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Energy-Related Carbon Dioxide Emissions at the State Level, 2000-2014

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Overview

Energy-related carbon dioxide (CO₂) emissions vary significantly across states, whether considered on an absolute (Figure 1) or per capita basis. Total state CO₂ emissions include those from direct fuel use across all sectors, including residential, commercial, industrial, and transportation, as well as primary fuels consumed for electric generation. The overall size of a state, as well as the available fuels, types of businesses, climate, and population density, play a role in determining the level of both total and per capita emissions. Additionally, each state's energy system reflects circumstances specific to that state. For example, some states have abundant hydroelectric supplies, while others contain abundant coal resources. This paper presents a basic analysis of the factors that contribute to a state's CO₂ profile. This analysis neither attempts to assess the effect of state policies on absolute emissions levels or on changes over time, nor does it intend to imply that certain policies would be appropriate for a particular state.

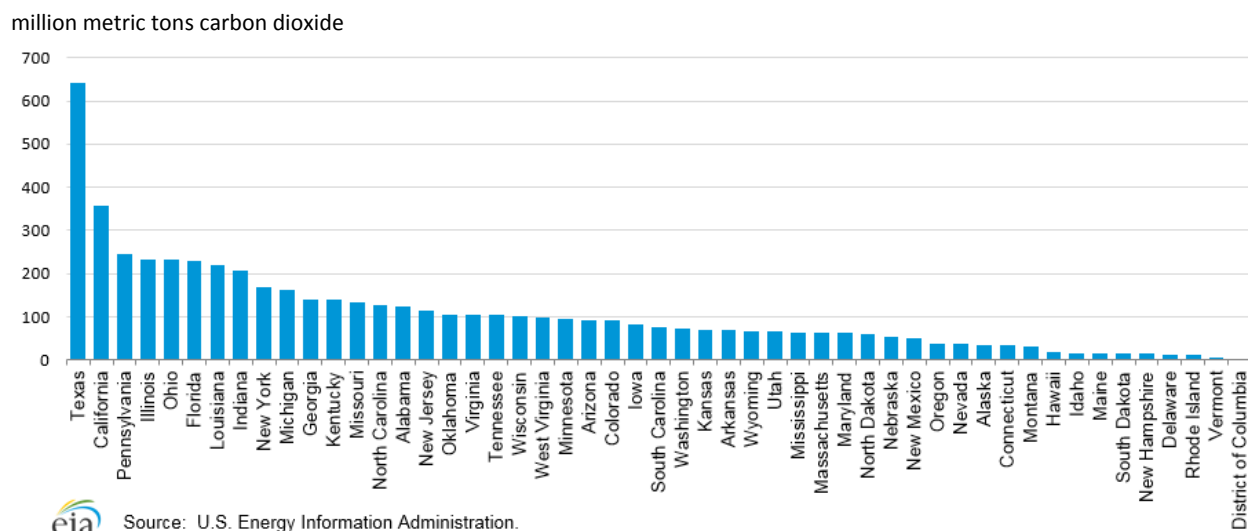
The term *energy-related CO₂ emissions*, as used in this paper, includes emissions released at the location where fossil fuels are consumed. Therefore, to the extent that fuels are used in one state to generate electricity that is consumed in another state, emissions are attributed to the former rather than the latter. Analysis attributing emissions to the consumption of electricity, rather than the production of electricity, would yield different results. For feedstock application, carbon stored in products such as plastics are subtracted from reported emissions for the states where they are produced.

The calculations presented in this paper also assume that biomass used by electricity generators, industry, and by homes and commercial buildings is carbon neutral, with combustion emissions fully offset by land sinks in a sustainable biomass cycle. Emissions may be underestimated to the extent that actual use of biomass energy is not carbon neutral.

Total state emission levels

Over the time period from 2000 to 2014, CO₂ emissions fell in 35 states and rose in 15 states (not including the District of Columbia) (Table 1). The greatest percentage decrease in CO₂ emissions occurred in Maine at 26%, or 6 million metric tons (mt). The greatest absolute decline was 43 million mt in New York (20%). The state with both the greatest percentage and absolute increase was Nebraska, at 25% (10 million mt).

From 2013 to 2014, 19 states saw a decrease in emissions, while 29 experienced an increase and 2 were unchanged. This is reflected in the national data for 2014 as emissions were up about 0.9%. Because of differences in data aggregations, it is difficult to compare the total for all states with the total for the United States. See Appendix A for a comparison of levels of data detail between the state and national data systems.

Figure 1. Energy-related carbon dioxide emissions by state, 2014

Emissions by fuel

States exhibit very different emissions profiles by fuel type (Table 2). For example, in 2014, coal consumption accounted for 78% of CO₂ emissions in West Virginia. In California, 1% of CO₂ emissions came from coal, with 63% from petroleum. In Rhode Island, which had no emissions from coal, 46% of emissions were from natural gas. Hawaii's and Vermont's shares of CO₂ emissions from petroleum in 2014 were 91% and 90%, respectively. Maine's petroleum share was 79%. No other state's petroleum share exceeded 70%.

Emissions by sector

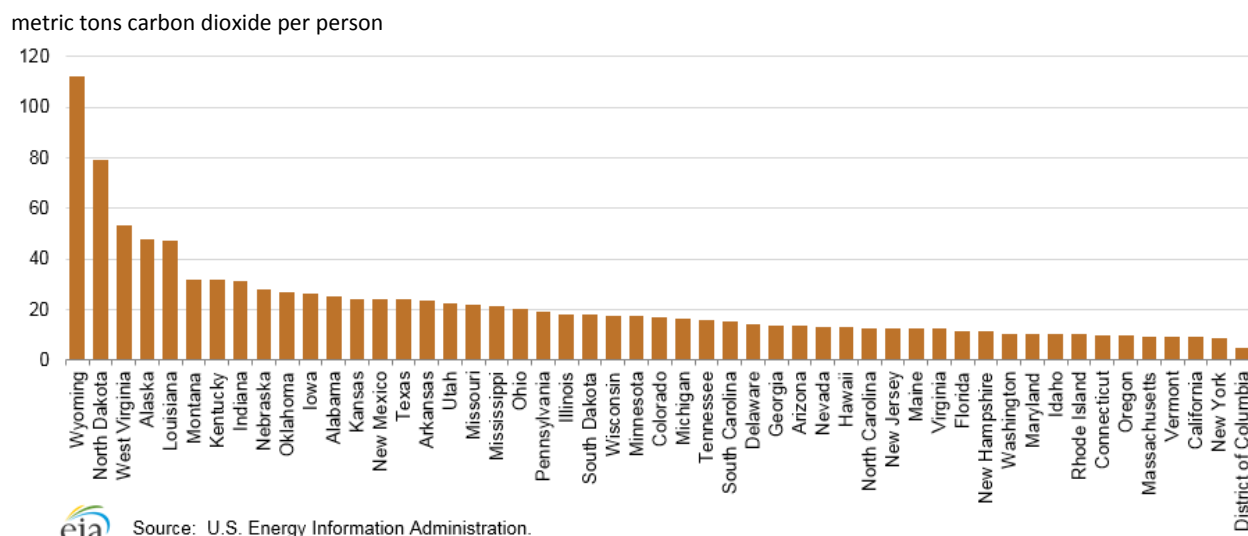
There can also be significant variations in terms of CO₂ emissions by sector (Tables 3 and 4). These variations are due to factors such as the use of different fuels for electricity generation, climate, and sources of economic outputs (e.g., commercial versus industrial activity). For example, in Vermont the largest share of emissions in 2014 came from the transportation sector (56%), predominantly from petroleum, but the electric power sector share was 0.2% because Vermont had almost no generation using fossil fuels. Vermont's residential sector share was 23%—indicative of a relatively cold climate where petroleum is the main heating fuel. Hawaii, where a dominant share of emissions is also from petroleum, had a residential share of 0.3%—the lowest in the United States, because of minimal heating fuel requirements. The largest sector emissions share in Hawaii, like Vermont, was from the transportation sector (54%). However, unlike Vermont, Hawaii's electric power sector share was relatively high (36%). The dominant fossil fuel for the generation of electricity in Hawaii is petroleum.

Per capita carbon dioxide emissions

Another useful way to compare total CO₂ emissions across states is to divide them by state population and examine them on a per capita basis (Table 5 and Figure 2). Many factors contribute to variation in the amount of emissions per capita, including climate, the structure of the state economy, population density, energy sources, building standards, and explicit state policies to reduce emissions. The 2014 CO₂ emissions in Wyoming were 112 mt per capita, the highest in the United States. In 2014, Wyoming was the second-largest energy producer in the United States. Unlike the largest energy producer, Texas, with a population of 27 million, Wyoming has fewer than 600,000 people, giving Wyoming the lowest

population density in the lower 48 states.¹ Its winters are cold (the average low temperatures in January range between 5 to 10 degrees Fahrenheit²). These factors act to raise Wyoming's per capita emissions compared to other states. The second-highest state per capita CO₂ emissions level was North Dakota at 79 mt per capita. West Virginia (53 mt per capita), Alaska (48 mt per capita), and Louisiana (47 mt per capita) round out the top five states in terms of per capita CO₂ emissions.

Figure 2. Per capita energy-related carbon dioxide emissions by state, 2014



New York, with a population of almost 20 million people, had the lowest per capita CO₂ emissions – fewer than 9 mt per capita. A large portion of the population is located in the New York City metropolitan area, where mass transit is readily available and most residences are multi-family units that provide efficiencies of scale in terms of energy for heating and cooling. The New York economy is oriented towards low-energy-consuming activities such as financial markets. For example, New York contained about 6% of the U.S. population in 2014, but consumed only 1% of the country's industrial energy.³ New York's energy prices are relatively high (the average retail electricity price of 16.25 cents per kWh was fourth highest in the country in 2014), which in turn encourages energy savings.⁴ The other states with low per capita CO₂ emissions—all fewer than 10 mt per capita—include California, Connecticut, Massachusetts, and Vermont.

Energy intensity

The energy intensity of a state, as measured by the amount of energy consumed per unit of economic output or, specifically, British thermal units (Btu) per dollar of a state's gross domestic product (GDP), plays an important role in its overall emissions profile (Table 6). The states with the highest rates of emissions per capita in 2014 also tended to have the higher energy intensity values: Wyoming (23,000 Btu per chained 2009 dollar of GDP), Louisiana, North Dakota, and West Virginia (all in the 17-19,000 Btu per dollar range), and Montana (14,000 Btu per dollar). California, Connecticut, Maryland, Massachusetts, and New York were the lowest – all around 3,000 Btu per dollar. Many of the states

¹ U.S. Energy Information Administration, State Profiles and Energy Estimates: <http://www.eia.gov/state/>.

² <http://www.wrcc.dri.edu/narratives/WYOMING.htm>.

³ U.S. Energy Information Administration, State Energy Data 2014, state population and energy consumption by sector.

⁴ U.S. Energy Information Administration, State Electricity Profiles, Table 1, 2014 Summary Statistics

<http://www.eia.gov/electricity/state/newyork/>.

with the lowest energy intensity are clustered in the relatively densely populated New England and Middle Atlantic regions. The 2014 national average was 6,000 Btu per dollar of GDP.

