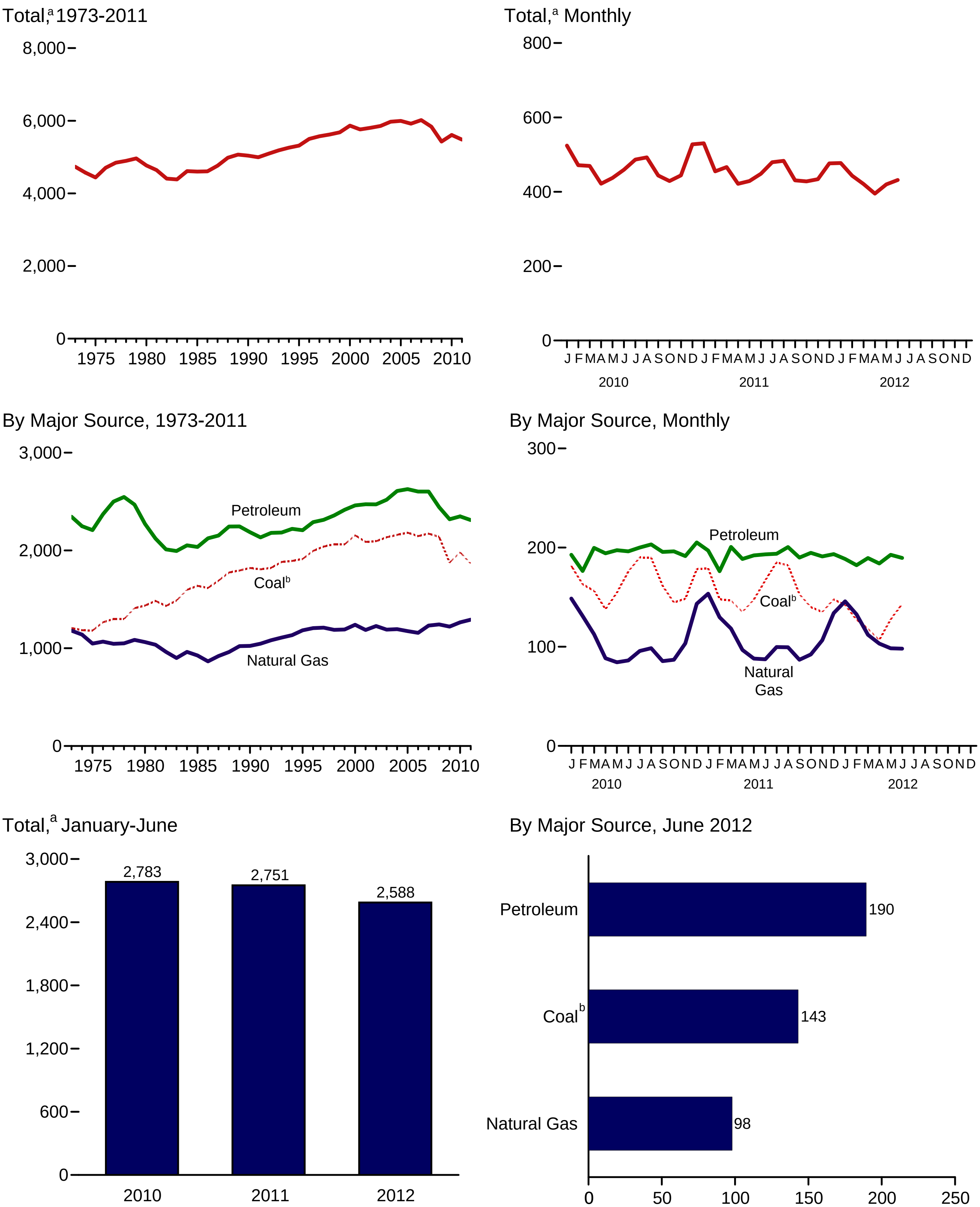
12. Environment

Figure 12.1 Carbon Dioxide Emissions From Energy Consumption by Source
(Million Metric Tons of Carbon Dioxide)



[a] Excludes emissions from biomass energy consumption.
[b] Includes coal coke net imports.

Web Page: http://www.eia.gov/totalenergy/data/monthly/#environment.
Source: Table 12.1.

Table 12.1 Carbon Dioxide Emissions From Energy Consumption by Source

(Million Metric Tons of Carbon Dioxide[a])

	Coal[b]	Natural Gas[c]	Petroleum											Total[h,i]
			Aviation Gasoline	Distillate Fuel Oil[d]	Jet Fuel	Kero-sene	LPG[e]	Lubri-cants	Motor Gasoline[f]	Petroleum Coke	Residual Fuel Oil	Other[g]	Total	
1973 Total	**1,207**	**1,181**	**6**	**480**	**155**	**32**	**91**	**13**	**911**	**51**	**508**	**100**	**2,346**	**4,733**
1975 Total	**1,181**	**1,047**	**5**	**443**	**146**	**24**	**82**	**11**	**911**	**48**	**443**	**97**	**2,209**	**4,437**
1980 Total	**1,436**	**1,063**	**4**	**446**	**156**	**24**	**87**	**13**	**900**	**46**	**453**	**142**	**2,272**	**4,770**
1985 Total	**1,638**	**926**	**3**	**445**	**178**	**17**	**86**	**12**	**930**	**55**	**216**	**93**	**2,035**	**4,600**
1990 Total	**1,821**	**1,025**	**3**	**470**	**223**	**6**	**69**	**13**	**988**	**67**	**220**	**127**	**2,187**	**5,039**
1995 Total	**1,913**	**1,184**	**3**	**498**	**222**	**8**	**78**	**13**	**1,044**	**75**	**152**	**114**	**2,207**	**5,314**
1996 Total	**1,995**	**1,205**	**3**	**524**	**232**	**9**	**84**	**12**	**1,063**	**78**	**152**	**132**	**2,290**	**5,501**
1997 Total	**2,040**	**1,211**	**3**	**534**	**234**	**10**	**85**	**13**	**1,075**	**79**	**142**	**138**	**2,313**	**5,575**
1998 Total	**2,064**	**1,189**	**2**	**538**	**238**	**12**	**75**	**14**	**1,107**	**89**	**158**	**125**	**2,358**	**5,622**
1999 Total	**2,062**	**1,192**	**3**	**555**	**245**	**11**	**91**	**14**	**1,127**	**93**	**148**	**130**	**2,417**	**5,682**
2000 Total	**2,155**	**1,241**	**3**	**580**	**254**	**10**	**102**	**14**	**1,135**	**84**	**163**	**117**	**2,461**	**5,867**
2001 Total	**2,088**	**1,187**	**2**	**598**	**243**	**11**	**92**	**13**	**1,151**	**88**	**145**	**132**	**2,473**	**5,759**
2002 Total	**2,095**	**1,227**	**2**	**587**	**237**	**6**	**98**	**12**	**1,183**	**94**	**125**	**127**	**2,472**	**5,806**
2003 Total	**2,136**	**1,191**	**2**	**610**	**231**	**8**	**95**	**11**	**1,188**	**94**	**138**	**140**	**2,518**	**5,857**
2004 Total	**2,160**	**1,195**	**2**	**632**	**240**	**10**	**98**	**12**	**1,214**	**105**	**155**	**142**	**2,609**	**5,975**
2005 Total	**2,182**	**1,175**	**2**	**640**	**246**	**10**	**94**	**12**	**1,214**	**105**	**164**	**141**	**2,628**	**5,997**
2006 Total	**2,147**	**1,158**	**2**	**648**	**240**	**8**	**93**	**11**	**1,224**	**104**	**122**	**150**	**2,603**	**5,919**
2007 Total	**2,172**	**1,233**	**2**	**652**	**238**	**5**	**94**	**12**	**1,227**	**98**	**129**	**148**	**2,603**	**6,020**
2008 Total	**2,139**	**1,243**	**2**	**615**	**226**	**2**	**89**	**11**	**1,166**	**92**	**111**	**130**	**2,444**	**5,838**
2009 Total	**1,876**	**1,222**	**2**	**564**	**204**	**3**	**91**	**10**	**1,157**	**87**	**91**	**111**	**2,320**	**5,429**
2010 January	182	149	(s)	49	17	(s)	10	1	92	5	9	9	193	524
February	163	131	(s)	46	15	(s)	9	1	84	5	7	9	176	471
March	156	113	(s)	51	18	(s)	8	1	95	7	8	11	200	470
April	138	88	(s)	48	17	(s)	7	1	96	6	9	11	194	422
May	155	84	(s)	48	18	(s)	7	1	99	6	8	10	197	437
June	176	86	(s)	48	19	(s)	7	1	97	7	7	10	196	459
July	190	96	(s)	47	19	(s)	7	1	101	7	9	10	200	487
August	190	99	(s)	50	19	(s)	7	1	100	8	7	11	203	493
September	161	86	(s)	50	18	(s)	7	1	96	7	8	10	196	444
October	145	87	(s)	50	18	(s)	8	1	97	6	7	9	196	429
November	148	103	(s)	49	17	1	8	1	92	7	8	9	191	444
December	178	143	(s)	55	17	1	11	1	96	6	8	10	205	528
Total	**1,982**	**1,265**	**2**	**590**	**210**	**3**	**94**	**11**	**1,146**	**77**	**96**	**120**	**2,349**	**5,607**
2011 January	179	R 153	(s)	52	17	(s)	R 11	1	91	6	9	10	R 197	R 530
February	148	130	(s)	R 47	15	1	R 9	1	84	R 5	R 8	R 8	R 176	R 455
March	147	118	(s)	53	17	(s)	R 9	1	95	6	R 7	R 11	R 201	R 467
April	135	97	(s)	R 48	R 18	(s)	R 7	1	92	6	R 7	10	R 189	421
May	148	88	(s)	R 49	18	(s)	7	1	95	7	7	R 8	192	R 429
June	167	87	(s)	50	19	(s)	R 7	1	R 95	R 6	7	R 9	193	449
July	185	100	(s)	R 47	18	(s)	7	1	R 98	6	5	11	R 194	R 480
August	182	99	(s)	R 53	19	(s)	R 8	1	96	8	5	10	R 201	R 483
September	153	87	(s)	50	17	(s)	7	1	92	6	7	R 10	R 190	R 431
October	140	R 92	(s)	R 53	17	(s)	8	1	93	7	6	R 10	R 195	R 428
November	135	107	(s)	52	17	(s)	8	1	89	6	6	R 11	R 191	R 434
December	148	134	(s)	R 51	17	(s)	R 10	1	R 94	R 4	8	10	193	476
Total	R **1,866**	R **1,293**	**2**	R **603**	**209**	**2**	R **97**	**10**	R **1,113**	R **74**	R **82**	R **118**	R **2,311**	R **5,482**
2012 January	142	146	(s)	50	16	(s)	9	1	89	6	6	10	189	477
February	127	133	(s)	49	16	(s)	8	1	87	5	6	10	182	443
March	118	112	(s)	49	17	(s)	8	1	93	6	6	9	190	421
April	R 107	103	(s)	47	16	(s)	7	1	92	6	6	9	184	R 395
May	128	98	(s)	49	18	(s)	8	1	97	6	4	9	193	420
June	143	98	(s)	47	19	(s)	7	1	94	6	5	10	190	432
6-Month Total	**765**	**690**	**1**	**291**	**102**	**(s)**	**48**	**5**	**553**	**35**	**34**	**58**	**1,127**	**2,588**
2011 6-Month Total	**923**	**674**	**1**	**299**	**103**	**1**	**49**	**5**	**552**	**37**	**45**	**56**	**1,148**	**2,751**
2010 6-Month Total	**969**	**651**	**1**	**289**	**103**	**1**	**48**	**5**	**564**	**37**	**48**	**60**	**1,157**	**2,783**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Includes coal coke net imports.
[c] Natural gas, excluding supplemental gaseous fuels.
[d] Distillate fuel oil, excluding biodiesel.
[e] Liquefied petroleum gases.
[f] Finished motor gasoline, excluding fuel ethanol.
[g] Aviation gasoline blending components, crude oil, motor gasoline blending components, pentanes plus, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.
[h] Includes electric power sector use of geothermal energy and non-biomass waste. See Table 12.6.
[i] Excludes emissions from biomass energy consumption. See Table 12.7.

