

Table 18. Carbon Dioxide Emissions by Sector and Source  
(million metric tons carbon dioxide equivalent, unless otherwise noted)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Residential</b>													
Petroleum	106	105	106	106	105	104	104	104	104	103	102	101	101
Natural Gas	265	262	243	265	269	270	271	273	275	276	277	278	279
Coal	1	1	1	1	1	1	1	1	1	1	1	1	1
Electricity 1/	842	886	884	890	904	920	942	960	975	985	1001	1010	1022
Total	1214	1254	1235	1261	1278	1295	1319	1337	1355	1365	1381	1391	1403
<b>Commercial</b>													
Petroleum	54	55	54	53	53	53	53	53	54	54	53	53	53
Natural Gas	170	166	159	164	168	170	172	175	178	182	184	186	188
Coal	10	8	8	9	9	9	9	9	9	9	9	9	9
Electricity 1/	800	822	816	828	847	866	888	908	926	943	963	977	991
Total	1034	1051	1038	1054	1077	1098	1122	1146	1167	1187	1210	1226	1241
<b>Industrial 2/</b>													
Petroleum	437	431	435	419	416	409	408	407	402	405	405	405	405
Natural Gas 3/	435	400	420	433	438	445	447	450	455	451	452	454	457
Coal	201	189	194	186	187	185	184	190	192	195	199	206	215
Electricity 1/	663	663	651	662	660	661	670	675	679	683	687	690	693
Total	1736	1682	1701	1701	1701	1700	1709	1723	1728	1734	1744	1754	1769
<b>Transportation</b>													
Petroleum 4/	1902	1922	1930	1940	1945	1946	1963	1983	1998	2011	2026	2040	2057
Natural Gas 5/	32	32	32	36	37	37	37	37	38	38	39	39	40
Electricity 1/	5	5	5	5	5	5	5	5	6	6	6	6	6
Total	1939	1958	1967	1981	1987	1988	2005	2025	2041	2055	2070	2085	2103
<b>Electric Power 6/</b>													
Petroleum	98	100	59	65	67	67	68	68	71	67	65	62	62
Natural Gas	296	319	319	320	343	342	323	319	319	326	320	324	324
Coal	1904	1944	1967	1987	1994	2028	2100	2148	2182	2209	2258	2283	2313
Other 7/	11	12	12	12	12	14	14	14	14	14	14	14	14
Total	2309	2375	2357	2384	2416	2451	2505	2549	2586	2616	2657	2683	2712
<b>Total by Fuel</b>													
Petroleum 3/	2598	2614	2584	2584	2586	2580	2597	2614	2628	2640	2651	2661	2677
Natural Gas	1198	1178	1174	1218	1254	1264	1251	1255	1265	1274	1272	1282	1288
Coal	2115	2142	2171	2182	2191	2224	2295	2349	2385	2414	2467	2499	2538
Other 6/	11	12	12	12	12	14	14	14	14	14	14	14	14
Total	5923	5945	5940	5996	6043	6081	6156	6232	6291	6341	6405	6456	6517
<b>Carbon Dioxide Emissions (tons per person)</b>	20.1	20.0	19.8	19.8	19.8	19.8	19.8	19.9	19.9	19.9	20.0	19.9	20.0

