

Carbon Neutral by 2030 a North Dakota Journey

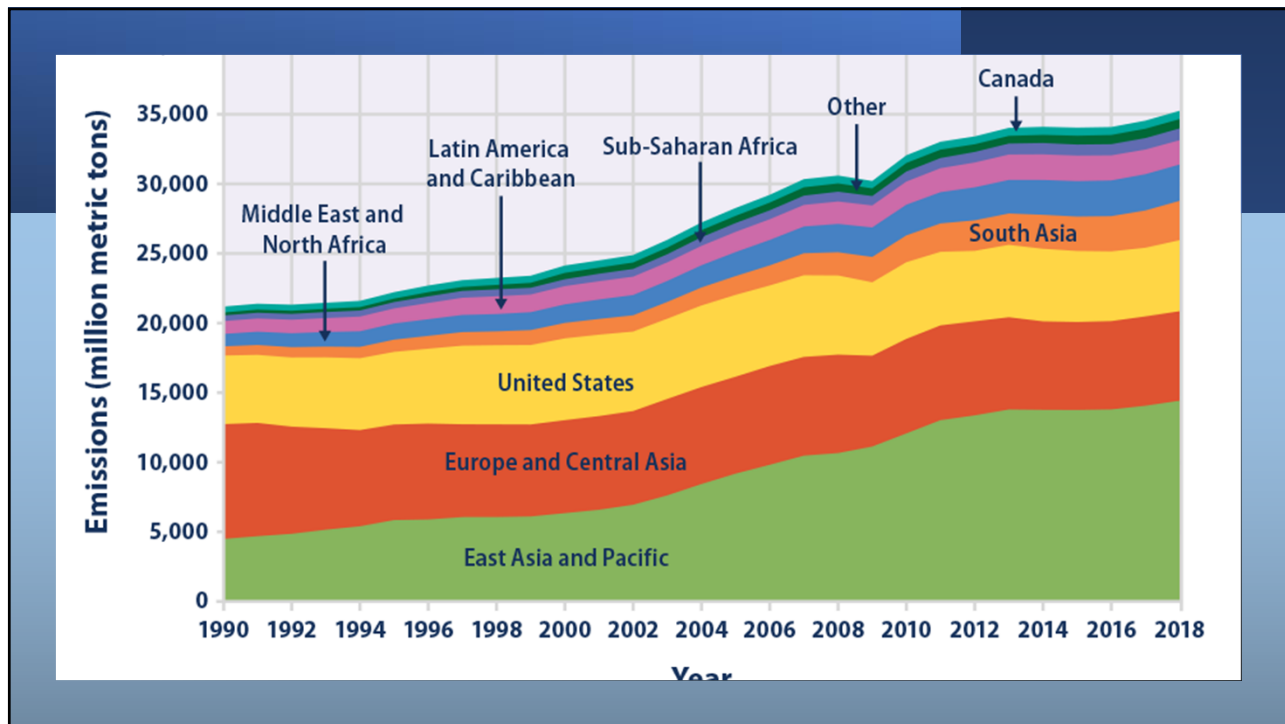
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North Dakota Department of Environmental Quality
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1