R=Revised. (s)=Less than 0.5 million metric tons.

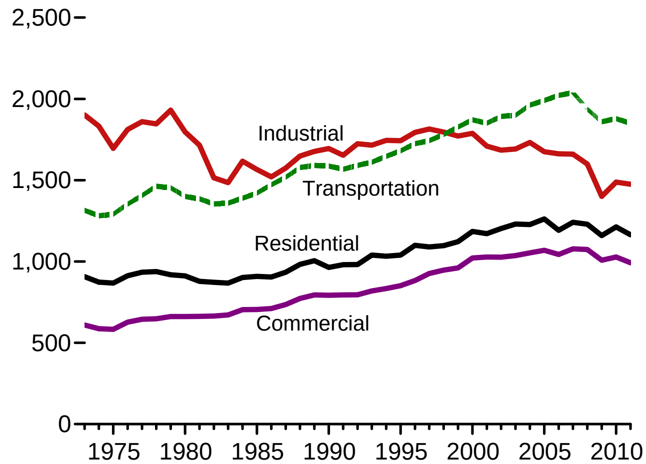
Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

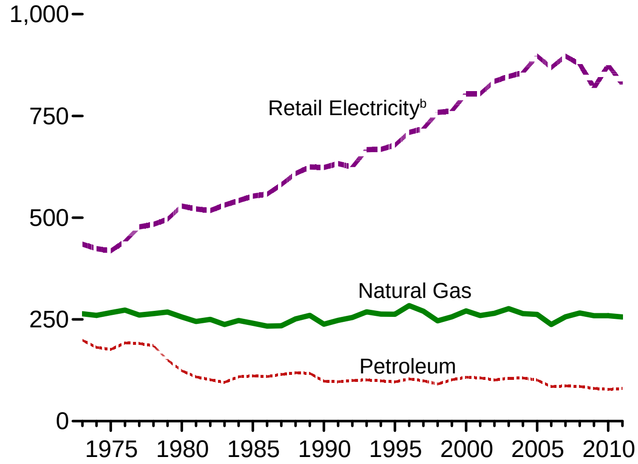
Sources: See end of section.

Figure 12.2 Carbon Dioxide Emissions From Energy Consumption by Sector
(Million Metric Tons of Carbon Dioxide)

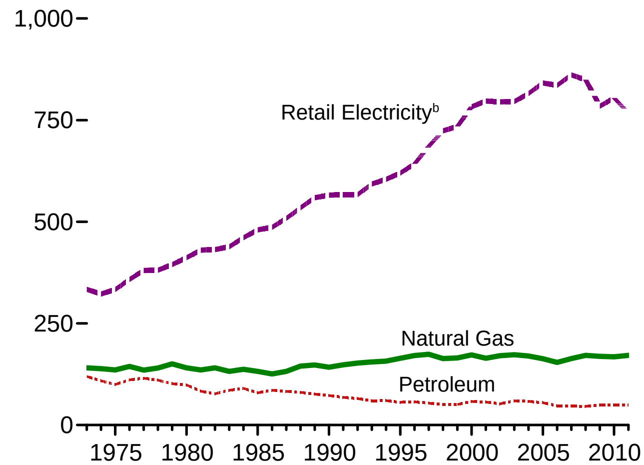
Total[a] by End-Use Sector,[b] 1973-2011



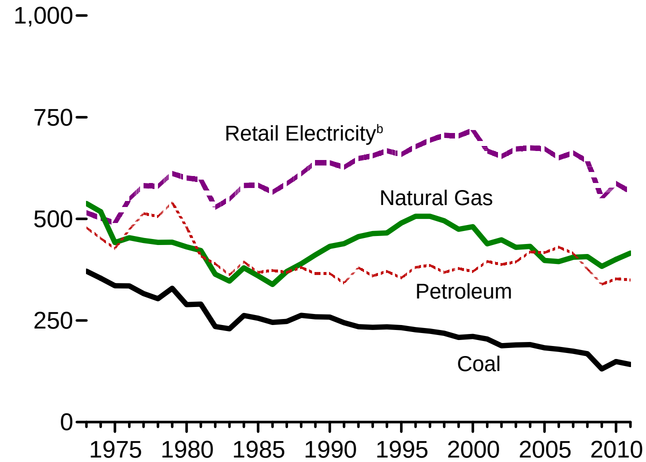
Residential Sector by Major Source, 1973-2011



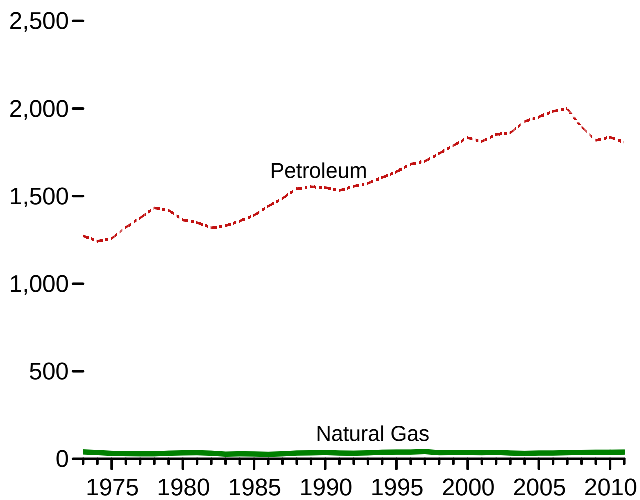
Commercial Sector by Major Source, 1973-2011