Carbon intensity of the energy supply

The carbon intensity of energy supply (CO₂/Btu) is reflective of the energy fuel mix within a state (Table 7). As with energy intensity, the states with high carbon intensity of energy supply tend to be the states with high per capita emissions. The top five states in 2014 in terms of the carbon intensity of the energy supply as measured in kilograms of CO₂ per million Btu (kg CO₂/MMBtu)—West Virginia (81 kg CO₂/MMBtu), Wyoming and Kentucky (both 76 kg CO₂/MMBtu), Utah (72 kg CO₂/MMBtu), and North Dakota (70 kg CO₂/MMBtu)—are all states with coal as the dominant emissions source (Table 2). The national average carbon intensity of the energy supply in 2014 was 55 kg CO₂/MMBtu. The states with lower carbon intensity of their energy supply tend to be those states with relatively substantial non-carbon electricity generation such as nuclear or hydropower. These states include, for example, Vermont (27 kg CO₂/MMBtu), Washington and Oregon (both 35 kg CO₂/MMBtu), New Hampshire (38 kg CO₂/MMBtu), and Maine (39 kg CO₂/MMBtu).

Carbon intensity of the economy

Another measure, the overall carbon intensity of the economy (CO₂/dollar of state GDP), combines energy intensity with the carbon intensity of that state's energy supply. As one would expect, the states with the highest carbon intensity of their economies (Table 8) as measured in metric tons (mt) of CO₂ per million dollars of state GDP (mt CO₂/million chained 2009 dollars of GDP) are also the states with the highest values of energy intensity and carbon intensity of that energy supply. In 2014, these states included: Wyoming (1,744 mt CO₂/million dollars of GDP), West Virginia (1,463 mt CO₂/million dollars of GDP) North Dakota (1,183 mt CO₂/million dollars of GDP), Louisiana (1,019 mt CO₂/million dollars of GDP), and Montana (821 mt CO₂/million dollars of GDP). The 2014 U.S. average was 339 mt CO₂/million dollars of GDP. The states with the lowest carbon intensity of economic activity are also states that appear on the lower end of both energy intensity and the carbon intensity of that energy supply. These states include: New York (135 mt CO₂/million dollars of GDP), Massachusetts (152 mt CO₂/million dollars of GDP), Connecticut (153 mt CO₂/million dollars of GDP), California (170 mt CO₂/million dollars of GDP) and Maryland (192 mt CO₂/million dollars of GDP).

Electricity trade

This analysis assigns all emissions related to the primary energy consumed for the production of electricity to the state where that electricity is produced rather than where it is consumed. As a result, the states that produce electricity from fossil fuels (especially coal) and sell that electricity across state lines tend to have higher per capita CO₂ emissions than states that consume more electricity than they produce (Table 9). If the emissions associated with the generation of electricity were allocated to the states where that electricity is consumed, in many cases, the emissions profiles of both the producing and consuming states would be different.

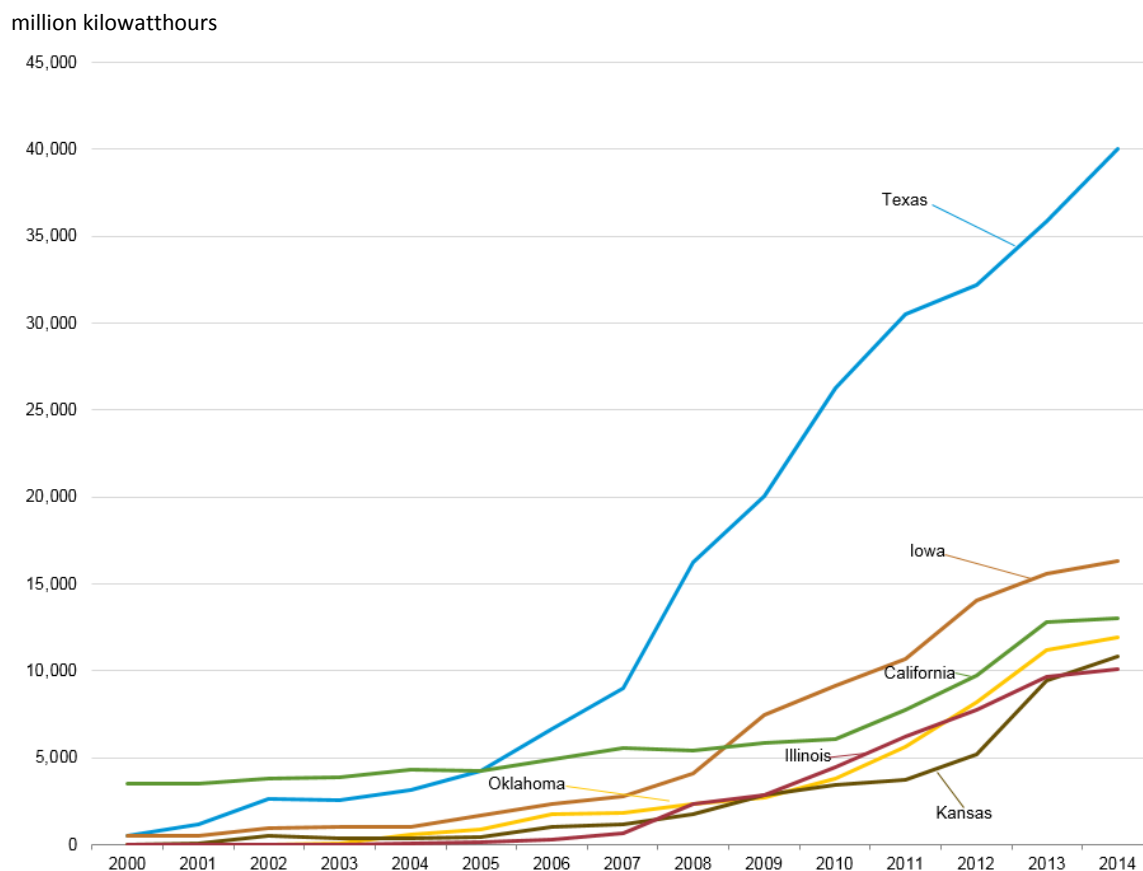
Renewable energy


Historically, the primary non-carbon-producing energy forms have been nuclear and hydroelectric generation. Neither energy form has experienced significant capacity increases in the United States in recent years. On the other hand, non-hydropower renewable energy forms such as wind have experienced significant growth over the past decade. While California dominated wind generation in

2000 (Figure 3), the northern and southern plains states have seen the fastest growth in recent years. In 2005, Texas and California generated about the same amount of electricity from wind, but in 2014 Texas generated over three times the amount of electricity from wind as California, which fell to third behind Iowa. Wind generation is spreading beyond the early adopting states. In 2000, the top four states (California, Minnesota, Iowa, and Texas) accounted for 93% of wind generation, but by 2014, the share of these four states had fallen to 43%. Oklahoma, which had no wind generation in 2002, was rapidly approaching California-levels of wind generation by 2014. If Texas had generated the same amount of energy from a roughly equal mix of coal and natural gas as it did from wind in 2014, it would have produced about 24 million mt more in CO₂ emissions, more than Vermont’s and New Hampshire’s total emissions in 2014 combined.

Other states are adding more solar from both utility-scale power stations, as well as distributed generation, to their energy mix. In 2014, California produced about 43% of the U.S. total of 420 trillion Btu and was the only state to produce significant energy from both wind and solar. Other leading solar energy states included Florida (12% of U.S. total), Arizona (11%), and New Jersey (6%).

Figure 3. Growth in wind generation among top six 2014 wind-generation states, 2000-2014



 Source: U.S. Energy Information Administration.

See Appendix B for other EIA state-related energy and environmental products.

Table 1. State energy-related carbon dioxide emissions by year (2000-2014)

million metric tons carbon dioxide

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Alabama	142.2	133.6	138.4	139.3	141.6	143.3	145.7	147.4	139.6	120.0	132.7	129.9	123.2	120.9	123.2	-13.4%	-19.0
Alaska	44.3	43.4	43.6	43.6	46.8	48.1	45.8	44.0	39.4	37.8	38.7	38.5	38.0	36.3	35.1	-20.9%	-9.3
Arizona	86.1	88.4	87.8	89.6	96.6	96.7	99.9	101.9	102.3	93.4	95.3	93.3	91.3	95.1	93.1	8.2%	7.1
Arkansas	63.7	62.9	61.4	62.1	62.4	60.2	62.1	63.4	64.2	61.6	65.9	67.3	66.1	68.4	69.0	8.3%	5.3
California	382.4	386.8	386.0	373.8	392.2	389.4	397.6	402.6	385.8	372.1	366.0	352.4	357.2	360.5	358.0	-6.4%	-24.4
Colorado	84.6	92.7	90.8	90.2	93.2	95.4	96.4	99.0	97.0	92.9	95.5	91.8	90.7	91.5	91.6	8.3%	7.0
Connecticut	43.0	41.7	40.1	42.8	44.6	44.1	41.0	40.3	37.7	35.9	36.2	34.9	34.1	35.0	35.1	-18.4%	-7.9
Delaware	16.7	16.1	15.9	16.5	16.6	17.4	16.2	17.1	16.2	12.0	11.8	12.9	13.9	13.6	13.3	-20.2%	-3.4
District of																	
Columbia	4.3	4.1	4.2	3.9	4.0	3.9	3.2	3.4	3.1	3.2	3.2	3.1	2.7	2.9	3.0	-30.3%	-1.3
Florida	239.7	238.6	241.8	245.9	257.3	260.7	259.1	256.8	238.6	224.3	242.2	229.1	222.8	221.9	228.2	-4.8%	-11.6
Georgia	169.2	161.4	166.3	169.3	174.5	185.0	182.5	185.1	172.4	162.6	172.0	156.7	136.5	135.0	140.0	-17.3%	-29.2
Hawaii	18.8	19.3	20.5	21.5	22.5	23.1	23.3	24.1	19.4	19.0	19.1	19.5	19.0	18.5	18.4	-2.0%	-0.4
Idaho	15.7	15.6	15.0	14.4	15.7	15.8	15.8	16.4	15.6	15.2	16.0	15.8	15.7	17.1	16.6	5.9%	0.9
Illinois	233.7	224.6	226.7	230.1	237.3	243.8	235.5	243.1	241.5	226.4	231.3	230.2	217.6	232.2	234.0	0.1%	0.3
Indiana	238.4	228.8	231.9	237.7	237.9	236.8	235.0	234.5	230.2	207.6	218.7	210.9	196.5	201.6	206.9	-13.2%	-31.5
Iowa	77.6	76.5	77.1	76.6	78.9	78.8	80.1	85.4	89.2	84.1	88.3	85.5	80.0	81.1	81.9	5.5%	4.3
Kansas	76.2	71.9	76.9	78.6	75.6	72.1	72.4	80.1	74.7	72.9	72.8	71.0	66.2	69.9	69.8	-8.3%	-6.3
Kentucky	145.8	149.2	149.4	145.4	151.8	153.9	157.0	156.9	154.4	144.4	151.2	149.3	138.6	139.1	139.4	-4.4%	-6.5
Louisiana	229.9	202.2	210.6	207.1	217.8	210.6	223.1	227.5	230.0	214.7	235.2	237.7	225.7	217.9	218.4	-5.0%	-11.5
Maine	22.4	22.5	24.0	23.7	24.0	23.1	21.3	21.0	19.1	18.4	18.1	17.6	15.9	16.6	16.6	-25.6%	-5.7
Maryland	77.4	77.9	77.8	80.6	81.6	83.5	77.2	77.5	73.8	70.5	69.1	64.4	59.9	59.2	61.5	-20.6%	-16.0
Massachusetts	82.5	82.4	83.2	84.5	82.9	84.5	76.5	79.9	76.7	70.3	71.8	68.0	61.7	65.6	63.9	-22.6%	-18.6
Michigan	194.0	189.8	189.3	186.5	188.8	190.6	179.4	181.9	175.4	164.4	165.6	160.3	153.7	162.4	162.5	-16.2%	-31.5
Minnesota	98.0	95.0	97.6	101.6	100.8	101.9	99.3	100.8	100.3	92.6	92.4	92.1	87.2	89.9	94.9	-3.2%	-3.2
Mississippi	61.5	70.2	62.8	64.4	65.9	64.2	66.3	68.4	64.9	60.9	65.8	60.9	62.8	61.0	64.1	4.2%	2.6
Missouri	126.0	131.6	132.4	139.2	140.4	143.3	141.9	140.7	137.3	131.1	135.1	135.2	127.6	132.8	132.2	4.9%	6.2
Montana	31.4	31.9	30.7	32.8	34.4	35.5	35.7	37.7	36.9	32.9	34.7	31.8	30.5	32.0	32.3	3.0%	0.9
Nebraska	41.6	42.9	42.4	43.5	43.3	43.7	44.3	44.6	46.6	47.3	49.8	52.2	50.5	53.4	52.1	25.2%	10.5
Nevada	45.4	44.7	41.5	43.6	47.7	49.9	41.5	41.7	40.9	39.4	37.5	33.8	34.5	36.3	37.0	-18.4%	-8.3
New																	
Hampshire	17.5	16.9	17.6	20.9	21.9	21.3	19.4	19.2	18.7	17.1	16.6	16.2	14.6	14.3	15.0	-14.5%	-2.5
New Jersey	124.0	121.1	121.6	123.1	125.9	130.6	123.2	131.0	128.8	111.6	114.3	115.3	104.5	107.7	113.5	-8.5%	-10.5
New Mexico	58.2	58.3	55.4	57.6	58.7	59.3	59.9	59.1	56.4	57.3	53.3	55.7	53.6	53.2	50.1	-13.9%	-8.1
New York	212.6	207.8	202.0	212.3	215.0	211.6	193.2	199.6	190.0	173.9	174.5	164.9	161.5	162.7	169.7	-20.2%	-42.9
North Carolina	149.1	144.4	145.6	146.5	149.7	154.0	148.6	154.4	149.2	133.0	142.8	128.4	121.2	125.0	126.8	-15.0%	-22.3
North Dakota	50.8	51.7	51.4	51.0	49.5	52.4	50.7	52.5	52.9	51.4	52.2	53.7	56.1	56.8	58.6	15.2%	7.7
Ohio	266.2	256.4	262.5	270.2	264.8	271.8	265.0	270.2	263.5	238.5	249.5	237.7	217.8	232.0	231.8	-12.9%	-34.5
Oklahoma	100.2	101.6	101.8	104.0	100.0	107.1	110.3	109.5	112.2	106.5	106.3	108.0	105.2	104.0	105.0	4.7%	4.8

