b>6.86</b>	<b>7.30</b>
Conventional Hydroelectric	3.19	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.11	3.11
Geothermal	0.28	0.42	0.68	1.25	1.32	1.57	0.82	0.97	2.03	1.59	1.99
Municipal Solid Waste <sup>6</sup>	0.25	0.28	0.31	0.38	0.39	0.39	0.32	0.35	0.42	0.42	0.42
Biomass	0.11	0.18	0.19	0.61	0.61	0.63	0.25	0.25	0.71	0.67	0.65
Dedicated Plants	0.10	0.11	0.13	0.11	0.10	0.10	0.14	0.15	0.15	0.12	0.13
Cofiring	0.01	0.07	0.06	0.51	0.51	0.53	0.12	0.10	0.56	0.55	0.52
Solar Thermal	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wind	0.05	0.17	0.18	0.22	0.37	0.41	0.19	0.22	0.76	1.06	1.10
<b>Total Marketed Renewable Energy</b>	<b>6.64</b>	<b>7.27</b>	<b>7.56</b>	<b>8.67</b>	<b>8.91</b>	<b>9.22</b>	<b>8.05</b>	<b>8.23</b>	<b>10.36</b>	<b>10.30</b>	<b>10.73</b>
<b>Non-Marketed Renewable Energy<sup>7</sup></b>											
<b>Selected Consumption</b>											
<b>Residential</b>	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
Solar Hot Water Heating	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Geothermal Heat Pumps	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Commercial</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
Solar Thermal	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Solar Photovoltaic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Ethanol</b>											
From Corn	0.12	0.19	0.19	0.19	0.17	0.17	0.19	0.19	0.19	0.16	0.16
From Cellulose	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.03	0.03
<b>Total</b>	<b>0.12</b>	<b>0.20</b>	<b>0.20</b>	<b>0.20</b>	<b>0.18</b>	<b>0.18</b>	<b>0.21</b>	<b>0.22</b>	<b>0.22</b>	<b>0.19</b>	<b>0.19</b>

<sup>1</sup>Actual heat rates used to determine fuel consumption for all renewable fuels except hydropower, solar, and wind. Consumption at hydroelectric, solar, and wind facilities determined by using the fossil fuel equivalent of 10,280 Btu per kilowatthour.

<sup>2</sup>Includes nonelectric renewable energy groups for which the energy source is bought and sold in the marketplace, although all transactions may not necessarily be marketed, and marketed renewable energy inputs for electricity entering the marketplace on the electric power grid. Excludes electricity imports; see Table D8.

<sup>3</sup>Includes all electricity production by industrial and other cogenerators for the grid and for own use.

<sup>4</sup>Excludes motor gasoline component of E85.

<sup>5</sup>Includes renewable energy delivered to the grid from electric utilities and nonutilities. Renewable energy used in generating electricity for own use is included in the individual sectoral electricity energy consumption values.

<sup>6</sup>Includes landfill gas.

<sup>7</sup>Includes selected renewable energy consumption data for which the energy is not bought or sold, either directly or indirectly as an input to marketed energy. The Energy Information Administration does not estimate or project total consumption of nonmarketed renewable energy.

Btu = British thermal unit.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 ethanol: Energy Information Administration (EIA), *Annual Energy Review 1999*, DOE/EIA-0384(99) (Washington, DC, July 2000). 1999 electric generators: EIA, Form EIA-860A: "Annual Electric Generator Report - Utility" and Form EIA-860B: "Annual Electric Generator Report - Nonutility." Other 1999: EIA, Office of Integrated Analysis and Forecasting. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEM.R092701A.