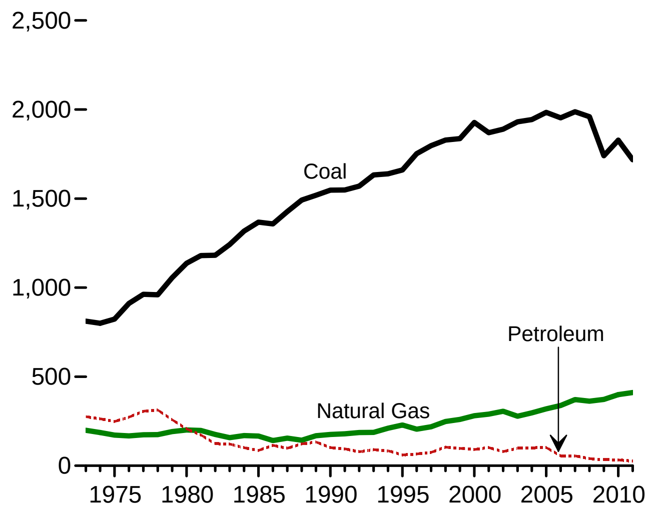
Industrial Sector by Major Source, 1973-2011



Transportation Sector by Major Source, 1973-2011



Electric Power Sector by Major Source, 1973-2011



[a] Excludes emissions from biomass energy consumption.
[b] Emissions from energy consumption in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail Sales.

Web Page: http://www.eia.gov/totalenergy/data/monthly/#environment.
Sources: Tables 12.2–12.6.

Table 12.2 Carbon Dioxide Emissions From Energy Consumption: Residential Sector

(Million Metric Tons of Carbon Dioxide[a])

	Coal	Natural Gas[b]	Petroleum: Distillate Fuel Oil[c]	Petroleum: Kerosene	Petroleum: LPG[d]	Petroleum: Total	Retail Electricity[e]	Total[f]
1973 Total	**9**	**264**	**147**	**16**	**36**	**199**	**435**	**907**
1975 Total	**6**	**266**	**132**	**12**	**32**	**176**	**419**	**867**
1980 Total	**3**	**256**	**96**	**8**	**20**	**124**	**529**	**911**
1985 Total	**4**	**241**	**80**	**11**	**20**	**111**	**553**	**909**
1990 Total	**3**	**238**	**72**	**5**	**22**	**98**	**624**	**963**
1995 Total	**2**	**263**	**66**	**5**	**25**	**96**	**678**	**1,039**
1996 Total	**2**	**284**	**68**	**6**	**30**	**104**	**710**	**1,099**
1997 Total	**2**	**270**	**64**	**7**	**29**	**99**	**719**	**1,090**
1998 Total	**1**	**247**	**56**	**8**	**27**	**91**	**759**	**1,097**
1999 Total	**1**	**257**	**61**	**8**	**33**	**102**	**762**	**1,122**
2000 Total	**1**	**271**	**66**	**7**	**35**	**108**	**805**	**1,185**
2001 Total	**1**	**259**	**66**	**7**	**33**	**106**	**805**	**1,172**
2002 Total	**1**	**265**	**63**	**4**	**34**	**101**	**835**	**1,203**
2003 Total	**1**	**276**	**66**	**5**	**34**	**106**	**847**	**1,230**
2004 Total	**1**	**264**	**68**	**6**	**32**	**106**	**856**	**1,228**
2005 Total	**1**	**262**	**62**	**6**	**32**	**101**	**897**	**1,261**
2006 Total	**1**	**237**	**52**	**5**	**28**	**85**	**869**	**1,192**
2007 Total	**1**	**257**	**53**	**3**	**31**	**87**	**897**	**1,241**
2008 Total	**1**	**266**	**49**	**2**	**35**	**85**	**878**	**1,229**
2009 Total	**1**	**259**	**44**	**2**	**35**	**81**	**819**	**1,159**
2010 January	(s)	51	6	(s)	3	10	91	151
February	(s)	43	6	(s)	3	9	74	126
March	(s)	31	4	(s)	3	7	65	103
April	(s)	17	2	(s)	2	5	51	73
May	(s)	11	3	(s)	2	5	59	75
June	(s)	7	3	(s)	2	6	79	92
July	(s)	6	2	(s)	3	5	97	108
August	(s)	6	2	(s)	3	5	96	107
September	(s)	6	2	(s)	3	5	72	83
October	(s)	11	3	(s)	3	6	56	73
November	(s)	24	3	(s)	3	7	56	87
December	(s)	46	6	(s)	3	10	81	137
Total	**1**	**259**	**43**	**2**	**33**	**78**	**875**	**1,212**
2011 January	(s)	53	5	(s)	R 4	9	87	R 149
February	(s)	42	5	(s)	3	8	67	117
March	(s)	33	4	(s)	3	7	59	99
April	(s)	19	R 3	(s)	R 3	5	53	77
May	(s)	11	2	(s)	3	4	58	74
June	(s)	7	3	(s)	R 3	5	76	88
July	(s)	6	2	(s)	3	5	96	107
August	(s)	6	3	(s)	3	6	92	104
September	(s)	7	3	(s)	3	6	69	81
October	(s)	12	4	(s)	3	7	54	73
November	(s)	23	4	(s)	3	7	53	R 84
December	(s)	37	6	(s)	3	9	66	113
Total	**1**	**256**	**R 44**	**1**	**R 35**	**R 80**	**827**	**R 1,164**
2012 January	(s)	43	6	(s)	3	9	68	121
February	(s)	36	5	(s)	3	8	58	102
March	(s)	22	4	(s)	3	7	51	80
April	(s)	15	3	(s)	3	6	45	66
May	(s)	9	3	(s)	3	6	55	70
June	(s)	7	3	(s)	3	6	69	82
6-Month Total	**(s)**	**133**	**24**	**(s)**	**17**	**42**	**347**	**521**
2011 6-Month Total	**(s)**	**165**	**21**	**1**	**18**	**39**	**399**	**604**
2010 6-Month Total	**(s)**	**160**	**24**	**1**	**17**	**41**	**418**	**619**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Natural gas, excluding supplemental gaseous fuels.
[c] Distillate fuel oil, excluding biodiesel.
[d] Liquefied petroleum gases.
[e] Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.
[f] Excludes emissions from biomass energy consumption. See Table 12.7.
R=Revised. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Table 12.3 Carbon Dioxide Emissions From Energy Consumption: Commercial Sector

(Million Metric Tons of Carbon Dioxide[a])