Table 1. State energy-related carbon dioxide emissions by year (2000-2014) (cont.)

million metric tons carbon dioxide

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Oregon	41.4	40.7	39.2	39.6	40.7	41.1	40.3	43.8	42.8	40.9	40.7	37.2	36.9	39.1	38.0	-8.3%	-3.4
Pennsylvania	277.5	264.5	271.2	275.0	277.8	281.1	275.0	278.0	269.9	245.0	256.3	248.8	238.6	248.2	245.3	-11.6%	-32.3
Rhode Island	11.7	12.3	11.7	11.5	10.9	11.2	10.5	11.1	10.7	11.3	11.0	11.0	10.5	10.2	10.6	-9.5%	-1.1
South Carolina	81.6	80.0	81.4	82.0	89.4	87.9	88.6	88.8	86.5	81.5	84.5	80.2	73.9	70.5	74.9	-8.2%	-6.7
South Dakota	14.2	13.5	13.8	13.7	13.8	13.3	13.4	13.9	15.0	14.8	15.1	14.6	15.0	15.4	15.4	8.2%	1.2
Tennessee	128.0	126.7	125.9	124.1	126.0	127.3	129.6	128.9	122.5	102.5	109.9	106.3	100.0	98.6	103.5	-19.1%	-24.5
Texas	652.5	647.0	655.9	649.3	642.6	618.5	629.5	626.3	590.7	556.8	589.5	608.7	603.2	631.1	641.7	-1.6%	-10.7
Utah	65.2	63.0	62.3	63.0	65.5	67.1	68.4	70.4	69.5	64.8	64.0	64.5	61.8	67.0	65.3	0.3%	0.2
Vermont	6.8	6.6	6.4	6.6	7.0	6.8	6.7	6.5	5.9	6.2	5.9	5.8	5.5	5.8	5.9	-13.2%	-0.9
Virginia	123.1	120.8	119.3	123.5	127.3	129.2	122.6	127.9	116.7	105.7	108.7	99.7	97.7	105.1	104.0	-15.5%	-19.1
Washington	83.2	79.8	73.2	75.2	77.1	78.5	76.4	81.7	78.8	76.7	75.6	70.3	70.6	74.8	73.4	-11.8%	-9.8
West Virginia	114.9	104.9	117.7	114.2	111.4	113.4	113.7	115.9	111.7	89.5	99.8	97.2	91.5	93.8	98.4	-14.4%	-16.5
Wisconsin	108.0	106.0	107.2	105.2	107.6	110.9	103.1	104.8	105.2	96.3	98.6	97.7	90.6	101.2	101.1	-6.4%	-6.9
Wyoming	63.2	63.4	62.2	64.0	63.9	63.3	64.1	66.5	66.9	63.8	65.3	64.2	66.4	68.6	65.6	3.9%	2.4
Total¹	5,842.2	5,733.6	5,770.6	5,820.7	5,923.4	5,956.5	5,887.1	5,983.1	5,787.5	5,372.4	5,566.0	5,432.1	5,216.8	5,352.6	5,405.3	-7.5%	-436.9

Source: U.S. Energy Information Administration (EIA), State Energy Data System, and EIA calculations made for this

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

¹For the United States as a whole, see, EIA, Monthly Energy Review, Section 12: Environment. Differing methodologies the total for all states to be different from the national-level estimate. See Appendix A. for details on the data series differences.

Table 2. 2014 state energy-related carbon dioxide emissions by fuel

State	million metric tons of carbon dioxide				shares		
	Coal	Petroleum	Natural Gas	Total	Coal	Petroleum	Natural Gas
Alabama	54.3	34.4	34.6	123.2	44.0%	27.9%	28.1%
Alaska	1.7	15.9	17.5	35.1	4.9%	45.2%	49.9%
Arizona	42.3	34.1	16.7	93.1	45.4%	36.6%	18.0%
Arkansas	32.0	22.4	14.6	69.0	46.4%	32.4%	21.1%
California	3.7	226.0	128.3	358.0	1.0%	63.1%	35.8%
Colorado	33.1	32.2	26.3	91.6	36.1%	35.1%	28.7%
Connecticut	0.9	21.4	12.8	35.1	2.5%	61.1%	36.4%
Delaware	1.0	6.7	5.7	13.3	7.3%	50.1%	42.6%
District of Columbia	0.0	1.1	1.9	3.0	0.0%	37.1%	62.5%
Florida	52.7	109.4	66.1	228.2	23.1%	47.9%	29.0%
Georgia	45.6	59.0	35.3	140.0	32.6%	42.2%	25.3%
Hawaii	1.6	16.8	0.0	18.4	8.9%	91.1%	0.1%
Idaho	0.7	10.9	5.0	16.6	4.2%	65.7%	30.1%
Illinois	96.0	79.4	58.7	234.0	41.0%	33.9%	25.1%
Indiana	115.0	53.5	38.5	206.9	55.6%	25.8%	18.6%
Iowa	37.9	27.5	16.5	81.9	46.2%	33.6%	20.2%
Kansas	29.9	24.6	15.4	69.8	42.8%	35.2%	22.0%
Kentucky	86.3	39.3	13.9	139.4	61.9%	28.2%	9.9%
Louisiana	19.8	118.4	80.2	218.4	9.1%	54.2%	36.7%
Maine	0.2	13.1	3.3	16.6	1.2%	78.9%	19.9%
Maryland	19.0	31.8	10.7	61.5	30.9%	51.7%	17.4%
Massachusetts	2.8	38.0	23.0	63.9	4.4%	59.6%	36.0%
Michigan	58.3	57.6	46.6	162.5	35.9%	35.4%	28.7%
Minnesota	29.6	39.3	26.0	94.9	31.2%	41.4%	27.4%
Mississippi	11.0	29.8	23.4	64.1	17.2%	46.4%	36.4%
Missouri	73.7	42.5	16.0	132.2	55.8%	32.1%	12.1%
Montana	16.6	11.6	4.2	32.3	51.2%	35.8%	13.0%
Nebraska	26.1	16.5	9.5	52.1	50.1%	31.6%	18.3%
Nevada	7.5	15.8	13.8	37.0	20.2%	42.7%	37.1%
New Hampshire	1.4	10.4	3.1	15.0	9.4%	69.8%	20.9%
New Jersey	2.9	68.3	42.3	113.5	2.6%	60.1%	37.3%
New Mexico	20.3	16.2	13.6	50.1	40.6%	32.3%	27.1%
New York	6.1	90.1	73.6	169.7	3.6%	53.1%	43.4%
North Carolina	47.4	55.0	24.5	126.8	37.3%	43.4%	19.3%
North Dakota	37.7	16.4	4.5	58.6	64.3%	27.9%	7.8%
Ohio	99.6	76.8	55.4	231.8	43.0%	33.1%	23.9%
Oklahoma	31.7	37.9	35.3	105.0	30.2%	36.1%	33.7%

Table 2. 2014 state energy-related carbon dioxide emissions by fuel (cont.)

State	million metric tons of carbon dioxide				shares		
	Coal	Petroleum	Natural Gas	Total	Coal	Petroleum	Natural Gas
Oregon	3.2	22.8	12.0	38.0	8.5%	59.9%	31.5%
Pennsylvania	97.7	80.9	66.7	245.3	39.8%	33.0%	27.2%
Rhode Island	0.0	5.8	4.8	10.6	0.0%	54.4%	45.6%
South Carolina	28.9	33.5	12.5	74.9	38.5%	44.8%	16.7%
South Dakota	3.1	7.8	4.4	15.4	20.3%	50.8%	28.9%
Tennessee	40.3	46.7	16.6	103.5	39.0%	45.1%	16.0%
Texas	149.8	279.1	212.9	641.7	23.3%	43.5%	33.2%
Utah	32.5	19.5	13.4	65.3	49.7%	29.8%	20.5%
Vermont	0.0	5.3	0.6	5.9	0.0%	90.3%	9.9%
Virginia	26.2	54.6	23.2	104.0	25.2%	52.5%	22.3%
Washington	7.2	49.2	17.0	73.4	9.9%	67.0%	23.1%
West Virginia	77.0	12.8	8.6	98.4	78.3%	13.0%	8.7%
Wisconsin	39.4	36.4	25.4	101.1	38.9%	36.0%	25.1%
Wyoming	46.2	11.9	7.5	65.6	70.4%	18.1%	11.5%
Total ¹	1,697.7	2,265.6	1,442.0	5,405.3	31.4%	41.9%	26.7%

Source: U.S. Energy Information Administration (EIA), State Energy Data System and EIA calculations made for this analysis.