Projections										
2015					2020					
Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
0.43	<b>0.43</b>	<b>0.42</b>	<b>0.42</b>	<b>0.41</b>	<b>0.43</b>	<b>0.44</b>	<b>0.42</b>	<b>0.43</b>	<b>0.42</b>	
0.43	0.43	0.42	0.42	0.41	0.43	0.44	0.42	0.43	0.42	
0.08	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	<b>0.08</b>	
0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	
2.85	<b>2.81</b>	<b>2.81</b>	<b>3.08</b>	<b>3.08</b>	<b>3.07</b>	<b>3.03</b>	<b>3.02</b>	<b>3.43</b>	<b>3.43</b>	
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2.67	2.63	2.62	2.89	2.89	2.89	2.84	2.84	3.25	3.25	
0.23	<b>0.39</b>	<b>0.39</b>	<b>0.34</b>	<b>0.34</b>	<b>0.24</b>	<b>0.77</b>	<b>0.76</b>	<b>0.57</b>	<b>0.57</b>	
0.03	0.03	0.03	0.03	0.03	0.03	0.05	0.05	0.04	0.04	
0.19	0.36	0.35	0.31	0.31	0.21	0.72	0.72	0.53	0.53	
4.76	<b>4.95</b>	<b>7.13</b>	<b>6.91</b>	<b>7.27</b>	<b>4.75</b>	<b>4.99</b>	<b>7.91</b>	<b>6.84</b>	<b>7.13</b>	
3.09	3.09	3.10	3.10	3.10	3.08	3.08	3.10	3.09	3.09	
0.82	0.97	2.03	1.59	1.99	0.82	0.97	2.06	1.59	1.99	
0.36	0.39	0.46	0.46	0.46	0.38	0.40	0.48	0.48	0.48	
0.27	0.25	0.69	0.65	0.58	0.24	0.26	0.67	0.57	0.43	
0.17	0.18	0.18	0.15	0.15	0.17	0.19	0.19	0.15	0.16	
0.11	0.07	0.52	0.50	0.43	0.07	0.07	0.48	0.42	0.27	
0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.19	0.23	0.83	1.09	1.11	0.19	0.25	1.59	1.09	1.11	
8.35	<b>8.67</b>	<b>10.84</b>	<b>10.83</b>	<b>11.19</b>	<b>8.58</b>	<b>9.31</b>	<b>12.21</b>	<b>11.36</b>	<b>11.64</b>	
0.04	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.04</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.03	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>	
0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
0.19	0.14	0.14	0.14	0.14	0.17	0.11	0.11	0.05	0.05	
0.04	0.25	0.25	0.20	0.20	0.07	0.66	0.66	0.53	0.53	
<b>0.23</b>	<b>0.39</b>	<b>0.39</b>	<b>0.34</b>	<b>0.34</b>	<b>0.24</b>	<b>0.77</b>	<b>0.76</b>	<b>0.57</b>	<b>0.57</b>	