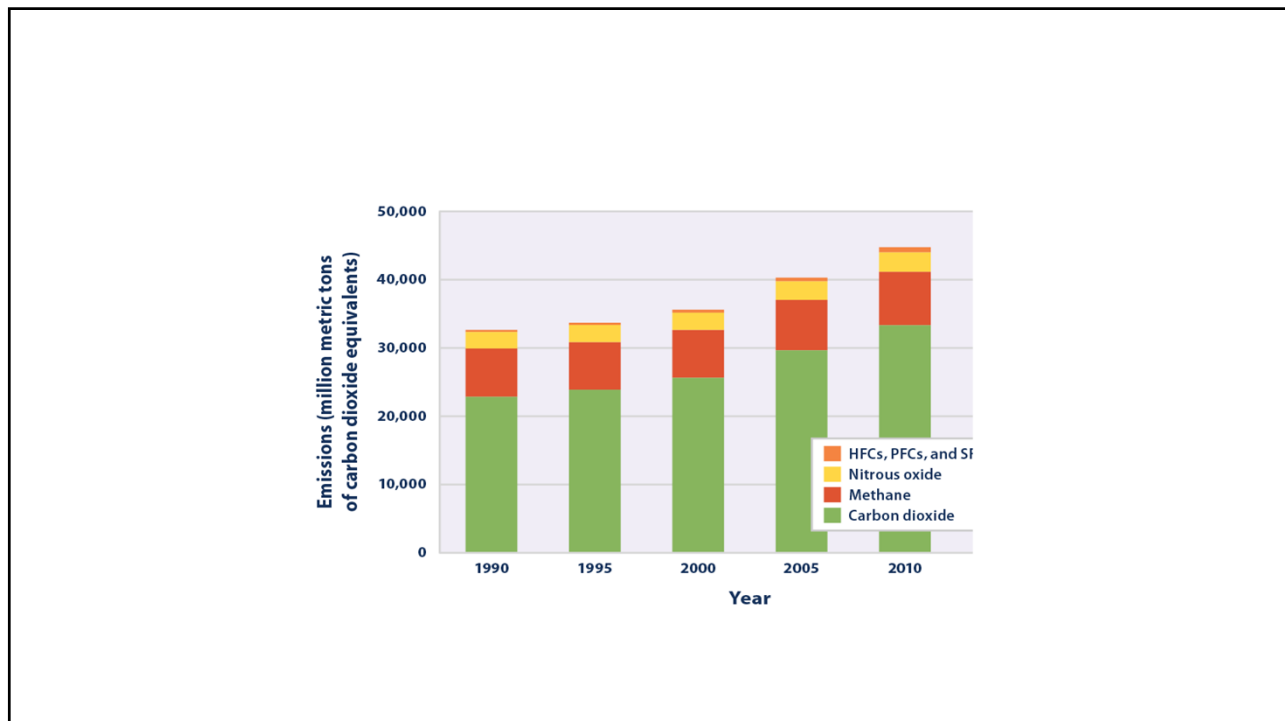
Governor and Legislative Directives

- In 2021 Governor Burgum Proclaimed that the state of North Dakota will be carbon neutral by 2030. Citing North Dakota's unique state geology coupled with the development of new innovative technologies as our path to a carbon neutral economy.
- During the Sixty-seventh Legislative Assembly Senate Bill 2024 Section 7 directed the DEQ to "...gather information from private industry, private organizations and government which relates to carbon reduction initiatives, rules , or policies that will affect North Dakota residents and industries. In gathering information, the department of environmental quality shall consider , review and report, as appropriate, technologies, operational practices and conservation opportunities directed at reducing the state's carbon intensity...."