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

¹For the United States as a whole see EIA, Monthly Energy Review, Section 12: Environment. Differing methodologies between the two data series causes the total for all states to be slightly different from the national-level estimate. See Appendix A for details on the data series differences.

Table 3. 2014 state energy-related carbon dioxide emissions by sector

million metric tons carbon dioxide

State	Commercial	Electric Power	Residential	Industrial	Transportation	Total
Alabama	1.9	65.1	2.4	22.2	31.7	123.2
Alaska	2.3	2.9	1.5	16.9	11.5	35.1
Arizona	2.2	53.1	2.0	4.4	31.4	93.1
Arkansas	3.1	35.5	2.4	9.2	18.9	69.0
California	15.0	46.3	22.8	73.2	200.7	358.0
Colorado	3.7	37.7	7.9	14.2	28.1	91.6
Connecticut	3.8	6.7	7.4	2.1	15.1	35.1
Delaware	0.8	3.6	1.0	3.6	4.2	13.3
District of Columbia	1.0	0.0	0.8	0.0	1.1	3.0
Florida	5.2	109.2	1.2	11.1	101.4	228.2
Georgia	4.1	59.5	7.8	14.8	53.8	140.0
Hawaii	0.3	6.7	0.1	1.5	9.9	18.4
Idaho	1.2	1.0	1.6	3.6	9.3	16.6
Illinois	14.3	87.9	27.0	39.7	65.2	234.0
Indiana	5.9	103.3	9.4	45.0	43.4	206.9
Iowa	4.6	32.5	4.9	19.0	20.9	81.9
Kansas	2.2	30.7	4.4	12.2	20.4	69.8
Kentucky	2.6	86.5	3.7	15.9	30.8	139.4
Louisiana	2.0	39.3	2.6	130.6	44.0	218.4
Maine	1.7	1.7	2.5	1.9	8.8	16.6
Maryland	5.0	19.0	6.9	2.7	27.8	61.5
Massachusetts	7.2	10.8	13.6	3.5	28.8	63.9
Michigan	12.1	59.6	21.9	20.5	48.5	162.5
Minnesota	7.1	29.1	9.8	18.8	30.0	94.9
Mississippi	1.7	23.7	2.0	11.2	25.6	64.1
Missouri	4.8	73.2	7.2	9.3	37.7	132.2
Montana	1.3	17.1	1.6	4.5	7.8	32.3
Nebraska	2.0	24.3	2.7	9.1	13.9	52.1
Nevada	1.8	16.0	2.1	3.1	14.1	37.0
New Hampshire	1.4	3.3	2.7	0.8	6.8	15.0
New Jersey	12.3	16.7	16.1	9.7	58.7	113.5
New Mexico	1.6	24.5	2.1	7.6	14.3	50.1

Table 3. 2014 state energy-related carbon dioxide emissions by sector (cont.)

million metric tons carbon dioxide

State	Commercial	Electric Power	Residential	Industrial	Transportation	Total
New York	22.0	30.5	35.1	9.4	72.7	169.7
North Carolina	5.2	57.0	5.6	10.4	48.7	126.8
North Dakota	1.5	28.9	1.1	17.2	9.9	58.6
Ohio	11.6	97.7	19.5	39.8	63.2	231.8
Oklahoma	3.0	42.0	4.3	23.1	32.7	105.0
Oregon	1.8	7.9	2.5	4.8	20.9	38.0
Pennsylvania	11.2	98.9	22.2	52.5	60.5	245.3
Rhode Island	1.1	2.5	2.3	0.6	4.1	10.6
South Carolina	1.8	32.5	2.1	8.3	30.3	74.9
South Dakota	0.8	3.0	1.1	3.8	6.7	15.4
Tennessee	3.8	37.1	4.7	16.6	41.4	103.5
Texas	12.1	224.8	13.9	169.2	221.7	641.7
Utah	2.5	34.4	3.6	8.1	16.7	65.3
Vermont	0.8	0.0	1.4	0.4	3.3	5.9
Virginia	5.3	30.3	6.9	12.6	48.9	104.0
Washington	3.8	11.7	5.0	12.2	40.7	73.4
West Virginia	1.6	73.4	1.9	10.4	11.1	98.4
Wisconsin	6.5	39.7	10.3	14.4	30.3	101.1
Wyoming	1.1	43.2	0.9	12.3	8.1	65.6
Total ¹	233.5	2,021.6	346.3	967.8	1,836.2	5,405.3

Source: U.S. Energy Information Administration (EIA), State Energy Data System, and EIA calculations made for this analysis.

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

¹For the United States as a whole, see EIA Monthly Energy Review, Section 12: Environment. Differing methodologies between the two data series cause the total for all states to be different from the national-level estimate. See Appendix A. for details on the data series differences.

Table 4. 2014 state energy-related carbon dioxide emission shares by sector

percent of total

State	shares				
	Commercial	Electric Power	Residential	Industrial	Transportation
Alabama	1.6%	52.8%	2.0%	18.0%	25.7%
Alaska	6.7%	8.3%	4.2%	48.1%	32.8%
Arizona	2.4%	57.0%	2.2%	4.8%	33.7%
Arkansas	4.5%	51.4%	3.4%	13.3%	27.4%
California	4.2%	12.9%	6.4%	20.4%	56.1%
Colorado	4.0%	41.1%	8.7%	15.6%	30.7%
Connecticut	10.7%	19.1%	21.2%	5.8%	43.1%
Delaware	6.3%	27.2%	7.7%	27.2%	31.5%
District of Columbia	33.8%	0.0%	28.1%	1.0%	37.1%
Florida	2.3%	47.8%	0.5%	4.9%	44.4%
Georgia	2.9%	42.5%	5.6%	10.6%	38.4%
Hawaii	1.6%	36.5%	0.3%	8.0%	53.6%
Idaho	7.1%	6.0%	9.6%	21.5%	55.8%
Illinois	6.1%	37.5%	11.5%	17.0%	27.9%
Indiana	2.9%	49.9%	4.5%	21.7%	21.0%
Iowa	5.6%	39.6%	6.0%	23.2%	25.6%
Kansas	3.2%	43.9%	6.2%	17.4%	29.2%
Kentucky	1.8%	62.0%	2.6%	11.4%	22.1%
Louisiana	0.9%	18.0%	1.2%	59.8%	20.1%
Maine	10.1%	10.0%	15.1%	11.7%	53.1%
Maryland	8.2%	31.0%	11.2%	4.4%	45.2%
Massachusetts	11.2%	16.9%	21.3%	5.5%	45.1%
Michigan	7.5%	36.7%	13.4%	12.6%	29.8%
Minnesota	7.5%	30.7%	10.3%	19.9%	31.7%
Mississippi	2.6%	36.9%	3.0%	17.5%	40.0%
Missouri	3.6%	55.4%	5.5%	7.0%	28.5%
Montana	4.1%	53.0%	5.0%	13.9%	24.1%
Nebraska	3.8%	46.7%	5.3%	17.6%	26.7%
Nevada	4.8%	43.1%	5.5%	8.4%	38.2%
New Hampshire	9.3%	22.1%	17.9%	5.6%	45.2%
New Jersey	10.8%	14.8%	14.2%	8.5%	51.7%
New Mexico	3.3%	48.8%	4.1%	15.2%	28.5%

Table 4. 2014 state energy-related carbon dioxide emission shares by sector (cont.)

percent of total

State	shares				
	Commercial	Electric Power	Residential	Industrial	Transportation
New York	13.0%	18.0%	20.7%	5.5%	42.8%
North Carolina	4.1%	44.9%	4.4%	8.2%	38.4%
North Dakota	2.5%	49.3%	1.9%	29.3%	16.9%
Ohio	5.0%	42.2%	8.4%	17.2%	27.3%
Oklahoma	2.9%	40.0%	4.0%	22.0%	31.2%
Oregon	4.7%	20.9%	6.6%	12.7%	55.1%
Pennsylvania	4.6%	40.3%	9.0%	21.4%	24.7%
Rhode Island	10.5%	23.4%	21.8%	5.5%	38.8%
South Carolina	2.4%	43.3%	2.7%	11.1%	40.5%
South Dakota	5.3%	19.6%	7.0%	24.7%	43.4%
Tennessee	3.6%	35.8%	4.6%	16.0%	40.0%
Texas	1.9%	35.0%	2.2%	26.4%	34.5%
Utah	3.8%	52.6%	5.5%	12.4%	25.6%
Vermont	13.1%	0.2%	23.2%	7.5%	56.0%
Virginia	5.1%	29.1%	6.6%	12.1%	47.0%
Washington	5.2%	15.9%	6.9%	16.6%	55.4%
West Virginia	1.6%	74.6%	1.9%	10.6%	11.3%
Wisconsin	6.4%	39.3%	10.1%	14.3%	29.9%
Wyoming	1.7%	65.9%	1.4%	18.7%	12.3%
Average all states	4.3%	37.4%	6.4%	17.9%	34.0%

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Source: U.S. Energy Information Administration, State Energy Data System, and EIA calculations made for this analysis.

Table 5. Per capita energy-related carbon dioxide emissions by state (2000-2014)