			Petroleum								
	Coal	Natural Gas[b]	Distillate Fuel Oil[c]	Kerosene	LPG[d]	Motor Gasoline[e]	Petroleum Coke	Residual Fuel Oil	Total	Retail Electricity[f]	Total[g]
1973 Total	**15**	**141**	**47**	**5**	**9**	**6**	**NA**	**52**	**120**	**334**	**609**
1975 Total	**14**	**136**	**43**	**4**	**8**	**6**	**NA**	**39**	**100**	**333**	**583**
1980 Total	**11**	**141**	**38**	**3**	**6**	**8**	**NA**	**44**	**98**	**412**	**662**
1985 Total	**13**	**132**	**46**	**2**	**6**	**7**	**NA**	**18**	**79**	**480**	**704**
1990 Total	**12**	**142**	**39**	**1**	**6**	**8**	**0**	**18**	**73**	**566**	**793**
1995 Total	**11**	**164**	**35**	**2**	**7**	**1**	**(s)**	**11**	**56**	**620**	**851**
1996 Total	**12**	**171**	**35**	**2**	**8**	**2**	**(s)**	**11**	**57**	**643**	**883**
1997 Total	**12**	**174**	**32**	**2**	**8**	**3**	**(s)**	**9**	**54**	**686**	**926**
1998 Total	**9**	**164**	**31**	**2**	**7**	**3**	**(s)**	**7**	**51**	**724**	**947**
1999 Total	**10**	**165**	**32**	**2**	**9**	**2**	**(s)**	**6**	**51**	**735**	**960**
2000 Total	**9**	**173**	**36**	**2**	**9**	**3**	**(s)**	**7**	**58**	**783**	**1,022**
2001 Total	**9**	**164**	**37**	**2**	**9**	**3**	**(s)**	**6**	**57**	**797**	**1,027**
2002 Total	**9**	**170**	**32**	**1**	**9**	**3**	**(s)**	**6**	**52**	**795**	**1,026**
2003 Total	**8**	**173**	**35**	**1**	**10**	**4**	**(s)**	**9**	**59**	**796**	**1,036**
2004 Total	**10**	**170**	**34**	**1**	**10**	**3**	**(s)**	**10**	**58**	**816**	**1,054**
2005 Total	**9**	**163**	**33**	**2**	**8**	**3**	**(s)**	**9**	**55**	**842**	**1,069**
2006 Total	**6**	**154**	**29**	**1**	**8**	**3**	**(s)**	**6**	**48**	**836**	**1,043**
2007 Total	**7**	**164**	**28**	**1**	**8**	**4**	**(s)**	**6**	**47**	**861**	**1,078**
2008 Total	**7**	**171**	**27**	**(s)**	**10**	**3**	**(s)**	**6**	**46**	**850**	**1,074**
2009 Total	**6**	**169**	**30**	**(s)**	**9**	**4**	**(s)**	**6**	**49**	**785**	**1,008**
2010 January	1	27	4	(s)	1	(s)	(s)	1	6	66	101
February	1	24	4	(s)	1	(s)	(s)	1	6	60	91
March	1	18	3	(s)	1	(s)	(s)	1	4	59	82
April	(s)	12	2	(s)	1	(s)	(s)	(s)	3	57	73
May	(s)	9	2	(s)	1	(s)	0	(s)	3	66	78
June	(s)	7	2	(s)	1	(s)	0	(s)	4	74	85
July	(s)	6	2	(s)	1	(s)	0	(s)	3	80	90
August	(s)	7	2	(s)	1	(s)	(s)	(s)	3	81	91
September	(s)	7	1	(s)	1	(s)	(s)	(s)	3	69	79
October	(s)	10	2	(s)	1	(s)	(s)	(s)	4	63	77
November	(s)	16	2	(s)	1	(s)	(s)	(s)	4	61	81
December	1	25	4	(s)	1	(s)	(s)	1	6	68	100
Total	**6**	**168**	**30**	**(s)**	**9**	**4**	**(s)**	**6**	**49**	**805**	**1,027**
2011 January	1	29	4	(s)	1	(s)	(s)	1	6	65	100
February	1	23	R 4	(s)	1	(s)	(s)	1	5	55	84
March	1	20	3	(s)	1	(s)	(s)	(s)	4	58	83
April	(s)	13	2	(s)	1	(s)	0	(s)	3	57	73
May	(s)	9	1	(s)	1	(s)	0	(s)	2	63	75
June	(s)	7	2	(s)	1	(s)	0	(s)	3	70	81
July	(s)	7	2	(s)	1	(s)	0	(s)	3	79	89
August	(s)	7	2	(s)	1	(s)	0	(s)	4	77	R 89
September	(s)	8	2	(s)	1	(s)	0	(s)	4	66	77
October	(s)	12	3	(s)	1	(s)	0	R (s)	4	61	77
November	(s)	15	3	(s)	1	(s)	(s)	1	5	57	77
December	(s)	22	4	(s)	1	(s)	(s)	1	6	59	87
Total	**5**	**171**	R **31**	**(s)**	**9**	**4**	**(s)**	R **5**	**49**	**767**	R **992**
2012 January	(s)	24	4	(s)	1	(s)	(s)	1	6	57	88
February	(s)	21	3	(s)	1	(s)	(s)	1	5	53	80
March	(s)	14	3	(s)	1	(s)	(s)	1	5	52	71
April	(s)	11	2	(s)	1	(s)	(s)	(s)	3	51	66
May	(s)	8	2	(s)	1	(s)	0	(s)	4	61	73
June	(s)	7	2	(s)	1	(s)	0	(s)	4	66	77
6-Month Total	**2**	**86**	**17**	**(s)**	**5**	**2**	**(s)**	**3**	**27**	**340**	**455**
2011 6-Month Total	**3**	**101**	**15**	**(s)**	**5**	**2**	**(s)**	**3**	**24**	**368**	**496**
2010 6-Month Total	**3**	**97**	**17**	**(s)**	**4**	**2**	**(s)**	**3**	**26**	**383**	**509**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Natural gas, excluding supplemental gaseous fuels.
[c] Distillate fuel oil, excluding biodiesel.
[d] Liquefied petroleum gases.
[e] Finished motor gasoline, excluding fuel ethanol.
[f] Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.
[g] Excludes emissions from biomass energy consumption. See Table 12.7.
R=Revised. NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Table 12.4 Carbon Dioxide Emissions From Energy Consumption: Industrial Sector

(Million Metric Tons of Carbon Dioxide[a])

	Coal	Coal Coke Net Imports	Natural Gas[b]	Petroleum: Distillate Fuel Oil[c]	Petroleum: Kerosene	Petroleum: LPG[d]	Petroleum: Lubricants	Petroleum: Motor Gasoline[e]	Petroleum: Petroleum Coke	Petroleum: Residual Fuel Oil	Petroleum: Other[f]	Petroleum: Total	Retail Electricity[g]	Total[h]
1973 Total	**371**	**-1**	**538**	**106**	**11**	**43**	**7**	**18**	**49**	**144**	**100**	**478**	**515**	**1,902**
1975 Total	**336**	**2**	**442**	**97**	**9**	**39**	**6**	**16**	**48**	**117**	**97**	**427**	**490**	**1,696**
1980 Total	**289**	**-4**	**431**	**96**	**13**	**61**	**7**	**11**	**45**	**105**	**142**	**480**	**601**	**1,797**
1985 Total	**256**	**-2**	**360**	**81**	**3**	**58**	**6**	**15**	**54**	**57**	**93**	**369**	**583**	**1,566**
1990 Total	**258**	**1**	**432**	**84**	**1**	**39**	**7**	**13**	**64**	**31**	**127**	**366**	**638**	**1,695**
1995 Total	**233**	**7**	**490**	**82**	**1**	**45**	**7**	**14**	**67**	**24**	**114**	**355**	**659**	**1,743**
1996 Total	**227**	**3**	**506**	**86**	**1**	**46**	**6**	**14**	**70**	**24**	**132**	**381**	**678**	**1,795**
1997 Total	**224**	**5**	**506**	**88**	**1**	**48**	**7**	**15**	**68**	**21**	**138**	**386**	**694**	**1,815**
1998 Total	**219**	**8**	**495**	**88**	**2**	**39**	**7**	**14**	**77**	**16**	**125**	**368**	**706**	**1,796**
1999 Total	**208**	**7**	**474**	**86**	**1**	**48**	**7**	**11**	**81**	**14**	**130**	**378**	**704**	**1,772**
2000 Total	**211**	**7**	**481**	**87**	**1**	**56**	**7**	**11**	**74**	**17**	**117**	**370**	**719**	**1,788**
2001 Total	**204**	**3**	**439**	**95**	**2**	**49**	**6**	**21**	**77**	**14**	**132**	**395**	**667**	**1,709**
2002 Total	**188**	**7**	**448**	**88**	**1**	**54**	**6**	**22**	**76**	**13**	**127**	**388**	**654**	**1,685**
2003 Total	**190**	**6**	**430**	**83**	**2**	**50**	**6**	**23**	**76**	**15**	**140**	**394**	**672**	**1,692**
2004 Total	**191**	**16**	**432**	**88**	**2**	**55**	**6**	**26**	**82**	**17**	**142**	**419**	**675**	**1,732**
2005 Total	**183**	**5**	**398**	**92**	**3**	**51**	**6**	**25**	**80**	**20**	**141**	**417**	**673**	**1,675**
2006 Total	**179**	**7**	**395**	**92**	**2**	**56**	**6**	**26**	**82**	**16**	**150**	**430**	**650**	**1,662**
2007 Total	**175**	**3**	**405**	**92**	**1**	**54**	**6**	**21**	**80**	**13**	**148**	**415**	**662**	**1,661**
2008 Total	**168**	**5**	**407**	**93**	**(s)**	**42**	**6**	**17**	**76**	**14**	**130**	**377**	**642**	**1,599**
2009 Total	**131**	**-3**	**383**	**80**	**(s)**	**46**	**5**	**17**	**73**	**7**	**111**	**339**	**551**	**1,401**
2010 January	12	(s)	37	6	(s)	6	(s)	2	3	1	9	28	46	122
February	12	(s)	34	6	(s)	5	(s)	1	4	1	9	27	44	118
March	13	(s)	35	9	(s)	4	(s)	2	6	1	11	33	46	127
April	12	(s)	32	8	(s)	3	(s)	2	5	1	11	30	45	120
May	12	(s)	32	6	(s)	3	(s)	2	5	1	10	28	51	123
June	12	(s)	31	5	(s)	3	1	2	5	1	10	27	52	122
July	12	(s)	32	4	(s)	3	1	2	5	1	10	26	54	124
August	13	(s)	32	7	(s)	4	(s)	2	6	1	11	31	55	130
September	13	(s)	32	9	(s)	4	(s)	2	6	1	10	31	48	124
October	12	(s)	33	7	(s)	4	(s)	2	5	1	9	28	47	120
November	13	-1	34	8	(s)	4	(s)	2	6	1	9	30	48	124
December	13	-1	37	9	(s)	6	(s)	2	5	1	10	33	50	133
Total	**149**	**-1**	**401**	**86**	**1**	**50**	**6**	**19**	**62**	**8**	**120**	**352**	**587**	**1,488**
2011 January	12	(s)	38	R 9	(s)	6	(s)	1	5	1	10	33	47	R 131
February	12	(s)	35	7	(s)	5	(s)	1	3	1	R 8	26	42	R 114
March	13	(s)	36	10	(s)	R 5	1	2	5	1	R 11	R 34	45	128
April	11	(s)	34	7	(s)	R 4	(s)	2	5	1	10	28	45	118
May	12	(s)	34	7	(s)	R 4	(s)	2	6	1	R 8	28	48	R 121
June	12	(s)	32	7	(s)	3	(s)	2	5	1	R 9	R 27	50	R 121
July	11	(s)	33	R 4	(s)	R 4	(s)	2	5	(s)	11	R 26	53	123
August	12	(s)	33	7	(s)	4	(s)	2	7	(s)	10	R 31	53	R 129
September	12	(s)	33	7	(s)	4	(s)	2	5	1	R 10	R 28	46	119
October	12	(s)	34	8	(s)	4	(s)	2	6	1	R 10	R 30	47	R 123
November	12	(s)	35	9	(s)	4	(s)	1	R 6	1	R 11	R 32	45	R 124
December	12	(s)	38	6	(s)	5	(s)	2	R 3	1	10	R 27	45	R 122
Total	**142**	**1**	**R 416**	**R 89**	**(s)**	**R 51**	**5**	**18**	**R 61**	**R 7**	**R 118**	**R 350**	**567**	**R 1,476**
2012 January	11	(s)	39	R 7	(s)	5	(s)	1	5	1	10	R 30	43	123
February	11	(s)	36	9	(s)	5	(s)	1	4	(s)	10	R 30	42	120
March	12	(s)	36	7	(s)	4	(s)	2	5	1	9	28	41	117
April	R 11	1	34	R 6	(s)	4	(s)	2	5	1	9	R 26	41	R 113
May	R 11	(s)	34	R 6	(s)	4	(s)	2	6	(s)	9	28	47	120
June	11	(s)	34	5	(s)	4	(s)	2	6	(s)	10	26	47	117
6-Month Total	**67**	**1**	**212**	**40**	**(s)**	**25**	**3**	**9**	**31**	**3**	**58**	**168**	**259**	**708**
2011 6-Month Total	**71**	**1**	**209**	**48**	**(s)**	**26**	**3**	**9**	**29**	**4**	**56**	**176**	**277**	**734**
2010 6-Month Total	**73**	**1**	**201**	**41**	**(s)**	**26**	**3**	**9**	**29**	**4**	**60**	**173**	**284**	**732**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Natural gas, excluding supplemental gaseous fuels.
[c] Distillate fuel oil, excluding biodiesel.
[d] Liquefied petroleum gases.
[e] Finished motor gasoline, excluding fuel ethanol.
[f] Aviation gasoline blending components, crude oil, motor gasoline blending components, pentanes plus, petrochemical feedstocks, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products.
[g] Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.
[h] Excludes emissions from biomass energy consumption. See Table 12.7.

