1990 - 2010

What are the drivers of carbon emissions in the How do carbon emissions change over time? United States?

Carbon emissions correlate with population, but there are outliers.

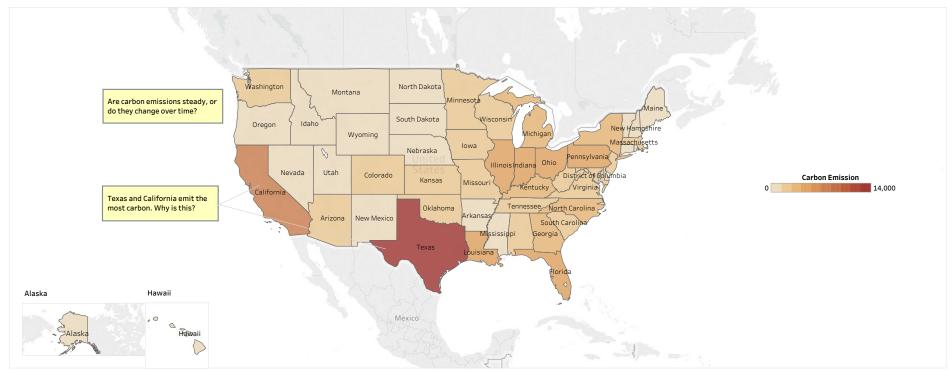
States that comply with California emissions standards have lower than expected carbon emissions given their population.

Carbon emissions from automobiles vary depending upon whether the state complies with California standards.

Carbon emissions per capita do not correlate with population. What explains the outliers?

#### Carbon Emissions by US State

Millions of Metric Tons 1990 - 2010



1990 - 2010

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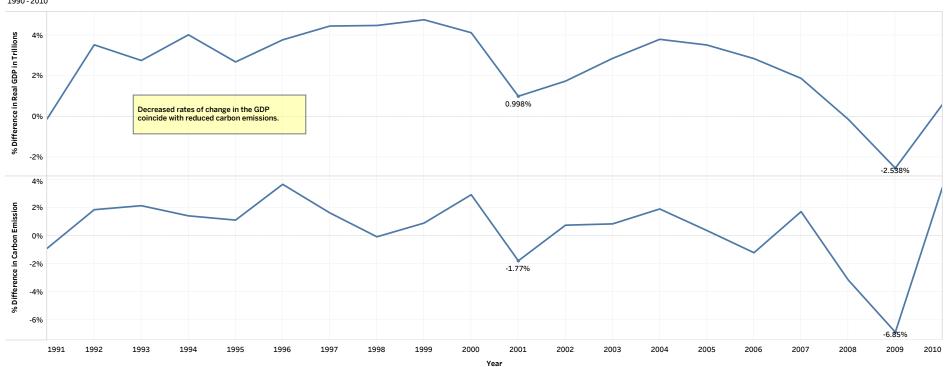
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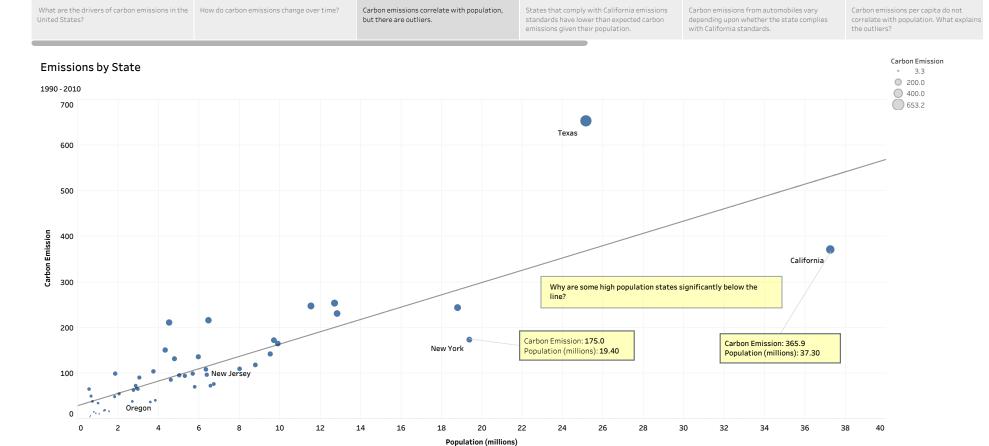
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## Comparing Changes in GDP with Carbon Emission