metric tons carbon dioxide per person

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Alabama	31.9	29.9	30.9	30.9	31.3	31.4	31.5	31.5	29.6	25.2	27.7	27.0	25.6	25.0	25.4	-20.4%	-6.5
Alaska	70.6	68.5	67.8	67.3	70.9	72.0	67.8	64.8	57.4	54.1	54.1	53.3	52.0	49.2	47.6	-32.6%	-23.0
Arizona	16.7	16.8	16.3	16.3	17.1	16.6	16.6	16.5	16.3	14.7	14.9	14.4	13.9	14.3	13.8	-17.0%	-2.8
Arkansas	23.8	23.4	22.7	22.8	22.7	21.6	22.0	22.2	22.3	21.3	22.6	22.9	22.4	23.1	23.3	-2.2%	-0.5
California	11.3	11.2	11.1	10.6	11.0	10.9	11.0	11.1	10.5	10.1	9.8	9.3	9.4	9.4	9.2	-18.0%	-2.0
Colorado	19.5	20.9	20.2	19.9	20.4	20.6	20.4	20.6	19.8	18.7	18.9	17.9	17.5	17.4	17.1	-12.6%	-2.5
Connecticut	12.6	12.2	11.6	12.3	12.8	12.6	11.7	11.4	10.6	10.1	10.1	9.7	9.5	9.7	9.8	-22.6%	-2.8
Delaware	21.2	20.2	19.7	20.2	19.9	20.6	18.9	19.6	18.3	13.4	13.1	14.2	15.2	14.7	14.2	-33.0%	-7.0
District of Columbia	7.5	7.1	7.3	6.9	7.0	6.9	5.6	5.9	5.3	5.4	5.3	5.0	4.2	4.4	4.5	-39.6%	-3.0
Florida	14.9	14.6	14.5	14.5	14.8	14.6	14.3	14.0	12.9	12.0	12.8	12.0	11.5	11.3	11.5	-23.3%	-3.5
Georgia	20.6	19.3	19.5	19.6	19.9	20.7	19.9	19.8	18.1	16.9	17.7	16.0	13.8	13.5	13.9	-32.6%	-6.7
Hawaii	15.5	15.7	16.5	17.1	17.6	17.8	17.8	18.3	14.5	14.1	14.0	14.2	13.6	13.1	13.0	-16.2%	-2.5
Idaho	12.1	11.8	11.2	10.6	11.2	11.1	10.8	10.9	10.1	9.8	10.2	10.0	9.8	10.6	10.2	-15.8%	-1.9
Illinois	18.8	18.0	18.1	18.3	18.9	19.3	18.6	19.2	18.9	17.7	18.0	17.9	16.9	18.0	18.2	-3.3%	-0.6
Indiana	39.1	37.3	37.7	38.4	38.2	37.7	37.1	36.8	35.8	32.1	33.7	32.4	30.1	30.7	31.4	-19.9%	-7.8
Iowa	26.5	26.1	26.3	26.0	26.7	26.6	26.8	28.5	29.6	27.7	28.9	27.9	26.0	26.2	26.3	-0.6%	-0.2
Kansas	28.3	26.6	28.3	28.9	27.6	26.3	26.2	28.8	26.6	25.7	25.5	24.7	23.0	24.1	24.1	-14.9%	-4.2
Kentucky	36.0	36.7	36.5	35.3	36.6	36.8	37.2	36.9	36.0	33.4	34.8	34.2	31.6	31.6	31.6	-12.3%	-4.4
Louisiana	51.4	45.2	46.8	45.8	47.8	46.0	51.8	52.0	51.8	47.8	51.7	52.0	49.0	47.1	47.0	-8.6%	-4.4
Maine	17.5	17.5	18.5	18.1	18.3	17.5	16.1	15.8	14.3	13.8	13.6	13.2	11.9	12.5	12.5	-28.6%	-5.0
Maryland	14.6	14.5	14.3	14.7	14.7	14.9	13.7	13.7	13.0	12.3	11.9	11.0	10.2	10.0	10.3	-29.4%	-4.3
Massachusetts	13.0	12.9	13.0	13.2	12.9	13.2	11.9	12.4	11.9	10.8	10.9	10.3	9.3	9.8	9.5	-27.1%	-3.5
Michigan	19.5	19.0	18.9	18.6	18.8	19.0	17.9	18.2	17.6	16.6	16.8	16.2	15.5	16.4	16.4	-15.9%	-3.1
Minnesota	19.9	19.1	19.4	20.1	19.8	19.9	19.2	19.4	19.1	17.5	17.4	17.2	16.2	16.6	17.4	-12.5%	-2.5
Mississippi	21.6	24.6	22.0	22.4	22.8	22.1	22.8	23.4	22.0	20.6	22.1	20.4	21.0	20.4	21.4	-0.9%	-0.2
Missouri	22.5	23.3	23.3	24.4	24.4	24.7	24.3	23.9	23.2	22.0	22.5	22.5	21.2	22.0	21.8	-3.0%	-0.7
Montana	34.7	35.2	33.7	35.6	37.0	37.8	37.5	39.0	37.8	33.5	35.0	31.9	30.4	31.5	31.6	-9.0%	-3.1
Nebraska	24.3	24.9	24.5	25.0	24.7	24.8	25.0	25.0	26.0	26.1	27.2	28.4	27.2	28.6	27.7	14.0%	3.4
Nevada	22.5	21.3	19.1	19.4	20.3	20.5	16.4	16.0	15.4	14.7	13.9	12.4	12.5	13.0	13.1	-41.9%	-9.4
New Hampshire	14.1	13.5	13.9	16.4	17.0	16.4	14.8	14.6	14.2	13.0	12.6	12.3	11.0	10.8	11.3	-20.1%	-2.8
New Jersey	14.7	14.3	14.2	14.3	14.6	15.1	14.2	15.1	14.8	12.7	13.0	13.0	11.8	12.1	12.7	-13.7%	-2.0
New Mexico	31.9	31.8	29.8	30.6	30.8	30.7	30.5	29.7	28.1	28.1	25.8	26.8	25.7	25.5	24.0	-24.8%	-7.9
New York	11.2	10.9	10.6	11.1	11.2	11.1	10.1	10.4	9.9	9.0	9.0	8.4	8.2	8.3	8.6	-23.2%	-2.6
North Carolina	18.5	17.6	17.5	17.4	17.5	17.7	16.7	16.9	16.0	14.1	14.9	13.3	12.4	12.7	12.8	-30.9%	-5.7
North Dakota	79.2	80.9	80.5	79.8	76.8	81.1	78.2	80.4	80.4	77.2	77.3	78.4	79.9	78.5	79.1	-0.1%	-0.1
Ohio	23.4	22.5	23.0	23.6	23.1	23.7	23.1	23.5	22.9	20.7	21.6	20.6	18.9	20.0	20.0	-14.7%	-3.4
Oklahoma	29.0	29.3	29.2	29.7	28.4	30.2	30.7	30.1	30.6	28.6	28.3	28.5	27.6	27.0	27.1	-6.8%	-2.0

Table 5. Per capita energy-related carbon dioxide emissions by state (2000-2014) (cont.)

metric tons carbon dioxide per person

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Oregon	12.1	11.7	11.2	11.2	11.4	11.4	11.0	11.8	11.3	10.7	10.6	9.6	9.5	10.0	9.6	-20.8%	-2.5
Pennsylvania	22.6	21.5	22.0	22.2	22.4	22.6	22.0	22.1	21.4	19.3	20.2	19.5	18.7	19.4	19.2	-15.1%	-3.4
Rhode Island	11.2	11.6	11.0	10.7	10.2	10.5	9.9	10.5	10.1	10.7	10.5	10.5	10.0	9.6	10.1	-10.0%	-1.1
South Carolina	20.3	19.7	19.8	19.7	21.2	20.6	20.3	20.0	19.1	17.7	18.2	17.2	15.6	14.8	15.5	-23.5%	-4.8
South Dakota	18.8	17.8	18.2	18.0	17.9	17.2	17.1	17.6	18.8	18.3	18.5	17.8	18.0	18.3	18.0	-4.1%	-0.8
Tennessee	22.4	22.0	21.7	21.2	21.3	21.3	21.3	20.9	19.6	16.2	17.3	16.6	15.5	15.2	15.8	-29.6%	-6.6
Texas	31.2	30.3	30.2	29.5	28.7	27.2	26.9	26.3	24.3	22.4	23.4	23.7	23.1	23.8	23.8	-23.6%	-7.4
Utah	29.0	27.6	26.8	26.7	27.2	27.3	27.1	27.1	26.1	23.8	23.1	22.9	21.6	23.1	22.2	-23.5%	-6.8
Vermont	11.1	10.8	10.3	10.7	11.3	11.0	10.7	10.5	9.5	9.9	9.4	9.3	8.7	9.2	9.4	-15.5%	-1.7
Virginia	17.3	16.8	16.4	16.8	17.0	17.0	16.0	16.5	14.9	13.3	13.5	12.3	11.9	12.7	12.5	-27.9%	-4.8
Washington	14.1	13.3	12.1	12.3	12.5	12.6	12.0	12.6	12.0	11.5	11.2	10.3	10.2	10.7	10.4	-26.2%	-3.7
West Virginia	63.6	58.2	65.2	63.0	61.3	62.3	62.2	63.2	60.7	48.4	53.8	52.4	49.3	50.6	53.2	-16.3%	-10.4
Wisconsin	20.1	19.6	19.7	19.2	19.5	20.0	18.5	18.7	18.6	17.0	17.3	17.1	15.8	17.6	17.6	-12.7%	-2.5
Wyoming	127.9	128.1	124.3	127.3	125.5	123.1	122.6	124.3	122.6	113.9	115.6	112.9	115.1	117.6	112.3	-12.1%	-15.5
Average all states	20.7	20.1	20.1	20.1	20.2	20.2	19.7	19.9	19.0	17.5	18.0	17.4	16.6	16.9	16.9	-18.1%	-3.8

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Source: U.S. Energy Information Administration, State Energy Data System, and EIA calculations made for this analysis.

Table 6. Energy intensity by state (2000-2014)

