



# Glasgow Agreement Presentation

United States



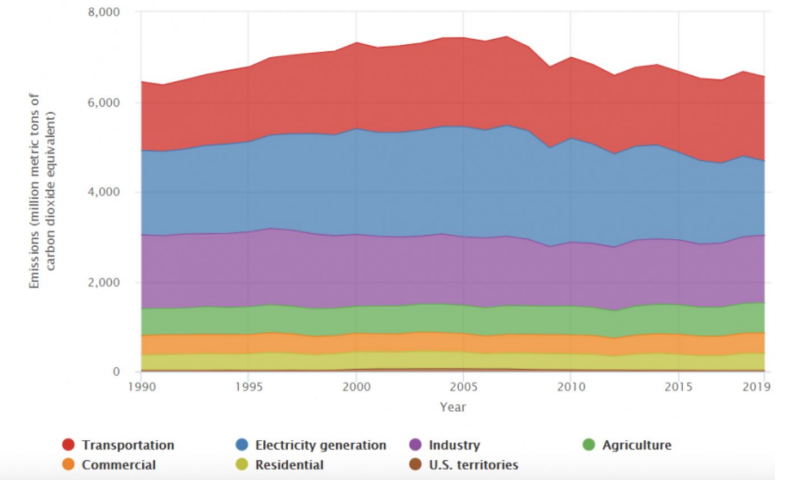
## 2019 General Emissions Statistics

- Total of 6,558 million metric tons of carbon dioxide emitted → , 5,769 million metric tons of carbon dioxide equivalents after accounting for sequestration from the land sector (789 million metric tons of carbon dioxide sequestered).
- Emissions decreased from 2018 to 2019 by 1.7 percent (post sequestration from land sector). Decrease was driven largely by a decrease total energy use and a continued shift from coal to natural gas and renewables in the electric power sector.
- Greenhouse gas emissions in 2019 (after accounting for sequestration from the land sector) were 13 percent below 2005 levels.

# 2019 GHG Emissions & Sector Breakdown

- [Transportation](#) (29 percent of 2019 greenhouse gas emissions) – burning fossil fuel for our cars, trucks, ships, trains, and planes. Over 90 percent of the fuel used for transportation is petroleum based, which includes primarily gasoline and diesel.
- [Electricity production](#) (25 percent of 2019 greenhouse gas emissions) – 62 percent of our electricity comes from burning fossil fuels, mostly coal and natural gas.
- [Industry](#) (23 percent of 2019 greenhouse gas emissions) – burning fossil fuels for energy, as well as greenhouse gas emissions from certain chemical reactions necessary to produce goods from raw materials.
- [Commercial and Residential](#) (13 percent of 2019 greenhouse gas emissions) – fossil fuels burned for heat, the use of certain products that contain greenhouse gases, and the handling of waste.

U.S. Greenhouse Gas Emissions by Economic Sector, 1990-2019





## Continued Sector Breakdown

- Agriculture (10 percent of 2019 greenhouse gas emissions) – livestock such as cows, agricultural soils, and rice production.
- Land Use and Forestry (12 percent of 2019 greenhouse gas emissions) – managed forests and other lands are a net sink, i.e., they have absorbed more CO<sub>2</sub> from the atmosphere than they emit.

Gas Emission Breakdown: 80% Carbon Dioxide, 10% Methane, 7% Nitrous Oxide, 3% Fluorinated Gases



## EPA GHG Emission Breakdown by Sector

Sector	Power Plants	Petroleum & Natural Gas Systems	Chemicals	Refineries	Other	Minerals	Waste	Metals	Pulp & Paper	Sum
2019 GHG Emissions (million metric tons CO <sub>2</sub> e)	1,669	341	186	178	127	115	110	90	35	<b>2,850</b>
# Reporting Facilities	1,369	2,350	449	138	1,307	380	1,471	295	220	<b>7,624</b>

# State Breakdown



Emissions totals displayed at the state level exclude Onshore Oil and Gas Production, Onshore Oil and Gas Gathering and Boosting and Use of Electrical Equipment.