R=Revised. (s)=Less than 0.5 million metric tons and greater than -0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Table 12.5 Carbon Dioxide Emissions From Energy Consumption: Transportation Sector

(Million Metric Tons of Carbon Dioxide[a])

	Coal	Natural Gas[b]	Petroleum								Retail Electricity[f]	Total[g]
			Aviation Gasoline	Distillate Fuel Oil[c]	Jet Fuel	LPG[d]	Lubricants	Motor Gasoline[e]	Residual Fuel Oil	Total		
1973 Total	**(s)**	**39**	**6**	**163**	**152**	**3**	**6**	**886**	**57**	**1,273**	**2**	**1,315**
1975 Total	**(s)**	**32**	**5**	**155**	**145**	**3**	**6**	**889**	**56**	**1,258**	**2**	**1,292**
1980 Total	**([h])**	**34**	**4**	**204**	**155**	**1**	**6**	**881**	**110**	**1,363**	**2**	**1,400**
1985 Total	**([h])**	**28**	**3**	**232**	**178**	**2**	**6**	**908**	**62**	**1,391**	**3**	**1,421**
1990 Total	**([h])**	**36**	**3**	**268**	**223**	**1**	**7**	**967**	**80**	**1,548**	**3**	**1,588**
1995 Total	**([h])**	**38**	**3**	**307**	**222**	**1**	**6**	**1,029**	**72**	**1,639**	**3**	**1,681**
1996 Total	**([h])**	**39**	**3**	**327**	**232**	**1**	**6**	**1,047**	**67**	**1,683**	**3**	**1,725**
1997 Total	**([h])**	**41**	**3**	**342**	**234**	**1**	**6**	**1,057**	**56**	**1,699**	**3**	**1,744**
1998 Total	**([h])**	**35**	**2**	**352**	**238**	**1**	**7**	**1,090**	**53**	**1,743**	**3**	**1,782**
1999 Total	**([h])**	**36**	**3**	**366**	**245**	**1**	**7**	**1,115**	**52**	**1,789**	**3**	**1,828**
2000 Total	**([h])**	**36**	**3**	**378**	**254**	**1**	**7**	**1,121**	**70**	**1,833**	**4**	**1,872**
2001 Total	**([h])**	**35**	**2**	**387**	**243**	**1**	**6**	**1,127**	**46**	**1,813**	**4**	**1,852**
2002 Total	**([h])**	**37**	**2**	**394**	**237**	**1**	**6**	**1,158**	**53**	**1,851**	**4**	**1,892**
2003 Total	**([h])**	**33**	**2**	**414**	**231**	**1**	**6**	**1,161**	**45**	**1,861**	**5**	**1,899**
2004 Total	**([h])**	**32**	**2**	**434**	**240**	**1**	**6**	**1,185**	**58**	**1,926**	**5**	**1,962**
2005 Total	**([h])**	**33**	**2**	**444**	**246**	**2**	**6**	**1,186**	**66**	**1,953**	**5**	**1,991**
2006 Total	**([h])**	**33**	**2**	**469**	**240**	**2**	**5**	**1,194**	**71**	**1,984**	**5**	**2,022**
2007 Total	**([h])**	**35**	**2**	**472**	**238**	**1**	**6**	**1,201**	**78**	**1,999**	**5**	**2,040**
2008 Total	**([h])**	**37**	**2**	**440**	**226**	**3**	**5**	**1,146**	**72**	**1,895**	**5**	**1,937**
2009 Total	**([h])**	**38**	**2**	**404**	**204**	**2**	**5**	**1,137**	**64**	**1,818**	**5**	**1,860**
2010 January	([h])	4	(s)	31	17	(s)	(s)	91	6	145	(s)	150
February	([h])	4	(s)	30	15	(s)	(s)	82	5	133	(s)	137
March	([h])	3	(s)	35	18	(s)	(s)	94	6	154	(s)	157
April	([h])	3	(s)	35	17	(s)	(s)	94	7	154	(s)	157
May	([h])	3	(s)	37	18	(s)	(s)	97	6	159	(s)	161
June	([h])	3	(s)	36	19	(s)	1	95	5	156	(s)	159
July	([h])	3	(s)	38	19	(s)	(s)	99	6	162	(s)	165
August	([h])	3	(s)	39	19	(s)	(s)	98	5	161	(s)	165
September	([h])	3	(s)	37	18	(s)	(s)	94	6	155	(s)	157
October	([h])	3	(s)	37	18	(s)	(s)	95	6	157	(s)	160
November	([h])	3	(s)	35	17	(s)	(s)	90	6	149	(s)	152
December	([h])	4	(s)	35	17	(s)	(s)	94	5	153	(s)	158
Total	**([h])**	**38**	**2**	**425**	**210**	**2**	**5**	**1,124**	**69**	**1,836**	**5**	**1,879**
2011 January	([h])	5	(s)	33	17	(s)	(s)	89	R 6	R 146	(s)	R 151
February	([h])	4	(s)	R 31	15	(s)	(s)	R 82	R 6	135	(s)	R 139
March	([h])	4	(s)	36	17	(s)	1	93	R 5	153	(s)	157
April	([h])	3	(s)	R 36	R 18	(s)	(s)	90	R 5	R 150	(s)	R 153
May	([h])	3	(s)	38	18	(s)	(s)	93	6	155	(s)	R 159
June	([h])	3	(s)	38	19	(s)	(s)	R 93	5	R 156	(s)	R 159
July	([h])	3	(s)	R 38	18	(s)	(s)	R 96	3	R 157	(s)	R 160
August	([h])	3	(s)	R 40	19	(s)	(s)	94	R 4	R 158	(s)	R 161
September	([h])	3	(s)	R 37	17	(s)	(s)	90	R 6	150	(s)	153
October	([h])	3	(s)	R 38	17	(s)	(s)	R 92	5	R 152	(s)	R 155
November	([h])	3	(s)	R 36	17	(s)	(s)	87	R 5	145	(s)	R 149
December	([h])	4	(s)	R 35	17	(s)	(s)	92	6	R 150	(s)	R 154
Total	**([h])**	**39**	**2**	**R 435**	**209**	**2**	**5**	**R 1,091**	**R 62**	**R 1,807**	**4**	**R 1,850**
2012 January	([h])	4	(s)	32	16	(s)	(s)	87	5	R 141	(s)	145
February	([h])	4	(s)	31	16	(s)	(s)	85	4	137	(s)	R 142
March	([h])	3	(s)	R 35	17	(s)	(s)	91	5	149	(s)	152
April	([h])	3	(s)	35	16	(s)	(s)	90	5	R 148	(s)	151
May	([h])	3	(s)	37	18	(s)	(s)	95	3	154	(s)	157
June	([h])	3	(s)	37	19	(s)	(s)	93	4	153	(s)	156
6-Month Total	**([h])**	**21**	**1**	**208**	**102**	**1**	**2**	**542**	**25**	**881**	**2**	**904**
2011 6-Month Total	**([h])**	**20**	**1**	**212**	**103**	**1**	**3**	**541**	**34**	**895**	**2**	**917**
2010 6-Month Total	**([h])**	**20**	**1**	**204**	**103**	**1**	**3**	**553**	**35**	**900**	**2**	**922**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Natural gas, excluding supplemental gaseous fuels.
[c] Distillate fuel oil, excluding biodiesel.
[d] Liquefied petroleum gases.
[e] Finished motor gasoline, excluding fuel ethanol.
[f] Emissions from energy consumption (for electricity and a small amount of useful thermal output) in the electric power sector are allocated to the end-use sectors in proportion to each sector's share of total electricity retail sales. See Tables 7.6 and 12.6.
[g] Excludes emissions from biomass energy consumption. See Table 12.7.
[h] Beginning in 1978, the small amounts of coal consumed for transportation are reported as industrial sector consumption.