**Table D19. Carbon Dioxide Emissions by Sector and Source**  
 (Million Metric Tons Carbon Equivalent per Year)

Sector and Source	1999	Projections									
		2005					2010				
		Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Residential</b>											
Petroleum	26.0	26.6	26.5	26.5	25.6	25.6	24.6	24.3	24.4	23.3	23.3
Natural Gas	69.5	79.9	79.6	79.1	77.8	77.2	79.8	79.7	78.0	77.1	75.7
Coal	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3
Electricity	193.4	226.8	221.1	191.2	198.0	185.2	240.3	228.1	163.2	183.1	161.5
<b>Total</b>	<b>290.1</b>	<b>334.5</b>	<b>328.5</b>	<b>298.0</b>	<b>302.5</b>	<b>289.3</b>	<b>346.0</b>	<b>333.4</b>	<b>266.9</b>	<b>284.8</b>	<b>261.9</b>
<b>Commercial</b>											
Petroleum	13.7	11.9	12.0	12.0	11.4	11.4	12.1	12.1	12.3	11.3	11.3
Natural Gas	45.4	57.5	56.7	56.7	56.4	55.9	60.3	59.4	58.4	59.4	58.2
Coal	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.7	1.7
Electricity	181.3	219.0	208.0	181.0	190.3	177.9	241.0	224.3	163.2	188.3	166.2
<b>Total</b>	<b>242.1</b>	<b>290.1</b>	<b>278.4</b>	<b>251.4</b>	<b>259.8</b>	<b>247.0</b>	<b>315.1</b>	<b>297.6</b>	<b>235.7</b>	<b>260.7</b>	<b>237.5</b>
<b>Industrial<sup>1</sup></b>											
Petroleum	104.2	98.8	97.7	97.8	95.7	96.1	104.6	101.2	102.2	98.5	99.1
Natural Gas <sup>2</sup>	141.6	147.7	146.0	146.4	144.8	144.6	159.5	155.9	159.0	152.2	151.7
Coal	55.9	65.6	64.9	65.0	62.8	62.9	65.4	64.2	63.2	60.0	59.1
Electricity	178.8	192.9	189.2	165.7	171.3	160.6	203.7	200.6	144.0	162.2	144.0
<b>Total</b>	<b>480.4</b>	<b>505.0</b>	<b>497.7</b>	<b>474.9</b>	<b>474.6</b>	<b>464.2</b>	<b>533.2</b>	<b>521.9</b>	<b>468.4</b>	<b>472.9</b>	<b>453.9</b>
<b>Transportation</b>											
Petroleum <sup>3</sup>	485.8	554.7	548.4	547.6	517.6	517.0	606.2	593.1	591.4	539.4	538.7
Natural Gas <sup>4</sup>	9.5	12.6	12.2	12.5	11.8	12.2	14.3	13.5	14.9	13.4	14.2
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electricity	2.9	4.4	4.2	3.7	3.8	3.6	5.8	5.0	3.7	4.1	3.7
<b>Total</b>	<b>498.2</b>	<b>571.8</b>	<b>564.9</b>	<b>563.8</b>	<b>533.3</b>	<b>532.9</b>	<b>626.3</b>	<b>611.6</b>	<b>610.2</b>	<b>557.0</b>	<b>556.6</b>
<b>Total Carbon Dioxide Emissions by Delivered Fuel</b>											
Petroleum <sup>3</sup>	629.7	692.0	684.6	683.8	650.4	650.1	747.4	730.6	730.3	672.4	672.5
Natural Gas	266.0	297.8	294.5	294.7	290.7	289.9	313.9	308.5	310.3	302.1	299.8
Coal	58.8	68.5	67.9	67.9	65.7	65.9	68.6	67.4	66.4	63.1	62.2
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Electricity	556.3	643.1	622.5	541.7	563.3	527.3	690.7	658.0	474.2	537.6	475.3
<b>Total</b>	<b>1510.8</b>	<b>1701.4</b>	<b>1669.5</b>	<b>1588.2</b>	<b>1570.2</b>	<b>1533.3</b>	<b>1820.6</b>	<b>1764.6</b>	<b>1581.2</b>	<b>1575.3</b>	<b>1509.9</b>
<b>Electric Generators<sup>6</sup></b>											
Petroleum	20.0	9.1	6.7	2.4	3.4	2.4	5.3	4.4	2.1	2.4	2.0
Natural Gas	45.8	79.8	69.3	76.3	61.7	73.6	100.2	79.1	119.0	84.8	109.1
Coal	490.5	554.2	546.5	463.0	498.2	451.4	585.3	574.6	353.1	450.5	364.2
<b>Total</b>	<b>556.3</b>	<b>643.1</b>	<b>622.5</b>	<b>541.7</b>	<b>563.3</b>	<b>527.3</b>	<b>690.7</b>	<b>658.0</b>	<b>474.2</b>	<b>537.6</b>	<b>475.3</b>
<b>Total Carbon Dioxide Emissions by Primary Fuel<sup>7</sup></b>											
Petroleum <sup>3</sup>	649.7	701.1	691.2	686.2	653.8	652.5	752.6	735.0	732.4	674.8	674.5
Natural Gas	311.8	377.5	363.8	371.0	352.4	363.5	414.0	387.6	429.2	386.9	408.9
Coal	549.3	622.7	614.3	530.9	563.9	517.2	653.8	642.0	419.5	513.5	426.5
Other <sup>5</sup>	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<b>Total</b>	<b>1510.8</b>	<b>1701.4</b>	<b>1669.5</b>	<b>1588.2</b>	<b>1570.2</b>	<b>1533.3</b>	<b>1820.6</b>	<b>1764.6</b>	<b>1581.2</b>	<b>1575.3</b>	<b>1509.9</b>
<b>Carbon Dioxide Emissions (tons carbon equivalent per person) . . .</b>											
	5.5	5.9	5.8	5.5	5.5	5.3	6.1	5.9	5.3	5.2	5.0

<sup>1</sup>Includes consumption by cogenerators.

<sup>2</sup>Includes lease and plant fuel.

<sup>3</sup>This includes international bunker fuel which, by convention are excluded from the international accounting of carbon dioxide emissions. In the years from 1990 through 1998, international bunker fuels accounted for 25 to 30 million metric tons carbon equivalent of carbon dioxide annually.

<sup>4</sup>Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

<sup>5</sup>Includes methanol and liquid hydrogen.

<sup>6</sup>Includes all electric power generators except cogenerators, which produce electricity and other useful thermal energy. Includes small power producers and exempt wholesale generators. Does not include emissions from the nonbiogenic component of municipal solid waste because under international guidelines these are accounted for as waste not energy.