thousand Btu per chained 2009 dollar of GDP

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Alabama	16.2	15.1	15.4	15.2	14.7	14.3	14.3	14.3	14.1	13.6	14.0	14.0	13.7	13.5	13.3	-17.5%	-2.8
Alaska	20.4	19.4	18.8	19.0	19.2	19.3	17.0	15.7	14.1	12.9	13.5	13.2	12.5	12.6	12.4	-39.3%	-8.0
Arizona	7.7	7.6	7.5	7.1	7.4	6.8	6.5	6.6	6.9	7.0	7.0	6.9	6.7	6.8	6.6	-14.7%	-1.1
Arkansas	12.9	12.9	12.7	12.2	11.7	10.9	10.9	11.2	11.1	11.3	11.6	11.4	11.3	10.9	11.1	-14.5%	-1.9
California	4.4	4.3	4.2	4.0	4.0	3.9	3.8	3.7	3.6	3.6	3.6	3.5	3.4	3.3	3.2	-26.0%	-1.1
Colorado	5.6	6.1	5.9	5.8	5.9	5.8	5.7	5.9	5.8	5.7	5.7	5.5	5.3	5.4	5.2	-7.7%	-0.4
Connecticut	3.5	3.3	3.2	3.4	3.4	3.4	3.3	4.1	3.8	3.8	3.9	3.9	3.7	3.4	3.4	-3.3%	-0.1
Delaware	4.6	4.5	4.6	4.5	4.2	4.3	3.9	4.1	4.2	3.2	3.2	3.7	4.1	4.0	3.9	-16.1%	-0.7
District of Columbia	0.9	0.8	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.5	0.5	0.5	0.5	-39.4%	-0.3
Florida	6.1	5.9	5.8	5.7	5.6	5.3	5.2	5.1	5.2	5.3	5.6	5.4	5.2	5.2	5.1	-16.1%	-1.0
Georgia	7.5	7.1	7.4	7.2	7.3	7.2	7.0	7.0	6.7	6.8	7.2	6.6	6.1	6.0	6.0	-20.0%	-1.5
Hawaii	5.1	5.1	5.2	5.2	5.2	5.0	5.0	5.0	4.1	4.3	4.2	4.2	4.1	4.1	4.0	-20.8%	-1.1
Idaho	8.7	8.0	7.9	7.1	7.3	7.1	7.3	6.8	6.8	7.0	6.9	7.8	7.4	7.4	7.2	-17.0%	-1.5
Illinois	7.1	6.9	7.0	7.0	6.9	6.9	6.6	6.7	6.9	6.8	6.9	6.7	6.4	6.8	6.8	-3.9%	-0.3
Indiana	12.2	11.9	11.9	11.8	11.3	11.3	10.9	10.7	10.6	10.4	10.4	10.2	9.6	9.8	9.9	-18.5%	-2.3
Iowa	10.1	9.9	9.9	9.4	9.2	9.2	9.3	9.7	10.6	10.9	11.3	10.9	10.4	10.1	10.4	3.5%	0.4
Kansas	10.9	10.4	10.7	10.7	10.4	9.4	9.2	9.8	9.1	9.5	9.3	8.6	8.4	9.1	9.2	-15.0%	-1.6
Kentucky	12.9	13.2	13.0	12.4	12.7	12.5	12.2	12.4	12.2	12.0	12.0	11.6	10.8	10.8	10.8	-16.3%	-2.1
Louisiana	23.9	20.9	21.3	19.7	20.0	18.2	19.3	20.3	20.0	18.6	19.5	20.3	19.3	19.4	19.4	-19.0%	-4.5
Maine	10.7	10.5	10.6	9.9	9.9	9.9	9.1	9.2	9.2	8.7	8.7	8.7	8.2	8.7	8.6	-19.8%	-2.1
Maryland	5.3	4.9	4.7	4.8	4.7	4.6	4.2	4.2	4.1	4.0	3.8	3.6	3.4	3.4	3.5	-34.1%	-1.8
Massachusetts	3.9	3.8	3.8	3.8	3.6	3.6	3.3	3.3	3.3	3.2	3.2	3.0	2.7	2.8	2.8	-28.2%	-1.1
Michigan	7.3	7.5	7.4	7.1	7.3	7.3	6.9	7.1	7.4	7.4	7.2	7.1	6.7	6.9	7.0	-4.7%	-0.3
Minnesota	7.0	6.8	6.8	6.6	6.5	6.5	6.4	6.5	6.6	6.5	6.4	6.2	6.0	6.0	6.2	-11.3%	-0.8
Mississippi	13.2	14.3	13.1	12.6	12.7	12.3	12.4	12.5	11.7	11.8	12.5	12.1	12.1	11.9	12.3	-7.1%	-0.9
Missouri	7.6	7.9	7.9	8.1	7.9	8.0	7.8	7.8	7.7	7.5	7.5	7.6	7.2	7.4	7.4	-2.9%	-0.2
Montana	18.2	16.6	17.0	16.5	16.7	16.8	16.8	16.5	16.4	15.5	15.4	15.0	14.0	14.0	14.2	-22.3%	-4.1
Nebraska	9.6	9.6	9.6	8.9	9.1	8.8	8.7	9.1	9.4	9.4	10.1	9.6	9.1	9.5	9.5	-0.9%	-0.1
Nevada	6.8	6.6	6.0	6.0	5.9	5.7	5.0	5.0	5.1	5.5	5.4	4.9	5.1	5.4	5.2	-23.7%	-1.6
New Hampshire	6.8	6.6	6.6	7.3	7.6	7.3	6.6	6.9	6.8	6.5	6.5	6.1	5.6	6.1	6.0	-11.5%	-0.8
New Jersey	5.0	4.9	4.9	4.7	4.6	4.7	4.5	4.7	4.6	4.4	4.5	4.6	4.2	4.3	4.4	-12.6%	-0.6
New Mexico	11.6	11.4	10.6	10.6	10.2	10.3	10.4	10.5	10.1	10.1	9.6	10.0	9.7	9.7	9.2	-21.2%	-2.5
New York	4.0	3.8	3.7	3.8	3.8	3.6	3.3	3.4	3.4	3.2	3.0	3.0	2.8	2.9	2.9	-26.2%	-1.0
North Carolina	7.3	6.9	6.9	6.9	6.7	6.5	6.0	6.1	6.0	5.7	6.0	5.5	5.3	5.6	5.5	-24.9%	-1.8
North Dakota	20.7	20.1	17.3	27.7	27.6	25.9	24.0	23.5	24.1	22.6	22.7	21.2	20.9	17.4	17.0	-18.1%	-3.8
Ohio	8.1	7.8	7.6	7.6	7.5	7.5	7.3	7.5	7.5	7.2	7.3	6.9	6.4	6.8	6.7	-16.5%	-1.3
Oklahoma	12.6	12.4	12.3	12.3	11.8	12.2	11.9	11.9	11.8	11.5	11.5	11.2	10.9	10.8	10.6	-16.5%	-2.1

Table 6. Energy intensity by state (2000-2014) (cont.)

thousand Btu per chained 2009 dollar of GDP

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change (2000-2014)		
															percent	absolute	
Oregon	7.6	7.7	7.3	6.9	6.6	6.4	6.3	6.0	5.9	5.4	5.5	5.4	8.3	5.5	5.4	-29.4%	-2.2
Pennsylvania	8.8	8.3	8.4	8.3	8.3	8.2	7.9	8.0	7.9	7.6	7.7	7.5	7.3	7.6	7.5	-14.3%	-1.3
Rhode Island	4.6	4.6	4.2	3.9	3.6	3.7	3.4	3.7	3.9	4.1	4.0	4.0	3.7	3.6	3.7	-18.7%	-0.9
South Carolina	11.6	11.1	11.4	10.9	11.5	11.3	10.9	10.8	10.6	10.9	11.0	10.5	10.0	9.9	9.9	-14.4%	-1.7
South Dakota	9.8	8.3	8.1	8.0	7.9	7.8	8.0	7.9	8.4	8.9	9.6	9.4	9.4	9.1	9.1	-7.3%	-0.7
Tennessee	9.3	9.3	9.0	8.7	8.5	8.5	8.2	8.3	7.9	7.4	7.7	7.3	6.7	6.9	6.9	-25.1%	-2.3
Texas	13.1	12.6	12.7	12.4	12.0	11.2	10.2	9.6	9.3	9.7	9.5	9.1	9.0	10.7	8.8	-33.3%	-4.4
Utah	9.8	9.2	8.9	8.9	8.8	8.5	8.2	8.0	8.0	7.7	7.5	7.5	7.2	7.5	7.1	-27.4%	-2.7
Vermont	8.2	7.4	7.0	7.0	6.8	6.7	7.2	6.7	6.7	7.6	6.9	6.7	7.5	8.0	8.1	-1.3%	-0.1
Virginia	6.1	5.7	5.7	5.6	5.7	5.5	5.2	5.3	5.0	4.7	4.6	4.3	4.4	4.6	4.6	-24.3%	-1.5
Washington	7.5	6.6	6.9	6.6	6.6	6.3	6.4	6.1	6.0	5.8	5.6	5.9	5.8	5.6	5.5	-26.9%	-2.0
West Virginia	23.5	21.7	23.9	23.0	22.1	22.0	21.7	22.1	21.0	17.5	18.8	18.0	17.8	18.2	18.1	-22.9%	-5.4
Wisconsin	7.7	7.6	7.4	7.2	7.0	7.1	6.7	6.8	6.9	6.6	6.6	6.4	6.1	6.5	6.5	-16.3%	-1.3
Wyoming	31.1	29.5	28.5	28.6	27.4	26.2	23.7	23.6	22.0	21.7	22.8	22.9	24.7	25.0	22.8	-26.6%	-8.3
Average all states	7.9	7.6	7.6	7.4	7.3	7.0	6.8	6.8	6.7	6.5	6.6	6.4	6.1	6.2	6.2	-21.7%	-1.7

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Source: U.S. Energy Information Administration, State Energy Data System and EIA calculations made for this analysis.

Table 7. Carbon intensity by state (2000-2014)

kilograms of energy-related carbon dioxide per million Btu

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Alabama	58.7	58.3	58.0	57.8	57.1	58.0	58.3	58.7	56.5	52.1	54.5	52.8	50.9	49.7	50.6	-13.7%	-8.0
Alaska	59.7	59.0	59.4	59.5	60.3	60.2	61.3	60.9	60.6	59.1	59.2	58.9	58.5	58.4	58.1	-2.7%	-1.6
Arizona	55.0	56.1	54.9	55.9	56.3	57.1	57.9	56.9	55.9	54.7	55.4	54.5	53.7	54.7	53.6	-2.5%	-1.4
Arkansas	57.3	56.7	54.8	55.1	55.6	55.8	55.6	55.2	56.0	54.1	55.0	55.7	55.2	57.8	56.9	-0.7%	-0.4
California	52.9	54.1	54.0	52.9	53.8	53.1	53.2	54.1	54.1	53.7	52.9	51.0	53.0	52.6	52.7	-0.5%	-0.3
Colorado	69.0	68.7	69.3	68.4	68.9	68.6	68.7	67.5	66.5	65.4	65.8	65.0	65.2	64.1	63.4	-8.2%	-5.7
Connecticut	50.2	52.0	51.1	51.2	50.7	51.7	49.6	49.4	49.5	46.1	46.2	45.1	44.8	44.7	45.4	-9.4%	-4.7
Delaware	71.3	69.9	69.1	70.9	71.4	71.6	71.3	71.6	70.5	67.2	65.8	61.8	61.0	61.5	60.0	-15.8%	-11.3
District of																	
Columbia	61.0	62.1	61.3	60.7	61.2	61.6	60.1	59.6	59.0	54.9	54.3	54.0	53.0	52.6	53.0	-13.2%	-8.0
Florida	63.4	64.0	62.8	63.3	63.4	63.6	62.3	62.4	60.1	58.6	60.0	58.9	58.3	57.4	57.7	-9.1%	-5.8
Georgia	60.1	60.0	59.0	60.2	60.2	61.7	61.6	61.9	61.6	59.2	59.1	57.7	53.9	53.1	53.6	-10.7%	-6.5
Hawaii	68.6	71.2	72.0	71.2	71.3	70.9	71.2	71.3	69.9	68.5	68.6	68.0	67.7	65.8	65.4	-4.7%	-3.2
Idaho	39.5	44.2	42.1	43.5	43.5	42.5	39.5	42.5	40.5	40.3	42.0	37.2	38.8	41.7	40.0	1.4%	0.5
Illinois	53.7	53.0	52.8	52.7	54.0	54.1	53.9	53.9	53.3	52.0	52.2	52.1	51.0	51.4	51.2	-4.6%	-2.5
Indiana	77.6	78.1	77.4	77.1	77.7	77.5	78.3	77.7	77.0	75.6	75.2	73.8	72.6	72.4	72.2	-7.0%	-5.4
Iowa	66.2	67.2	66.0	66.4	64.7	63.4	62.8	62.0	60.4	56.6	56.1	54.9	53.4	51.8	51.6	-22.0%	-14.6
Kansas	64.9	63.8	65.3	65.0	63.8	65.8	65.1	64.8	64.3	63.2	62.1	63.0	60.8	59.7	58.0	-10.7%	-6.9
Kentucky	78.2	78.0	77.2	76.9	77.0	77.0	78.1	78.0	78.1	76.9	77.4	77.4	76.6	76.1	75.6	-3.4%	-2.7
Louisiana	52.7	52.1	52.3	53.4	53.2	53.8	54.8	54.8	55.9	54.7	54.8	55.1	54.1	53.1	52.6	-0.1%	0.0
Maine	45.3	45.6	46.9	48.5	47.3	45.9	44.9	44.1	40.3	41.9	41.1	40.2	38.7	38.6	39.1	-13.7%	-6.2
Maryland	60.6	62.5	62.6	61.9	61.6	62.0	61.4	60.7	59.8	58.8	58.6	57.0	55.9	55.1	55.5	-8.4%	-5.1
Massachusetts	61.3	62.4	61.9	62.2	61.8	62.3	60.5	61.3	59.9	57.9	57.3	56.0	55.2	56.5	54.9	-10.5%	-6.4
Michigan	63.0	61.9	60.4	60.9	60.5	60.1	60.9	60.6	59.8	61.1	59.6	57.8	57.7	57.6	56.3	-10.6%	-6.7
Minnesota	58.8	59.0	59.2	60.6	59.6	58.7	58.3	57.5	56.4	54.9	53.7	53.9	52.6	52.8	52.6	-10.6%	-6.2
Mississippi	55.8	59.5	57.5	58.8	58.6	57.7	57.8	57.8	58.4	56.1	56.1	54.1	54.5	54.1	55.2	-1.1%	-0.6
Missouri	70.8	71.1	71.4	71.9	72.1	72.0	71.9	71.4	70.4	69.7	70.7	70.9	70.2	71.0	70.1	-0.9%	-0.7
Montana	59.7	65.4	60.5	63.5	63.6	62.5	60.9	62.4	61.6	60.1	61.7	56.4	57.4	59.3	57.9	-3.0%	-1.8
Nebraska	60.3	61.2	59.6	61.6	59.1	60.6	60.1	57.2	57.5	57.9	54.7	57.6	58.6	58.5	55.5	-7.9%	-4.8
Nevada	67.3	67.3	66.5	66.9	66.8	66.6	61.4	61.8	61.2	59.7	59.1	57.4	56.1	56.3	57.4	-14.8%	-9.9
New Hampshire	47.7	47.6	47.7	49.2	48.2	47.2	46.9	44.8	44.6	43.2	40.7	42.3	40.4	36.9	38.0	-20.4%	-9.7
New Jersey	54.8	54.3	54.0	55.3	56.4	56.0	54.8	54.9	55.1	51.8	52.3	51.9	50.4	50.3	51.0	-6.8%	-3.7
New Mexico	72.1	72.6	72.3	73.0	72.7	72.1	71.2	69.8	69.2	70.4	68.7	68.8	67.9	67.6	66.1	-8.3%	-6.0
New York	53.1	52.8	52.0	53.3	53.0	52.7	50.7	51.0	49.5	48.2	48.6	46.7	46.6	45.6	46.1	-13.2%	-7.0
North Carolina	60.1	60.1	59.8	58.2	59.6	60.1	59.8	61.0	59.4	56.8	57.6	55.6	53.9	52.6	53.1	-11.7%	-7.0
North Dakota	81.2	81.3	81.5	82.0	80.8	81.2	80.6	80.3	79.2	76.7	73.3	70.5	71.5	70.6	69.7	-14.2%	-11.5
Ohio	68.6	69.5	70.9	71.5	69.8	70.6	70.4	70.5	69.5	69.4	69.5	68.5	66.1	66.5	65.7	-4.2%	-2.9
Oklahoma	67.4	67.2	67.7	67.6	65.9	66.0	66.1	64.6	64.8	64.4	63.4	64.1	62.0	60.9	61.3	-9.1%	-6.1