1990 - 2010



1990 - 2010



1990 - 2010

What are the How do carbon emissions change over time? Carbon emissions correlate with population, States that comply with California emissions Carbon emissions from automobiles vary Carbon emissions per capita do not correlate What explains drivers of carbon but there are outliers. standards have lower than expected carbon depending upon whether the state complies with population. What explains the outliers? Wyoming's emissions in the . emissions given their population. with California standards. disporportionate p.. Carbon Emission **Emissions by State** • 3.3 State compliance with California Emission Standards 200.0 1990 - 2010 400.0 700 653.2 California Emission Stand.. False Texas True 600 500 400 California 300 Pennsylvania • 200 New York States that comply with California emissions standards (orange) have lower than expected carbon emissions given their population. Many of New Jerse these rules have to do with auto emissions. Let's isolate auto emission 100 data.

20

Population in 2010 (millions)

22

30

32

34

38

40

16

12

1990 - 2010

How do carbon emissions change over time?

Carbon emissions correlate with population, but there are outliers.

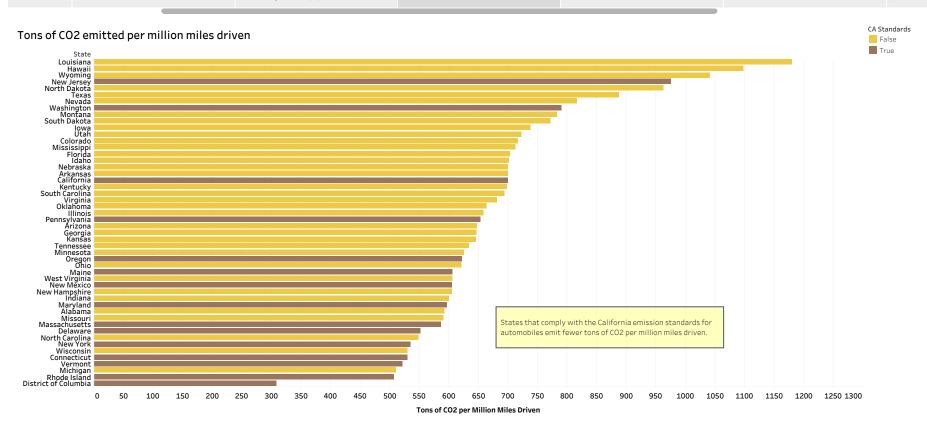
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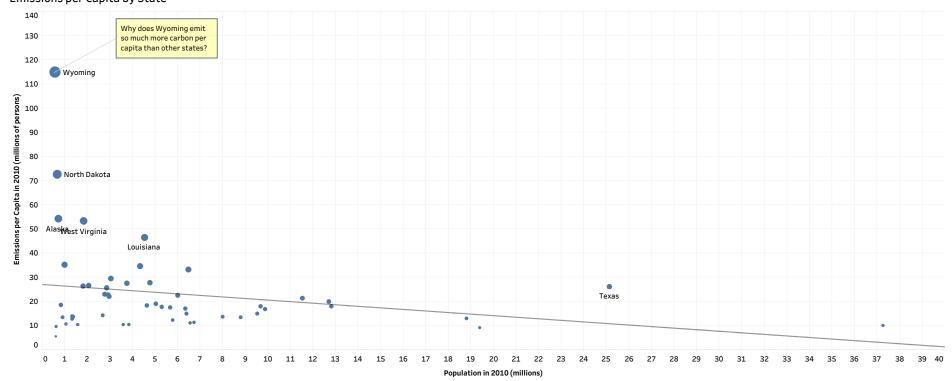
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## Emissions per Capita by State



1990 - 2010

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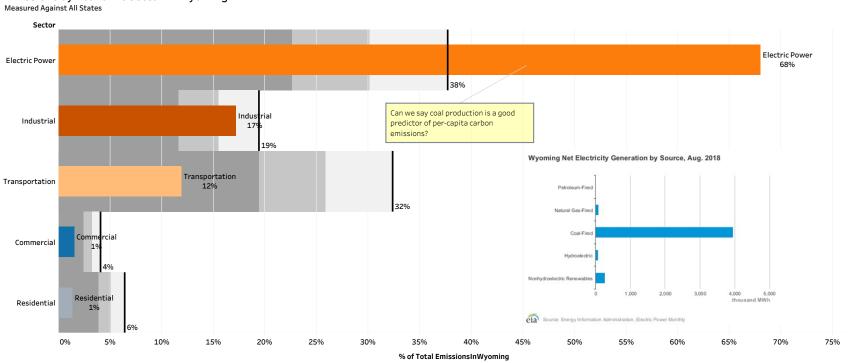
This very interesting graph clearly indicates that the more coal used to generate electricity, the higher the CO2 emissions per MW generat..