<sup>7</sup>Emissions from electric power generators are distributed to the primary fuels.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Sources: 1999 emissions and emission factors: Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 1999*, DOE/EIA-0573(99) (Washington, DC, October 2000). Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Projections										
Reference	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
23.8	23.3	23.5	22.0	22.1	23.3	22.7	23.0	21.4	21.5	
83.2	83.4	81.4	79.7	78.3	87.5	88.0	85.9	83.1	81.8	
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	
255.6	231.3	160.4	174.2	154.1	270.7	236.1	161.1	166.5	149.0	
<b>363.9</b>	<b>339.3</b>	<b>266.6</b>	<b>277.2</b>	<b>255.8</b>	<b>382.7</b>	<b>348.0</b>	<b>271.3</b>	<b>272.3</b>	<b>253.5</b>	
12.2	12.2	12.6	11.0	11.1	12.0	12.1	12.5	10.6	10.7	
62.7	61.2	60.6	60.5	59.5	64.4	62.7	63.4	62.1	61.2	
1.9	1.9	1.9	1.8	1.8	1.9	1.9	1.9	1.8	1.8	
259.2	235.9	166.1	191.5	169.6	268.3	238.9	164.4	186.0	166.2	
<b>336.0</b>	<b>311.2</b>	<b>241.1</b>	<b>264.7</b>	<b>241.9</b>	<b>346.6</b>	<b>315.6</b>	<b>242.3</b>	<b>260.5</b>	<b>239.9</b>	
108.1	103.1	104.7	99.5	100.2	113.0	105.7	107.4	100.4	101.1	
170.6	164.1	169.0	157.6	157.0	180.1	172.8	179.8	165.1	164.6	
65.5	64.1	63.5	59.0	58.1	65.6	64.0	63.2	57.9	57.4	
214.7	212.4	143.4	165.3	147.1	226.3	223.7	143.8	166.1	149.4	
<b>559.0</b>	<b>543.7</b>	<b>480.5</b>	<b>481.4</b>	<b>462.4</b>	<b>585.0</b>	<b>566.2</b>	<b>494.2</b>	<b>489.4</b>	<b>472.3</b>	
655.8	630.9	629.5	554.4	553.9	703.5	661.1	659.6	572.1	571.6	
16.4	14.9	16.0	14.3	15.1	18.0	16.0	17.0	15.3	16.0	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
7.0	6.1	4.4	4.8	4.3	7.9	7.0	5.0	5.4	4.9	
<b>679.2</b>	<b>652.0</b>	<b>650.0</b>	<b>573.6</b>	<b>573.3</b>	<b>729.5</b>	<b>684.2</b>	<b>681.7</b>	<b>592.9</b>	<b>592.6</b>	
799.8	769.5	770.2	686.9	687.3	851.8	801.5	802.6	704.5	704.9	
333.0	323.7	327.0	312.0	309.8	350.0	339.5	346.1	325.6	323.5	
68.7	67.3	66.7	62.1	61.2	68.8	67.2	66.4	60.9	60.5	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
736.5	685.6	474.2	535.8	475.0	773.1	705.8	474.4	524.0	469.4	
<b>1938.1</b>	<b>1846.1</b>	<b>1638.2</b>	<b>1596.8</b>	<b>1533.4</b>	<b>2043.8</b>	<b>1914.0</b>	<b>1689.5</b>	<b>1615.2</b>	<b>1558.4</b>	
5.1	4.5	2.1	2.2	1.8	4.8	4.3	2.1	1.9	1.8	
133.8	95.3	131.7	97.8	123.2	163.6	108.9	137.4	113.4	134.2	
597.6	585.8	340.4	435.8	350.0	604.7	592.5	334.9	408.7	333.4	
<b>736.5</b>	<b>685.6</b>	<b>474.2</b>	<b>535.8</b>	<b>475.0</b>	<b>773.1</b>	<b>705.8</b>	<b>474.4</b>	<b>524.0</b>	<b>469.4</b>	
804.9	774.0	772.4	689.1	689.1	856.5	805.8	804.7	706.4	706.7	
466.8	419.0	458.7	409.8	433.0	513.6	448.4	483.5	439.0	457.8	
666.3	653.1	407.0	497.9	411.2	673.5	659.7	401.3	469.6	393.9	
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
<b>1938.1</b>	<b>1846.1</b>	<b>1638.2</b>	<b>1596.8</b>	<b>1533.4</b>	<b>2043.8</b>	<b>1914.0</b>	<b>1689.5</b>	<b>1615.2</b>	<b>1558.4</b>	
<b>6.2</b>	<b>5.9</b>	<b>5.2</b>	<b>5.1</b>	<b>4.9</b>	<b>6.3</b>	<b>5.9</b>	<b>5.2</b>	<b>5.0</b>	<b>4.8</b>	