R=Revised. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption, including the nonfuel use of fossil fuels. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Table 12.6 Carbon Dioxide Emissions From Energy Consumption: Electric Power Sector

(Million Metric Tons of Carbon Dioxide[a])

	Coal	Natural Gas[b]	Petroleum				Geo-thermal	Non-Biomass Waste[d]	Total[e]
			Distillate Fuel Oil[c]	Petroleum Coke	Residual Fuel Oil	Total			
1973 Total	**812**	**199**	**20**	**2**	**254**	**276**	**NA**	**NA**	**1,286**
1975 Total	**824**	**172**	**17**	**(s)**	**231**	**248**	**NA**	**NA**	**1,244**
1980 Total	**1,137**	**200**	**12**	**1**	**194**	**207**	**NA**	**NA**	**1,544**
1985 Total	**1,367**	**166**	**6**	**1**	**79**	**86**	**NA**	**NA**	**1,619**
1990 Total	**1,548**	**176**	**7**	**3**	**92**	**102**	**(s)**	**6**	**1,831**
1995 Total	**1,661**	**228**	**8**	**8**	**45**	**61**	**(s)**	**10**	**1,960**
1996 Total	**1,752**	**205**	**8**	**8**	**50**	**66**	**(s)**	**10**	**2,033**
1997 Total	**1,797**	**219**	**8**	**10**	**56**	**75**	**(s)**	**10**	**2,101**
1998 Total	**1,828**	**248**	**10**	**13**	**82**	**105**	**(s)**	**10**	**2,192**
1999 Total	**1,836**	**260**	**10**	**11**	**76**	**97**	**(s)**	**10**	**2,204**
2000 Total	**1,927**	**281**	**13**	**10**	**69**	**91**	**(s)**	**10**	**2,310**
2001 Total	**1,870**	**290**	**12**	**11**	**79**	**102**	**(s)**	**11**	**2,273**
2002 Total	**1,890**	**306**	**9**	**18**	**52**	**79**	**(s)**	**13**	**2,288**
2003 Total	**1,931**	**278**	**12**	**18**	**69**	**98**	**(s)**	**11**	**2,319**
2004 Total	**1,943**	**297**	**8**	**23**	**69**	**100**	**(s)**	**11**	**2,352**
2005 Total	**1,984**	**319**	**8**	**25**	**69**	**102**	**(s)**	**11**	**2,417**
2006 Total	**1,954**	**338**	**5**	**22**	**28**	**56**	**(s)**	**12**	**2,359**
2007 Total	**1,987**	**372**	**7**	**17**	**31**	**55**	**(s)**	**11**	**2,426**
2008 Total	**1,959**	**362**	**5**	**16**	**19**	**40**	**(s)**	**12**	**2,374**
2009 Total	**1,741**	**373**	**5**	**14**	**14**	**34**	**(s)**	**11**	**2,159**
2010 January	170	30	1	1	1	4	(s)	1	204
February	150	26	(s)	1	1	2	(s)	1	179
March	143	25	(s)	1	1	2	(s)	1	171
April	125	25	(s)	1	1	2	(s)	1	154
May	142	30	(s)	1	1	3	(s)	1	176
June	163	38	1	1	2	4	(s)	1	206
July	177	48	1	2	2	4	(s)	1	231
August	177	51	(s)	1	2	3	(s)	1	232
September	148	38	(s)	1	1	2	(s)	1	189
October	132	31	(s)	1	1	2	(s)	1	166
November	136	27	(s)	1	1	2	(s)	1	166
December	165	31	1	1	1	3	(s)	1	200
Total	**1,828**	**399**	**6**	**15**	**12**	**33**	**(s)**	**11**	**2,271**
2011 January	166	29	1	2	1	3	(s)	1	199
February	135	26	(s)	1	1	2	(s)	1	164
March	133	26	(s)	1	1	2	(s)	1	163
April	123	28	(s)	1	1	2	(s)	1	155
May	135	31	(s)	1	1	2	(s)	1	169
June	155	38	(s)	1	1	2	(s)	1	196
July	173	51	(s)	1	1	3	(s)	1	228
August	170	50	(s)	1	1	2	(s)	1	223
September	141	37	(s)	1	1	2	(s)	1	181
October	128	31	(s)	1	(s)	2	(s)	1	162
November	123	29	(s)	1	(s)	2	(s)	1	155
December	135	33	(s)	1	(s)	2	(s)	1	171
Total	**1,718**	**411**	**5**	**14**	**7**	**25**	**(s)**	**11**	**2,166**
2012 January	130	35	(s)	1	1	2	(s)	1	168
February	116	35	(s)	1	(s)	2	(s)	1	153
March	106	37	(s)	1	(s)	1	(s)	1	145
April	95	39	(s)	1	(s)	1	(s)	1	136
May	116	44	(s)	1	(s)	1	(s)	1	163
June	132	48	(s)	1	1	2	(s)	1	183
6-Month Total	**695**	**238**	**2**	**4**	**3**	**9**	**(s)**	**5**	**948**
2011 6-Month Total	**848**	**179**	**2**	**7**	**4**	**13**	**(s)**	**5**	**1,046**
2010 6-Month Total	**892**	**174**	**3**	**8**	**6**	**16**	**(s)**	**5**	**1,088**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Natural gas, excluding supplemental gaseous fuels.
[c] Distillate fuel oil, excluding biodiesel.
[d] Municipal solid waste from non-biogenic sources, and tire-derived fuels.
[e] Excludes emissions from biomass energy consumption. See Table 12.7.
NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Data are estimates for carbon dioxide emissions from energy consumption. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Data exclude emissions from biomass energy consumption. See Table 12.7 and Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Table 12.7 Carbon Dioxide Emissions From Biomass Energy Consumption

(Million Metric Tons of Carbon Dioxide[a])