Four drivers of carbon emissions are: GDP, Populatio..

State

All

#### **Emissions by Economic Sector in Wyoming**



Wyoming generates a disporportionate amount of electric power, mostly from burning coal (refer to 2018 EIA chart, inset). Wyoming distributes 60% of its electricity to other states.

1990 - 2010

depending upon whether the state complies with California standards.

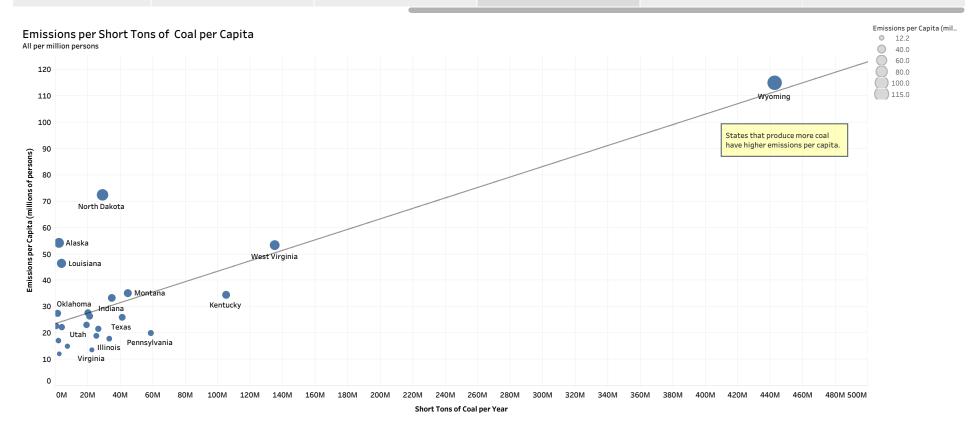
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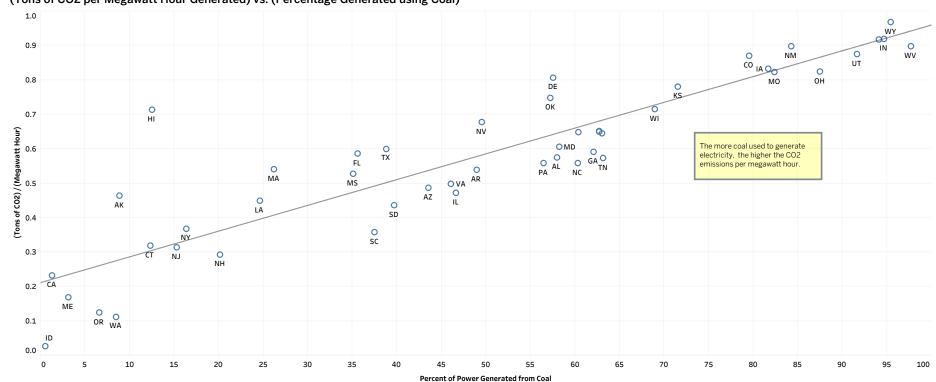
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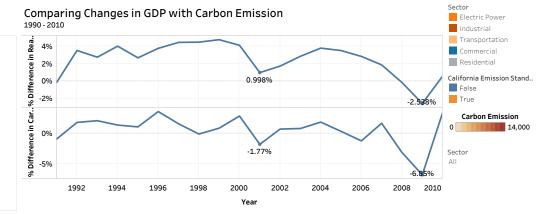
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#### Carbon Emissions by US State

Millions of Metric Tons 1990 - 2010





# Emissions by State State compliance with California Emission Standards 1990 - 2010 Texas 400 Pennsylvania New York 0 5 10 15 20 25 30 35 40

Population in 2010 (millions)