**Table D20. Emissions, Allowance Costs, and Retrofits: Electric Generators, Excluding Cogenerators**

Impacts	1999	Projections									
		2005					2010				
		Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits
<b>Emissions</b>											
Nitrogen Oxides (million tons) .....	5.43	4.30	4.21	2.66	3.87	2.64	4.34	4.20	1.74	3.52	1.78
Sulfur Dioxide (million tons) .....	13.49	10.39	10.39	6.34	10.39	6.34	9.70	9.70	2.99	9.70	2.99
Mercury (tons) .....	43.35	45.02	44.86	26.20	42.20	26.20	45.53	45.71	4.30	38.57	4.30
Carbon Dioxide (million metric tons carbon equivalent)	556.3	643.1	622.5	541.7	563.3	527.3	690.7	658.0	474.2	537.6	475.3
<b>Allowance Prices</b>											
Nitrogen Oxides (1999 dollars per ton)											
Summer Seasonal .....	0	4370	4141	0	56	51	4404	3384	0	0	0
National Annual .....	0	0	0	1057	0	1093	0	0	0	0	0
Sulfur Dioxide (1999 dollars per ton) ....	0	184	182	267	137	284	180	169	316	102	130
Mercury (million 1999 dollars per ton) ..	0	0	0	76	0	58	0	0	549	0	481
Carbon Dioxide (1999 dollars per ton carbon equivalent)	0	0	0	42	50	50	0	0	64	50	54
<b>Retrofits (gigawatts, cumulative from 1999)</b>											
Scrubber <sup>1</sup> .....	0.0	8.9	3.7	13.1	1.4	9.3	8.9	7.6	42.4	1.4	46.3
Combustion .....	0.0	40.4	39.5	43.3	37.8	41.9	42.5	41.4	52.3	41.4	54.1
SCR Post-combustion .....	0.0	90.8	89.9	78.8	78.3	71.0	90.9	89.9	112.3	78.5	101.6
SNCR Post-combustion .....	0.0	28.5	25.9	25.9	33.5	28.1	28.5	25.9	33.6	33.8	43.1
Mercury Spray Cooler .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.7	0.0	74.7
Mercury Fabric Filter .....	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	98.2	0.0	110.5
<b>Coal Production by Sulfur Category (million tons)</b>											
Low Sulfur (< .61 lbs. S/mmBtu) .....	473	582	591	546	514	532	633	621	415	477	438
Medium Sulfur (.61-1.67 lbs. S/mmBtu) ..	433	456	447	355	429	348	465	457	283	372	274
High Sulfur (> 1.67 lbs. S/mmBtu) .....	196	190	181	145	178	140	191	192	118	176	124

<sup>1</sup>Represents scrubbers added by the model. Planned scrubbers added by electricity generators are not shown here.

SCR = Selective catalytic reduction.

SNCR = Selective noncatalytic reduction.

lbs. S/mmBtu = Pounds sulfur per million British thermal units.

CEF = Clean Energy Future.

Note: Totals may not equal sum of components due to independent rounding. Data for 1999 are model results and may differ slightly from official EIA data reports.

Source: Energy Information Administration, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENCEM.D081601A, SCENDBS.D092601B, SCENDEMR.D092701A.

Reference	Projections									
	2015					2020				
	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	Reference	CEF-JL Moderate	CEF-JL Moderate with Emissions Limits	CEF-JL Advanced	CEF-JL Advanced with Emissions Limits	
4.44	4.28	1.70	3.41	1.71	4.48	4.33	1.67	3.18	1.64	
8.95	8.95	2.64	6.70	2.64	8.95	8.95	2.24	4.48	2.24	
44.98	45.89	4.30	35.25	4.30	45.23	46.22	4.30	29.36	4.30	
736.5	685.6	474.2	535.8	475.0	773.1	705.8	474.4	524.0	469.4	
4717	4229	0	0	0	5087	4564	0	0	0	
0	0	449	0	511	0	0	81	0	0	
252	208	96	306	284	200	184	905	707	670	
0	0	485	0	402	0	0	468	0	391	
0	0	78	50	51	0	0	68	50	50	
14.2	8.2	54.6	1.4	52.1	17.5	9.5	54.9	12.1	52.7	
44.4	43.2	53.5	42.9	54.8	46.6	45.5	54.8	44.5	54.8	
91.1	89.9	112.3	78.5	101.6	91.1	89.9	112.3	78.5	101.6	
36.0	26.0	33.6	33.9	43.4	46.0	31.9	33.6	33.9	43.4	
0.0	0.0	56.5	0.0	91.5	0.0	0.0	57.5	0.0	98.3	
0.0	0.0	99.0	0.0	114.2	0.0	0.0	100.4	0.0	115.5	
692	666	393	522	406	714	686	415	569	429	
440	442	271	336	270	442	443	265	262	224	
186	181	131	141	126	180	179	108	122	113	