	By Source					By Sector					
	Wood[b]	Biomass Waste[c]	Fuel Ethanol[d]	Bio-diesel	Total	Resi-dential	Com-mercial[e]	Indus-trial[f]	Trans-portation	Electric Power[g]	Total
1973 Total	**143**	**(s)**	**NA**	**NA**	**143**	**33**	**1**	**109**	**NA**	**(s)**	**143**
1975 Total	**140**	**(s)**	**NA**	**NA**	**141**	**40**	**1**	**100**	**NA**	**(s)**	**141**
1980 Total	**232**	**(s)**	**NA**	**NA**	**232**	**80**	**2**	**150**	**NA**	**(s)**	**232**
1985 Total	**252**	**14**	**3**	**NA**	**270**	**95**	**2**	**168**	**3**	**1**	**270**
1990 Total	**208**	**24**	**4**	**NA**	**237**	**54**	**8**	**147**	**4**	**23**	**237**
1995 Total	**222**	**30**	**8**	**NA**	**260**	**49**	**9**	**166**	**8**	**28**	**260**
1996 Total	**229**	**32**	**6**	**NA**	**266**	**51**	**10**	**170**	**6**	**30**	**266**
1997 Total	**222**	**30**	**7**	**NA**	**259**	**40**	**10**	**172**	**7**	**30**	**259**
1998 Total	**205**	**30**	**8**	**NA**	**242**	**36**	**9**	**160**	**8**	**30**	**242**
1999 Total	**208**	**29**	**8**	**NA**	**245**	**37**	**9**	**161**	**8**	**30**	**245**
2000 Total	**212**	**27**	**9**	**NA**	**248**	**39**	**9**	**161**	**9**	**29**	**248**
2001 Total	**188**	**33**	**10**	**(s)**	**231**	**35**	**9**	**147**	**10**	**31**	**231**
2002 Total	**187**	**36**	**12**	**(s)**	**235**	**36**	**9**	**144**	**12**	**35**	**235**
2003 Total	**188**	**36**	**16**	**(s)**	**240**	**38**	**9**	**141**	**16**	**37**	**240**
2004 Total	**199**	**35**	**20**	**(s)**	**255**	**38**	**10**	**151**	**20**	**36**	**255**
2005 Total	**200**	**37**	**23**	**1**	**261**	**40**	**10**	**150**	**23**	**37**	**261**
2006 Total	**197**	**36**	**31**	**2**	**266**	**36**	**9**	**151**	**33**	**38**	**266**
2007 Total	**194**	**37**	**39**	**3**	**274**	**38**	**9**	**146**	**41**	**39**	**274**
2008 Total	**191**	**40**	**55**	**3**	**289**	**42**	**10**	**140**	**57**	**40**	**289**
2009 Total	**177**	**41**	**62**	**3**	**284**	**40**	**10**	**128**	**64**	**41**	**284**
2010 January	16	4	6	(s)	25	3	1	12	6	4	25
February	14	3	5	(s)	23	3	1	11	5	3	23
March	16	4	6	(s)	25	3	1	12	6	4	25
April	15	4	6	(s)	25	3	1	11	6	3	25
May	15	4	6	(s)	25	3	1	11	6	3	25
June	15	4	6	(s)	25	3	1	11	6	4	25
July	16	4	6	(s)	26	3	1	12	6	4	26
August	16	4	6	(s)	26	3	1	12	6	4	26
September	16	3	6	(s)	25	3	1	12	6	3	25
October	16	4	6	(s)	26	3	1	12	6	3	26
November	15	4	6	(s)	25	3	1	12	6	4	25
December	16	4	6	(s)	27	3	1	12	6	4	27
Total	**186**	**43**	**73**	**2**	**304**	**39**	**10**	**139**	**74**	**42**	**304**
2011 January	16	4	6	(s)	26	3	1	12	6	3	26
February	15	3	6	(s)	24	3	1	11	6	3	24
March	16	4	6	(s)	26	3	1	12	6	3	26
April	15	3	6	1	25	3	1	11	6	3	25
May	15	4	6	1	26	3	1	11	7	3	26
June	16	4	6	1	R 27	3	1	12	7	3	R 27
July	16	4	6	1	R 26	3	1	12	7	4	R 26
August	16	4	7	1	27	3	1	12	7	4	27
September	15	4	6	1	26	3	1	12	7	3	26
October	15	4	6	1	26	3	1	11	7	3	26
November	15	4	6	1	26	3	1	12	7	3	26
December	16	4	6	1	R 28	3	1	12	7	4	R 28
Total	**186**	**43**	**73**	**8**	**311**	**40**	**10**	**140**	**80**	**41**	**311**
2012 January	16	4	6	(s)	26	3	1	12	6	4	26
February	15	3	6	1	25	3	1	11	6	3	25
March	15	4	6	1	26	3	1	11	7	3	26
April	14	4	6	1	25	3	1	11	7	3	25
May	15	4	6	1	27	3	1	12	7	3	27
June	15	4	6	1	26	3	1	11	7	3	26
6-Month Total	**91**	**21**	**36**	**4**	**153**	**20**	**5**	**68**	**40**	**20**	**153**
2011 6-Month Total	**92**	**21**	**36**	**3**	**152**	**20**	**5**	**69**	**38**	**20**	**152**
2010 6-Month Total	**92**	**21**	**35**	**1**	**149**	**20**	**5**	**68**	**35**	**21**	**149**

[a] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.
[b] Wood and wood-derived fuels.
[c] Municipal solid waste from biogenic sources, landfill gas, sludge waste, agricultural byproducts, and other biomass.
[d] Fuel ethanol minus denaturant.
[e] Commercial sector, including commercial combined-heat-and-power (CHP) and commercial electricity-only plants.
[f] Industrial sector, including industrial combined-heat-and-power (CHP) and industrial electricity-only plants.
[g] The electric power sector comprises electricity-only and combined-heat-and-power (CHP) plants within the NAICS 22 category whose primary business is to sell electricity, or electricity and heat, to the public.

R=Revised. NA=Not available. (s)=Less than 0.5 million metric tons.

Notes: • Carbon dioxide emissions from biomass energy consumption are excluded from the energy-related carbon dioxide emissions reported in Tables 12.1–12.6. See Note 2, "Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion," at end of section. • Data are estimates. See "Section 12 Methodology and Sources" at end of section. • See "Carbon Dioxide" in Glossary. • See Note 1, "Emissions of Carbon Dioxide and Other Greenhouse Gases," at end of section. • Totals may not equal sum of components due to independent rounding. • Geographic coverage is the 50 States and the District of Columbia.

Web Page: See http://www.eia.gov/totalenergy/data/monthly/#environment for all available data beginning in 1973.

Sources: See end of section.

Environment

Note 1. Emissions of Carbon Dioxide and Other Greenhouse Gases. Greenhouse gases are those gases—such as water vapor, carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride—that are transparent to solar (short-wave) radiation but opaque to long-wave (infrared) radiation, thus preventing long-wave radiant energy from leaving Earth's atmosphere. The net effect is a trapping of absorbed radiation and a tendency to warm the planet's surface.

Energy-related carbon dioxide emissions account for about 98 percent of U.S. CO_2 emissions. The vast majority of CO_2 emissions come from fossil fuel combustion, with smaller amounts from the nonfuel use of fossil fuels, as well as from electricity generation using geothermal energy and non-biomass waste. Other sources of CO_2 emissions include industrial processes, such as cement and limestone production. Data in the U.S. Energy Information Administration's (EIA) *Monthly Energy Review (MER)* Tables 12.1–12.6 are estimates for U.S. CO_2 emissions from energy consumption, including the nonfuel use of fossil fuels (excluded are estimates for CO_2 emissions from biomass energy consumption, which appear in Table 12.7).

For annual U.S. estimates for emissions of CO_2 from all sources, as well as for emissions of other greenhouse gases, see EIA's *Emissions of Greenhouse Gases Report* at http://www.eia.gov/environment/emissions/ghg_report/.

Note 2. Accounting for Carbon Dioxide Emissions From Biomass Energy Combustion. Carbon dioxide (CO_2) emissions from the combustion of biomass to produce energy are excluded from the energy-related CO_2 emissions reported in MER Tables 12.1–12.6, but appear in Table 12.7. According to current international convention (see the Intergovernmental Panel on Climate Change's "2006 IPCC Guidelines for National Greenhouse Gas Inventories"), carbon released through biomass combustion is excluded from reported energy-related emissions. The release of carbon from biomass combustion is assumed to be balanced by the uptake of carbon when the feedstock is grown, resulting in zero net emissions over some period of time. (This is not to say that biomass energy is carbon-neutral. Energy inputs are required in order to grow, fertilize, and harvest the feedstock and to produce and process the biomass into fuels.)