MT = metric tons

MMT = million metric tons

Tribal Land = 46 MMT

Guam = 1,248,818 MT

Puerto Rico = 12,506,565 MT

Virgin Islands = 785,978 MT

**\*10 top emitting states**

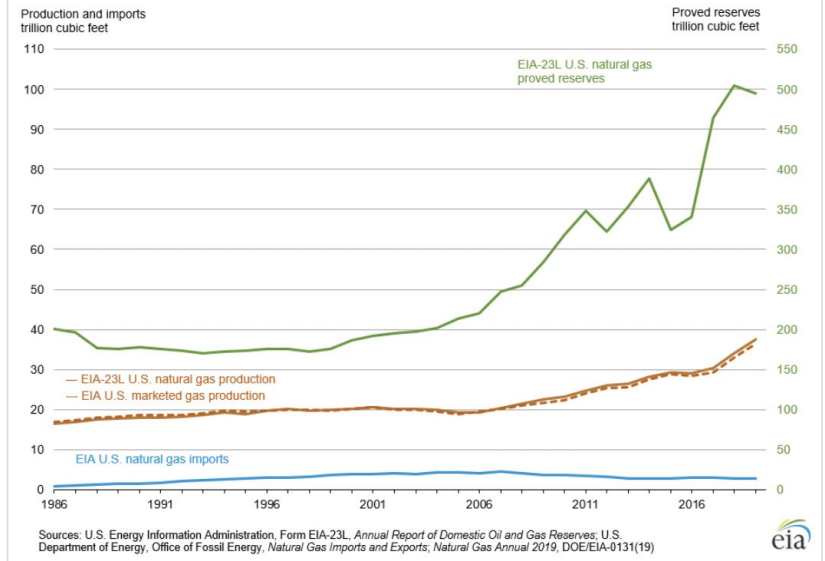
1. Alabama - 14 MMT
2. **Alaska - 81 MMT**
3. Arizona - 51,632,525 MT
4. Arkansas - 42 MMT
5. **California - 93 MMT**
6. Colorado - 45 MMT
7. Connecticut - 9,718,079 MT
8. Delaware - 5,947,429 MT
9. **Florida - 121 MMT**
10. Georgia - 66 MMT
11. Hawai'i - 8,019,630 MT
12. Idaho - 5,129,663 MT
13. **Illinois - 96 MMT**
14. **Indiana - 129 MMT**
15. Iowa - 49 MMT
16. Kansas - 34 MMT
17. Kentucky - 78 MMT
18. **Louisiana - 146 MMT**
19. Maine - 2,922,945 MT
20. Maryland - 19 MMT
21. Massachusetts - 9,893,061 MT
22. **Michigan - 79 MMT**
23. Minnesota - 40 MMT
24. Mississippi - 40 MMT
25. Missouri - 71,595,896 MT
26. Montana - 20,912,569 MT
27. North Carolina - 57 MMT
28. North Dakota - 38 MMT
29. Nebraska - 28,885,315 MT
30. New Hampshire - 2,436,896 MT
31. New Jersey - 25,755,733 MT
32. New Mexico - 29,733,151
33. Nevada - 17,148,837 MT
34. New York - 35 MMT
35. **Ohio - 105 MMT**
36. Oklahoma - 51 MMT
37. Oregon - 15,121,457 MT
38. **Pennsylvania - 114 MMT**
39. Rhode Island - 3,361,294 MT
40. South Carolina - 34 MMT
41. South Dakota - 6,425,523 MT
42. Tennessee - 40 MMT
43. **Texas - 380 MMT**
44. Utah - 35,595,675 MT
45. Virginia - 43 MMT
46. Vermont - 462,945 MT
47. Washington - 27 MMT
48. Wisconsin - 43 MMT
49. West Virginia - 75 MMT
50. Wyoming - 75 MMT

# Fossil Fuel Reserves

- Increasing dependency on national fossil fuel reserves → transition to natural gas
- EIA estimates that as of January 1, 2019, the United States had about 475 Tcf of proved reserves and 2,392 Tcf of unproved reserves of dry natural gas.

Tcf = trillion cubic feet

Figure 5. Proved reserves, production, and imports of U.S. natural gas, 1989–2019





## Future Projects & Emissions

- Biden Administration emphasis on wind power for national sustainable energy transition
  - Empire Wind and Beacon Wind developments - backed by Equinor and BP, respectively.





# Pipelines

16 pipelines proposed since 2019:

2 Operational

4 On Hold

2 Cancelled

4 Under Construction

3 Development

1 FERC Application

Gulf Coast Express	Q4/2019	Kinder Morgan	New Build	Operational
Bluebonnet Market Express	Q1/2020	Williams	New Build	On Hold
Constitution	Q4/2020	Williams	New Build	Cancelled
Permian Highway Pipeline	Q1/2021	Kinder Morgan	New Build	Operational
CJ Express	Q1/2021	Midcoast Energy	New Build	Under Construction
Atlantic Coast Pipeline	Q1/2021	Atlantic Coast	New Build	Cancelled
Pecos Trail	Q2/2021	NAmerico	New Build	On Hold
Whistler Pipeline	Q3/2021	MPLX	New Build	Under Construction
Double E	Q4/2021	Summit Midstream	New Build	Development
Mountain Valley	Q4/2021	MVP	New Build	Under Construction
Permian Global Access Pipeline (PGAP)	Q4/2022	Tellurian	New Build	On Hold
TransCameron	Q4/2022	Venture Global	New Build	Development
Coastal GasLink	Q1/2023	TC Energy	New Build	Under Construction
Haynesville Global Access Pipeline (HGAP)	Q2/2023	Tellurian	New Build	On Hold
Rio Bravo	Q4/2023	Enbridge	New Build	Development
Driftwood	Q4/2024	Tellurian	New Build	FERC Application



# Companies

ExxonMobil - ranked world's 5th top corporate polluter  
- responsible for 1.98% of global emissions

Chevron - ranked world's 12th top corporate polluter -  
responsible for 1.31% of global emissions

Peabody Energy - ranked world's 16th top corporate  
polluter - responsible for 1.15% of global emissions



# References

<https://ghgdata.epa.gov/ghgp/main.do>

<https://www.c2es.org/content/u-s-emissions/#:~:text=Total%20U.S.%20emissions%20for%202017,5%2C743%20million%20metric%20tons%20CO2e.>

<https://www.eia.gov/naturalgas/crudeoilreserves/>

<https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

<https://rbnenergy.com/midi/gas-projects>