Table 7. Carbon intensity by state (2000-2014) (cont.)

kilograms of energy-related carbon dioxide per million Btu

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Oregon	38.1	41.4	38.4	39.4	39.2	40.4	37.5	40.3	39.1	38.5	39.6	34.1	34.2	36.5	35.3	-7.3%	-2.8
Pennsylvania	61.3	60.6	60.9	60.9	60.4	60.9	60.9	60.3	59.3	57.2	57.5	56.4	55.4	55.0	54.2	-11.6%	-7.1
Rhode Island	59.0	60.0	60.7	61.3	61.3	61.3	59.9	59.8	56.4	57.2	57.0	56.9	57.3	57.1	56.8	-3.6%	-2.1
South Carolina	48.2	49.0	47.5	48.3	49.6	48.4	49.3	48.9	48.8	46.5	47.1	45.6	44.0	41.8	43.6	-9.5%	-4.6
South Dakota	52.9	57.9	54.9	53.4	53.3	51.2	49.9	50.7	49.5	45.4	42.4	39.2	40.5	42.9	41.5	-21.4%	-11.3
Tennessee	61.7	60.3	60.1	59.6	59.1	59.4	61.7	61.3	60.4	55.9	57.1	56.2	55.7	53.0	54.8	-11.2%	-6.9
Texas	52.6	53.0	52.6	52.9	51.7	52.3	52.8	52.7	52.1	51.2	50.7	51.1	50.4	50.2	50.3	-4.4%	-2.3
Utah	75.7	76.4	76.6	75.9	76.8	76.4	75.4	75.1	74.7	74.1	73.5	72.5	72.0	72.7	72.2	-4.6%	-3.5
Vermont	37.3	39.3	38.4	38.3	40.7	39.3	35.9	37.7	34.0	32.1	32.5	32.2	26.9	26.7	27.0	-27.5%	-10.3
Virginia	59.5	60.7	60.4	60.5	59.3	58.9	58.5	58.9	57.5	55.1	55.8	54.5	52.4	53.5	52.5	-11.7%	-7.0
Washington	37.2	41.5	35.5	37.5	38.0	38.4	35.7	37.8	36.9	37.6	37.5	32.9	32.7	35.4	34.7	-6.6%	-2.5
West Virginia	84.5	83.9	84.4	84.8	84.5	84.3	84.2	84.6	83.9	81.1	82.2	81.7	80.7	80.0	80.7	-4.5%	-3.8
Wisconsin	62.3	61.9	62.2	61.4	62.4	62.1	60.7	60.5	60.4	59.2	59.0	59.2	56.7	59.1	59.0	-5.3%	-3.3
Wyoming	81.7	81.8	81.7	81.5	82.0	81.3	81.3	80.2	79.7	77.8	76.7	74.7	75.8	76.7	76.3	-6.6%	-5.4
Average all states	60.4	61.1	60.5	60.9	60.8	60.7	60.1	60.1	59.2	57.7	57.5	56.3	55.6	55.5	55.2	-8.6%	-5.2

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Source: U.S. Energy Information Administration, State Energy Data System, and EIA calculations made for this analysis.

Table 8. Carbon intensity of the economy by state (2000–2014)

metric tons of energy-related carbon dioxide per million chained 2009 dollars of GDP

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
Alabama	948.5	882.7	891.0	875.4	841.5	828.4	831.2	838.7	795.5	708.8	765.2	741.0	695.6	672.4	675.0	-28.8%	-273.5
Alaska	1,220.3	1,145.8	1,118.7	1,128.5	1,159.5	1,162.4	1,040.0	953.4	851.7	762.4	799.2	776.0	733.9	735.8	721.5	-40.9%	-498.9
Arizona	425.1	427.3	413.1	399.1	415.3	385.6	376.7	373.9	386.5	384.6	387.8	373.5	358.1	369.9	353.6	-16.8%	-71.5
Arkansas	740.8	731.7	694.0	673.3	647.6	606.9	607.4	619.2	621.9	613.0	635.8	637.5	624.0	633.0	628.8	-15.1%	-112.0
California	231.4	234.9	228.7	212.9	214.5	204.8	202.6	202.0	192.3	194.2	189.2	179.7	178.0	175.3	170.2	-26.4%	-61.2
Colorado	386.6	416.7	405.7	399.3	405.2	397.0	394.4	396.9	383.2	371.7	377.2	358.5	347.5	343.8	327.7	-15.2%	-58.9
Connecticut	207.6	199.7	192.6	201.7	197.6	192.1	173.1	163.6	158.8	158.6	158.3	153.3	149.8	154.2	153.1	-26.2%	-54.5
Delaware	331.0	314.1	317.9	316.2	297.8	307.4	280.0	297.0	298.4	213.4	208.7	226.2	248.0	245.8	233.7	-29.4%	-97.2
District of																	
Columbia	53.7	48.6	48.5	44.5	43.7	42.1	33.5	34.7	30.7	32.0	31.5	29.7	25.5	27.7	28.3	-47.4%	-25.5
Florida	389.0	376.5	367.1	358.3	354.9	337.1	323.9	319.8	309.7	310.1	334.5	318.6	304.6	296.4	296.7	-23.7%	-92.3
Georgia	451.8	426.4	437.0	436.3	438.2	447.2	434.1	432.8	410.1	401.1	424.3	381.3	328.4	319.6	322.7	-28.6%	-129.2
Hawaii	351.2	360.7	373.2	373.4	367.4	358.2	353.4	359.9	286.8	291.5	286.0	288.3	276.2	267.7	264.9	-24.6%	-86.2
Idaho	344.9	352.6	331.2	307.9	318.4	303.2	288.4	290.4	274.4	281.2	291.9	289.2	288.0	306.7	289.9	-15.9%	-54.9
Illinois	381.4	367.4	369.7	369.7	372.0	375.7	353.6	361.2	366.5	353.1	358.0	349.6	325.0	350.2	349.6	-8.3%	-31.8
Indiana	947.4	927.4	917.9	908.3	877.7	873.8	850.3	828.8	819.6	789.7	783.5	753.5	700.7	707.7	717.9	-24.2%	-229.5
Iowa	665.2	667.7	654.4	623.4	595.5	580.3	583.1	600.1	641.6	615.1	631.7	597.1	538.4	539.8	536.9	-19.3%	-128.3
Kansas	704.5	662.6	698.0	696.1	664.2	617.3	598.1	635.8	586.6	597.8	577.8	543.9	508.9	543.0	534.7	-24.1%	-169.8
Kentucky	1,008.8	1,026.6	1,002.7	955.3	974.6	960.7	955.3	965.3	951.0	925.9	927.9	899.5	829.5	823.8	815.5	-19.2%	-193.3
Louisiana	1,259.0	1,087.3	1,115.4	1,051.9	1,065.9	978.1	1,055.3	1,110.8	1,119.2	1,019.7	1,066.3	1,117.3	1,046.0	1,032.6	1,019.2	-19.0%	-239.8
Maine	483.8	478.2	498.0	479.2	470.0	452.1	409.9	406.9	372.6	366.0	356.2	349.1	315.7	334.6	335.0	-30.8%	-148.8
Maryland	318.6	308.2	297.4	299.6	290.2	286.1	259.5	257.3	242.7	232.5	222.3	204.3	189.2	187.5	192.4	-39.6%	-126.2
Massachusetts	237.1	234.3	235.6	233.6	224.4	225.1	200.7	204.3	196.0	184.0	181.7	168.3	149.9	159.8	152.4	-35.7%	-84.7
Michigan	460.4	463.4	449.2	434.2	441.5	440.1	421.2	432.7	441.1	450.2	431.4	408.7	386.5	398.5	392.4	-14.8%	-68.0
Minnesota	413.5	398.9	400.3	400.8	385.4	379.7	370.7	376.3	371.8	356.9	344.2	335.4	314.1	316.6	328.1	-20.6%	-85.3
Mississippi	738.0	850.0	753.4	742.8	743.6	711.2	715.7	725.1	682.2	660.2	702.8	654.8	659.6	644.3	677.5	-8.2%	-60.4
Missouri	538.4	565.2	564.0	579.1	571.9	575.0	564.3	558.7	540.0	524.2	532.3	539.7	506.7	523.4	518.2	-3.8%	-20.3
Montana	1,089.4	1,087.4	1,025.1	1,049.1	1,060.9	1,050.9	1,026.7	1,031.1	1,010.4	932.7	952.9	846.3	804.6	828.1	821.5	-24.6%	-267.9
Nebraska	577.6	586.8	570.2	550.5	538.6	531.3	524.1	520.4	538.2	543.2	552.2	554.8	534.0	553.4	527.1	-8.7%	-50.5
Nevada	460.2	443.4	397.8	399.4	395.2	380.7	307.2	305.8	311.6	330.7	316.7	283.1	288.8	303.5	299.4	-34.9%	-160.8
New																	
Hampshire	326.3	314.4	316.4	360.2	365.8	345.4	310.5	307.4	305.1	281.4	265.5	257.2	228.2	225.0	229.9	-29.5%	-96.4
New Jersey	276.0	266.6	261.8	258.8	259.9	265.0	245.9	260.3	254.9	230.2	233.6	237.5	210.4	216.0	224.7	-18.6%	-51.3
New Mexico	837.5	829.5	767.6	772.6	741.4	745.3	742.1	730.7	697.3	709.0	656.8	685.1	657.9	654.3	605.0	-27.8%	-232.5
New York	210.9	200.2	194.8	204.4	200.7	189.3	168.1	173.1	169.8	152.1	146.5	138.0	131.3	133.0	135.1	-36.0%	-75.9
North Carolina	436.8	412.6	410.1	403.1	398.3	391.7	359.2	373.7	355.7	324.3	343.4	304.4	288.0	293.7	289.7	-33.7%	-147.1

