

Errata for Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants with Advanced Technology Scenarios

10/12/2001

The Gross Domestic Product rows in Tables C2 on pages 110 -111, and D2 on pages 164 -165 are corrected as follows:

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
Total Energy Consumption									
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 ⁸	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 ²	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 ¹²	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 ¹⁷	6.53	7.10	8.61	7.45	8.30	7.87	9.59	8.24	9.78
Methanol (M85) ¹¹	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 ¹⁶	0.35	0.61	0.61	0.61	0.61	0.37	0.50	0.37	0.50
Total	96.33	107.56	105.22	106.59	104.07	114.74	109.61	111.74	107.32
Energy Use and Related Statistics									
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

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

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

³Includes 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.

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

⁵Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

⁶Includes lease and plant fuel and consumption by cogenerators; excludes consumption by nonutility generators.

⁷Includes 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.

⁸Includes only kerosene type.

⁹Includes aviation gas and lubricants.

¹⁰E85 is 85 percent ethanol (renewable) and 15 percent motor gasoline (nonrenewable).

¹¹M85 is 85 percent methanol and 15 percent motor gasoline.

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

¹³Includes 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.

¹⁴Includes 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.

¹⁵Includes 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.

¹⁶In 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.

¹⁷Includes 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
121.34	115.46	116.54	111.33	127.68	120.86	120.42	115.18
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 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
Total Energy Consumption											
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 ⁸	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 ²	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 ¹²	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 ¹⁷	6.53	7.10	7.38	8.49	8.75	9.06	7.87	8.04	10.18	10.14	10.56
Methanol (M85) ¹¹	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 ¹⁶	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
Energy Use and Related Statistics											
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

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

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

³Includes 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.

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

⁵Includes petroleum coke, asphalt, road oil, lubricants, still gas, and miscellaneous petroleum products.

⁶Includes lease and plant fuel and consumption by cogenerators; excludes consumption by nonutility generators.

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⁸Includes only kerosene type.

⁹Includes aviation gas and lubricants.

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

¹³Includes 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.

¹⁴Includes 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.

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¹⁶In 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.

¹⁷Includes 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/sto/oldsteos/apr01.pdf>. Projections: EIA, AEO2001 National Energy Modeling System runs SCENABS.D080301A, SCENCBS.D080301A, SCENEM.D081601A, SCENDBS.D092601B, SCENEMR.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
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
121.34	115.99	112.01	107.05	105.82	127.68	120.22	116.16	108.68	107.86
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