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	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2005-2030
<b>Residential</b>															
Petroleum	99	99	98	98	97	96	95	95	94	93	93	93	92	91	-0.6%
Natural Gas	279	280	282	284	283	283	283	284	284	283	283	284	283	283	0.3%
Coal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-0.2%
Electricity 1/	1031	1044	1056	1069	1072	1082	1092	1105	1113	1125	1137	1153	1159	1175	1.1%
Total	1410	1424	1437	1451	1453	1462	1471	1485	1492	1503	1515	1530	1534	1550	0.9%
<b>Commercial</b>															
Petroleum	53	53	53	53	53	54	54	54	54	54	54	54	55	55	0.0%
Natural Gas	189	192	195	198	200	202	203	206	208	210	212	214	216	218	1.1%
Coal	9	9	9	9	9	9	9	9	9	9	9	9	9	9	0.6%
Electricity 1/	1006	1024	1041	1056	1070	1088	1106	1126	1145	1166	1190	1214	1234	1263	1.7%
Total	1258	1278	1299	1316	1333	1353	1373	1394	1416	1440	1465	1491	1514	1545	1.6%
<b>Industrial 2/</b>															
Petroleum	406	407	406	409	402	414	412	419	422	421	428	431	433	437	0.1%
Natural Gas 3/	457	459	469	475	487	477	486	484	488	495	493	496	499	500	0.9%
Coal	227	243	265	295	333	354	379	393	415	428	461	467	498	507	4.0%
Electricity 1/	693	696	701	706	706	711	714	719	727	734	742	751	757	769	0.6%
Total	1783	1804	1842	1884	1928	1956	1990	2015	2052	2078	2124	2144	2187	2213	1.1%
<b>Transportation</b>															
Petroleum 4/	2074	2090	2110	2128	2146	2164	2184	2205	2227	2250	2273	2296	2320	2340	0.8%
Natural Gas 5/	40	41	44	44	45	45	45	45	45	46	46	46	46	46	1.5%
Electricity 1/	6	6	6	6	6	6	6	6	7	7	7	7	7	7	1.5%
Total	2120	2138	2160	2179	2197	2215	2235	2256	2279	2302	2325	2348	2373	2393	0.8%
<b>Electric Power 6/</b>															
Petroleum	62	62	62	63	63	64	64	65	65	65	66	66	66	66	-1.6%
Natural Gas	311	306	298	288	278	272	268	265	261	253	246	239	232	236	-1.2%
Coal	2350	2388	2430	2472	2500	2538	2572	2613	2652	2699	2751	2805	2845	2897	1.6%
Other 7/	14	14	14	14	14	14	14	14	14	14	14	14	14	14	0.8%
Total	2737	2769	2805	2837	2854	2887	2918	2957	2992	3032	3076	3124	3157	3214	1.2%
<b>Total by Fuel</b>															
Petroleum 3/	2694	2711	2729	2750	2760	2792	2809	2837	2862	2884	2914	2939	2966	2989	0.5%
Natural Gas	1276	1279	1288	1289	1293	1279	1285	1284	1286	1287	1280	1279	1276	1284	0.3%
Coal	2587	2641	2706	2778	2844	2902	2961	3016	3077	3137	3222	3281	3353	3414	1.9%
Other 6/	14	14	14	14	14	14	14	14	14	14	14	14	14	14	0.8%
Total	6571	6644	6737	6830	6910	6987	7069	7151	7239	7322	7430	7514	7609	7701	1.0%
Carbon Dioxide Emissions (tons per person)	20.0	20.0	20.1	20.3	20.3	20.4	20.5	20.5	20.6	20.7	20.8	20.9	21.0	21.1	0.2%

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1/ Emissions from the electric power sector are distributed to the end-use sectors.

2/ Fuel consumption includes energy for combined heat and power plants, except those plants whose primary business is to sell electricity, or electricity and heat, to the public.

3/ Includes lease and plant fuel.

4/ This includes carbon dioxide from international bunker fuels, both civilian and military, which are excluded from the accounting of carbon dioxide emissions under the United Nations convention. From 1990 through 2004, international bunker fuels accounted for 83 to 115 million metric tons annually.

5/ Includes pipeline fuel natural gas and compressed natural gas used as vehicle fuel.

6/ Includes electricity-only and combined heat and power plants whose primary business is to sell electricity, or electricity and heat, to the public.

7/ Includes emissions from geothermal power and nonbiogenic emissions from municipal solid waste.

N/A = Not applicable.

Note: Totals may not equal sum of components due to independent rounding. Data for 2004 and 2005 are model results and may differ slightly from official EIA data reports.

Sources: 2004 and 2005 emissions and emission factors: Energy Information Administration (EIA), Emissions of Greenhouse Gases in the United States 2005, DOE/EIA-0573(2005) (Washington, DC, November 2006). Projections: EIA, AEO2007 National Energy Modeling System run hp2007.d112106a.