However, analysts have debated whether increased use of biomass energy may result in a decline in terrestrial carbon stocks, leading to a net positive release of carbon rather than the zero net release assumed by its exclusion from reported energy-related emissions. For example, the clearing of forests for biofuel crops could result in an initial release of carbon that is not fully recaptured in subsequent use of the land for agriculture.

To reflect the potential net emissions, the international convention for greenhouse gas inventories is to report biomass emissions in the category "agriculture, forestry, and other land use," usually based on estimates of net changes in carbon stocks over time.

This indirect accounting of CO_2 emissions from biomass can potentially lead to confusion in accounting for and understanding the flow of CO_2 emissions within energy and non-energy systems. In recognition of this issue, reporting of CO_2 emissions from biomass combustion alongside other energy-related CO_2 emissions offers an alternative accounting treatment. It is important, however, to avoid misinterpreting emissions from fossil energy and biomass energy sources as necessarily additive. Instead, the combined total of direct CO_2 emissions from biomass and energy-related CO_2 emissions implicitly assumes that none of the carbon emitted was previously or subsequently reabsorbed in terrestrial sinks or that other emissions sources offset any such sequestration.

Section 12 Methodology and Sources

To estimate carbon dioxide emissions from energy consumption for the *Monthly Energy Review (MER)*, Tables 12.1–12.7, the U.S. Energy Information Administration (EIA) uses the following methodology and sources:

Step 1. Determine Fuel Consumption

Coal—Coal sectoral (residential, commercial, coke plants, other industrial, transportation, electric power) consumption data in thousand short tons are from MER Table 6.2. Coal sectoral consumption data are converted to trillion Btu by multiplying by the coal heat content factors in MER Table A5.

Coal Coke Net Imports—Coal coke net imports data in trillion Btu are derived from coal coke imports and exports data in MER Tables 1.4a and 1.4b.

Natural Gas (excluding supplemental gaseous fuels)—Natural gas sectoral consumption data in trillion Btu are from MER Tables 2.2–2.6.

Petroleum—Total and sectoral consumption (product supplied) data in thousand barrels per day for asphalt and road oil, aviation gasoline, distillate fuel oil, jet fuel, kerosene, liquefied petroleum gases (LPG), lubricants, motor gasoline, petroleum coke, and residual fuel oil are from MER Tables 3.5 and 3.7a–3.7c. For the component products of LPG (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene) and "other petroleum" (aviation gasoline blending components, crude oil, motor gasoline blending components, naphthas for petrochemical feedstock use, other oils for petrochemical feedstock use, pentanes plus, special naphthas, still gas, unfinished oils, waxes, and miscellaneous petroleum products), consumption (product supplied) data in thousand barrels per day are from EIA's *Petroleum Supply Annual* (*PSA*), *Petroleum Supply Monthly* (*PSM*), and earlier publications (see sources for MER Table 3.5). Petroleum consumption data by product are converted to trillion Btu by multiplying by the petroleum heat content factors in MER Table A1 (Table A3 for motor gasoline).

Biomass—Sectoral consumption data in trillion Btu for wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel are from MER Tables 10.2a–10.2c.

Step 2. Remove Biofuels From Petroleum

Distillate Fuel Oil—Beginning in 2009, the distillate fuel oil data (for total and transportation sector) in Step 1 include biodiesel, a non-fossil renewable fuel. To remove the biodiesel portion from distillate fuel oil, data in thousand barrels per day for refinery and blender net inputs of renewable diesel fuel (from the PSA/PSM) are converted to trillion Btu by multiplying by the biodiesel heat content factor in MER Table A3, and then subtracted from the distillate fuel oil consumption values.

Motor Gasoline—Beginning in 1993, the motor gasoline data (for total, commercial sector, industrial sector, and transportation sector) in Step 1 include fuel ethanol, a non-fossil renewable fuel. To remove the fuel ethanol portion from motor gasoline, data in trillion Btu for fuel ethanol consumption (from MER Tables 10.2a, 10.2b, and 10.3) are subtracted from the motor gasoline consumption values. (Note that about 2 percent of fuel ethanol is fossil-based petroleum denaturant, to make the fuel ethanol undrinkable. For 1993–2008, petroleum denaturant is double counted in the PSA product supplied statistics, in both the original product category—e.g., pentanes plus—and also in the finished motor gasoline category; for this time period for MER Section 12, petroleum denaturant is removed along with the fuel ethanol from motor gasoline, but left in the original product. Beginning in 2009, petroleum denaturant is counted only in the PSA/PSM product supplied statistics for motor gasoline; for this time period for MER Section 12, petroleum denaturant is left in motor gasoline.)

Step 3. Remove Carbon Sequestered by Nonfuel Use

The following fuels have industrial nonfuel uses as chemical feedstocks and other products: coal, natural gas, asphalt and road oil, distillate fuel oil, liquefied petroleum gases (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene), lubricants (which have industrial and transportation nonfuel uses), naphthas for petrochemical feedstock use, other oils for petrochemical feedstock use, pentanes plus, petroleum coke, residual fuel oil, special naphthas, still gas, waxes, and miscellaneous petroleum products. In the nonfuel use of these fuels, some of the carbon is sequestered, and is thus subtracted from the fuel consumption values in Steps 1 and 2.

Estimates of annual nonfuel use and associated carbon sequestration are developed by EIA using the methodology detailed in "Documentation for *Emissions of Greenhouse Gases in the United States 2008*" at http://www.eia.gov/oiaf/1605/ggrpt/documentation/pdf/0638(2006).pdf.

To obtain monthly estimates of nonfuel use and associated carbon sequestration, monthly patterns for industrial consumption and product supplied data series are used. For coal nonfuel use, the monthly pattern for coke plants coal consumption from MER Table 6.2 is used. For natural gas, the monthly pattern for other industrial non-CHP natural gas consumption from MER Table 4.3 is used. For distillate fuel oil, petroleum coke, and residual fuel oil, the monthly patterns for industrial consumption from MER Table 3.7b are used. For the other petroleum products, the monthly patterns for product supplied from the PSA and PSM are used.

Step 4. Determine Carbon Dioxide Emissions From Energy Consumption

Carbon dioxide (CO_2) emissions data in million metric tons are calculated by multiplying consumption values in trillion Btu from Steps 1 and 2 (minus the carbon sequestered in nonfuel use in Step 3) by the CO_2 emissions factors at http://www.eia.gov/oiaf/1605/ggrpt/excel/CO2_coeffs_09_v2.xls. Beginning in 2010, the 2009 factors are used.

Coal—CO_2 emissions for coal are calculated for each sector (residential, commercial, coke plants, other industrial, transportation, electric power). Total coal emissions are the sum of the sectoral coal emissions.

Coal Coke Net Imports—CO_2 emissions for coal coke net imports are calculated.

Natural Gas—CO_2 emissions for natural gas are calculated for each sector (residential, commercial, industrial, transportation, electric power). Total natural gas emissions are the sum of the sectoral natural gas emissions.

Petroleum—CO_2 emissions are calculated for each petroleum product. Total petroleum emissions are the sum of the product emissions. Total LPG emissions are the sum of the emissions for the component products (ethane/ethylene, propane/propylene, normal butane/butylene, and isobutane/isobutylene); residential, commercial, and transportation sector LPG emissions are estimated by multiplying consumption values in trillion Btu from MER Tables 3.8a and 3.8c by the propane emissions factor; industrial sector LPG emissions are estimated as total LPG emissions minus emissions by the other sectors.

Geothermal and Non-Biomass Waste—Annual CO_2 emissions data for geothermal and non-biomass waste are EIA estimates based on Form EIA-923, "Power Plant Operations Report" (and predecessor forms). Monthly estimates are created by dividing the annual data by the number of days in the year and then multiplying by the number of days in the month. (Annual estimates for the current year are set equal to those of the previous year.)

Biomass—CO_2 emissions for wood, biomass waste, fuel ethanol (minus denaturant), and biodiesel are calculated for each sector. Total emissions for each biomass fuel are the sum of the sectoral emissions. The following factors, in million metric tons CO_2 per quadrillion Btu, are used: wood—93.80; biomass waste—90.70; fuel ethanol—68.44; and biodiesel—73.84. For 1973–1988, the biomass portion of waste in MER Tables 10.2a–10.2c is estimated as 67 percent; for 1989–2000, the biomass portion of waste is estimated as 67 percent in 1989 to 58 percent in 2000, based on the biogenic shares of total municipal solid waste shown in EIA's "Methodolology for Allocating Municipal Solid Waste to Biogenic and Non-Biogenic Energy," Table 1 at http://www.eia.gov/cneaf/solar.renewables/page/mswaste/msw.pdf.

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