Table 8. Carbon intensity of the economy by state (2000–2014) (cont.)

metric tons of energy-related carbon dioxide per million chained 2009 dollars of GDP

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Change (2000-2014)	
																percent	absolute
North																	
Dakota	2,251.1	2,243.3	2,113.0	1,971.1	1,900.0	1,954.7	1,817.9	1,822.2	1,677.4	1,604.7	1,519.2	1,414.5	1,236.4	1,227.9	1,183.3	-47.4%	-1,067.8
Ohio	553.6	539.8	540.0	546.8	520.6	529.6	515.9	527.0	522.5	498.6	510.9	471.9	424.5	449.7	442.9	-20.0%	-110.7
Oklahoma	851.4	835.2	829.7	831.6	775.8	805.2	786.8	769.8	763.6	742.7	729.1	720.5	677.8	659.1	646.4	-24.1%	-205.1
Oregon	314.4	313.9	294.0	286.5	269.9	267.2	240.8	253.3	235.5	226.6	214.0	187.7	185.2	199.7	189.0	-39.9%	-125.3
Pennsylvania	536.4	502.0	509.1	506.1	502.0	501.2	483.1	482.2	467.1	433.0	442.6	424.0	403.6	417.1	406.2	-24.3%	-130.1
Rhode Island	271.3	278.1	256.2	241.4	220.9	224.4	206.6	222.5	220.8	235.0	226.0	227.1	214.9	206.5	212.6	-21.6%	-58.7
South																	
Carolina	557.4	542.2	540.3	525.8	569.9	545.9	538.3	527.0	516.6	505.1	516.2	479.6	439.9	415.0	431.8	-22.5%	-125.6
South																	
Dakota	519.7	481.6	445.7	430.2	419.0	399.2	400.3	401.5	416.9	405.6	405.3	368.0	381.1	389.1	378.6	-27.2%	-141.1
Tennessee	571.6	562.5	541.8	518.4	505.0	505.0	504.0	506.2	476.3	414.3	437.6	412.4	375.1	367.4	380.2	-33.5%	-191.3
Texas	691.0	667.7	666.6	655.8	618.7	584.8	563.0	535.8	502.7	475.4	489.9	488.1	456.2	452.5	440.4	-36.3%	-250.6
Utah	745.3	702.8	684.4	677.8	672.9	651.8	614.8	597.5	600.8	568.7	552.9	542.2	516.4	543.8	516.2	-30.7%	-229.1
Vermont	304.5	290.0	270.4	269.5	277.1	264.2	257.7	252.8	229.5	244.6	225.0	215.7	202.0	214.9	217.8	-28.5%	-86.6
Virginia	365.0	348.0	342.1	341.3	338.8	326.4	302.9	314.0	285.9	258.0	259.1	236.0	229.7	247.4	243.8	-33.2%	-121.2
Washington	278.3	273.7	246.5	249.0	251.2	241.3	227.6	230.3	219.5	218.5	211.4	195.0	190.5	199.7	189.9	-31.8%	-88.4
West																	
Virginia	1,985.8	1,817.5	2,017.5	1,951.5	1,867.9	1,855.0	1,830.7	1,872.0	1,762.2	1,420.4	1,543.7	1,469.9	1,434.9	1,456.8	1,462.6	-26.3%	-523.2
Wisconsin	480.8	468.1	462.8	440.7	437.3	441.6	404.8	410.2	416.9	391.9	391.1	379.8	348.2	385.6	380.9	-20.8%	-99.9
Wyoming	2,542.1	2,415.3	2,330.2	2,335.1	2,245.5	2,128.8	1,927.2	1,891.2	1,756.6	1,686.8	1,749.5	1,710.4	1,873.0	1,918.6	1,743.8	-31.4%	-798.3
Average																	
all states	465.2	452.1	447.0	438.6	430.1	418.5	402.8	402.3	390.2	372.6	376.5	361.6	339.8	343.5	338.6	-27.2%	-126.5

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Source: U.S. Energy Information Administration, State Energy Data System, and EIA calculations made for this analysis.

Table 9. Net electricity trade index and primary electricity source for states with least and most energy-related carbon dioxide emissions per capita (2000-2014)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Primary source
Most CO2 per capita																
Wyoming	3.3	3.1	3.1	3.0	2.9	2.9	2.7	2.6	2.4	2.5	2.5	2.4	2.6	2.7	2.5	Coal
North Dakota	2.9	2.7	2.6	2.5	2.4	2.7	2.4	2.5	2.4	2.5	2.5	2.4	2.3	2.1	1.9	Coal
West Virginia	3.0	2.7	3.0	3.0	2.8	2.8	2.6	2.5	2.4	2.2	2.3	2.3	2.2	2.2	2.3	Coal
Alaska	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	Natural Gas
Louisiana	1.0	1.1	1.1	1.1	1.1	1.1	1.1	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	Natural Gas
Montana	1.6	1.9	1.8	1.8	1.8	1.9	1.8	1.7	1.7	1.7	2.0	2.0	1.8	1.8	1.9	Coal
Kentucky	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	1.1	Coal
Indiana	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.0	1.0	1.0	0.9	1.0	Coal
Nebraska	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.0	1.1	1.1	1.1	1.0	1.1	1.2	Coal
Oklahoma	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.1	Natural Gas
Least CO2 per capita																
Washington	1.0	0.9	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	Hydroelectric
Maryland	0.8	0.7	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.6	Coal
Idaho	0.5	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.7	0.6	0.6	0.6	Hydroelectric
Rhode Island	0.9	1.0	0.9	0.7	0.6	0.7	0.7	0.9	0.9	1.0	1.0	1.1	1.0	0.8	0.8	Natural Gas
Connecticut	1.0	0.9	0.9	0.8	0.9	0.9	1.0	0.9	1.0	1.0	1.1	1.1	1.1	1.1	1.1	Nuclear
Oregon	0.9	0.9	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	1.2	Hydroelectric
Massachusetts	0.7	0.7	0.7	0.8	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.7	0.6	0.6	0.6	Natural Gas
Vermont	1.6	1.4	1.3	1.3	1.2	1.2	1.5	1.3	1.5	1.7	1.5	1.6	3.0	3.2	3.1	Nuclear
California	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Natural Gas
New York	0.9	1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.0	Natural Gas

Less than 1.0 indicates a net importer of electricity.

Source: U.S. Energy Information Administration, State Electricity Profiles, Supply and Disposition of Electricity, 1990 through 2014

<http://www.eia.gov/electricity/state/>

Note: The District of Columbia is included in the data tables, but not in the analysis as it is not a state.

Appendix A. Comparison of fuel detail for the State Energy Data System and the annual series appearing in the Monthly Energy Review data system

Consumption Sector	Energy Source Category	State Energy Data System Fuel Detail	Monthly Energy Review Fuel Detail
Residential	Coal	Coal	Coal
Residential	Natural Gas	Natural Gas	Natural Gas
Residential	Petroleum	Distillate Fuel	Distillate Fuel
Residential	Petroleum	Kerosene	Kerosene
Residential	Petroleum	LPG	LPG
Commercial	Coal	Coal	Coal
Commercial	Natural Gas	Natural Gas	Natural Gas
Commercial	Petroleum	Distillate Fuel	Distillate Fuel
Commercial	Petroleum	Kerosene	Kerosene
Commercial	Petroleum	LPG	LPG
Commercial	Petroleum	Motor Gasoline	Motor Gasoline
Commercial	Petroleum	Residual Fuel	Residual Fuel
Commercial	Petroleum	Not Available	Pet Coke
Industrial	Coal	Total Coal	Total Coal
Industrial	Coal/Coke	Not Available	Coking coal
Industrial	Coal	Not Available	Other Coal
Industrial	Coal/Coke	Not Available	Net Coke Imports
Industrial	Natural Gas	Natural Gas	Natural Gas
Industrial	Petroleum	Asphalt and Road Oil	Asphalt and Road Oil
Industrial	Petroleum	Distillate Fuel	Distillate Fuel
Industrial	Petroleum	Kerosene	Kerosene
Industrial	Petroleum	Total LPG (HGL)	Total LPG (HGL)
Industrial	Petroleum	Not Available	Normal Butane/Butylene
Industrial	Petroleum	Not Available	Ethane/Ethylene
Industrial	Petroleum	Not Available	Isobutane/Isobutylene
Industrial	Petroleum	Not Available	Propane/Propylene
Industrial	Petroleum	Not Available	Butane/Propane Mix
Industrial	Petroleum	Not Available	Ethane/Propane Mix
Industrial	Petroleum	Lubricants	Lubricants
Industrial	Petroleum	Motor Gasoline	Motor Gasoline
Industrial	Petroleum	Residual Fuel	Residual Fuel
Industrial	Petroleum	Petroleum Products (Other)	Detail as follows:

Consumption Sector	Energy Source Category	State Energy Data System Fuel Detail	Annual/Monthly Energy Review Fuel Detail
Industrial	Petroleum	Not Available	Petroleum Coke
Industrial	Petroleum	Not Available	Aviation Gas Blending Components
Industrial	Petroleum	Not Available	Motor Gasoline Blending Components
Industrial	Petroleum	Not Available	Pentanes Plus
Industrial	Petroleum	Not Available	Petrochemical Feedstocks
Industrial	Petroleum	Not Available	Special Naphthas
Industrial	Petroleum	Not Available	Still Gas
Industrial	Petroleum	Not Available	Unfinished Oils
Industrial	Petroleum	Not Available	Waxes

Appendix B. Other state-related links

The underlying energy data upon which the state-level CO₂ calculations are based:

<http://www.eia.gov/state/seds/>. This is the State Energy Data System (SEDS), the main repository for all of EIA's state-based energy data.

The state CO₂ data that this analysis is based upon: <http://www.eia.gov/environment/emissions/state/>

This data set contains CO₂ emissions data for each state by sector and fuel based on SEDS.

State Energy Profiles: <http://www.eia.gov/state/>

These profiles contain additional narrative and rankings to put the state energy data in context.

State Electricity Profiles: <http://www.eia.gov/electricity/state/>

These profiles contain data and analysis focused on electricity.

Two fuel-specific profiles:

State Renewable Energy Profiles: <http://www.eia.gov/renewable/state/>

State nuclear profiles: <http://www.eia.gov/nuclear/state/>

United States energy map: <http://www.eia.gov/state/maps.cfm?src=home-f3>

This is an interactive map of major energy facilities in the United States.

State emissions for the electric power industry for SO₂ and NO_x as well as CO₂. The electric power industry includes electricity generated in the electric power, industrial, and commercial sectors.

<http://www.eia.gov/electricity/data/state/>

Go to the above url and download the spreadsheet given below:

U. S. electric power industry estimated emissions by state, back to 1990 (EIA-767 and EIA-906)