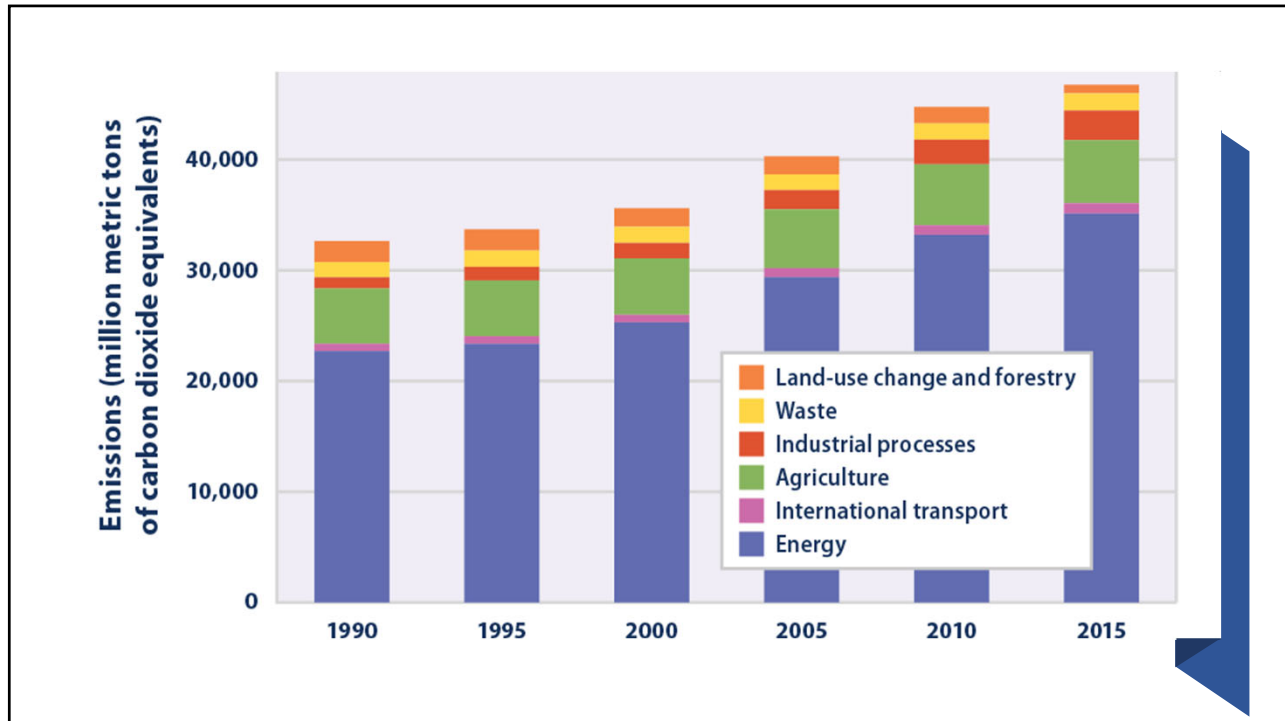
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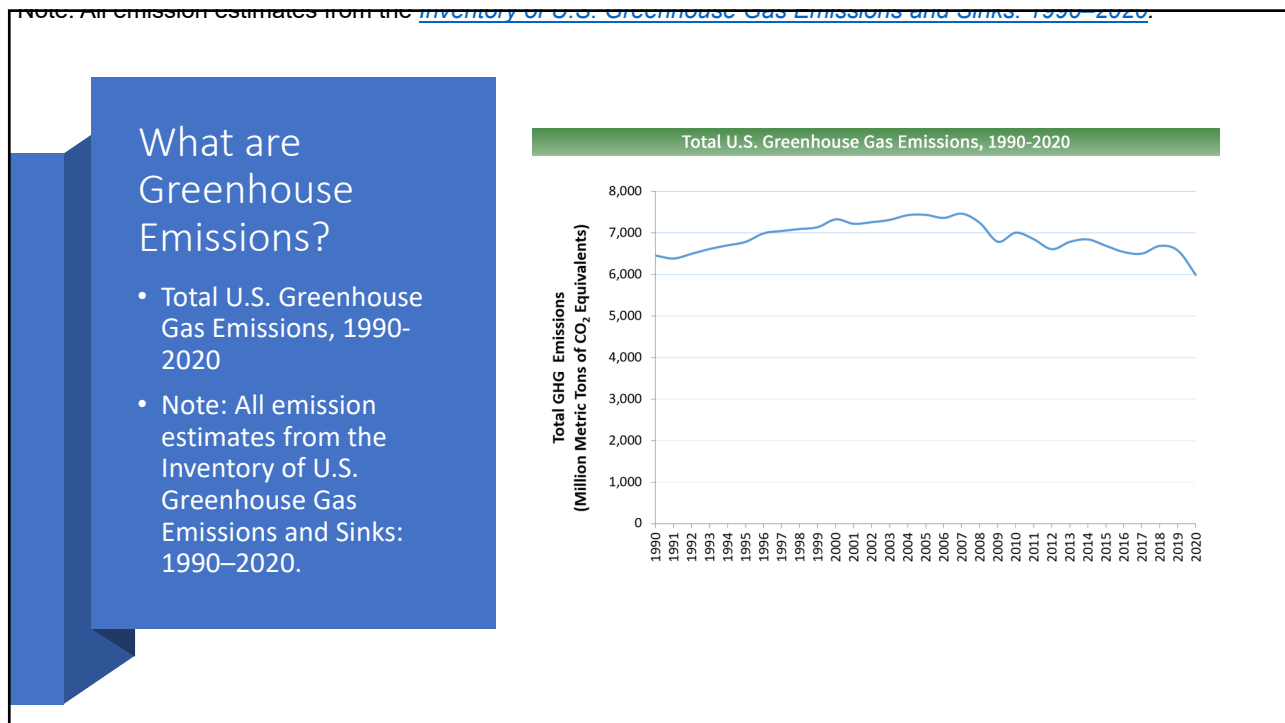
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4



5



6

North Dakota Carbon Dioxide Emissions from Fossil Fuel Combustion

Year: 1990

- Total: 41.10 MMt/year
- Sector:
 - Commercial: 0.85
 - Industrial: 6.57
 - Residential: 1.12
 - Transportation: 4.63
 - Electric Power: 27.93

Year: 2018

- Total: 54.97MMt/year
- Sector
 - Commercial: 1.18
 - Industrial: 12.05
 - Residential: 1.18
 - Transportation: 9.41
 - Electric Power: 31.16

7

Definition of Scope 1 and 2 Emissions

- Scope 1 are defined as:
 - “Direct GHG emissions that occur from sources that are controlled or owned by an organization (e.g., emissions associated with fuel combustion in boilers, furnaces, vehicles)”
- Scope 2 Emissions are:
 - “Indirect GHG emissions associated with the purchase of electricity, steam, heat or cooling. Although Scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organizations GHG inventory because they are the result of the organizations energy use.” EPA Center for Corporate Climate Leadership

8

Potential GHG Emissions Reduction Technologies and Opportunities in North Dakota

Energy Exploration and Generation

- Electricity Generation
 - Coal Fired Power Plants
 - Natural Gas
 - Renewables (e.g. wind and solar)
- Oil Exploration and Production
 - Oil Production
 - Oil Storage
 - Oil Transportation

9

Potential GHG Emissions Reduction Technologies and Opportunities in North Dakota

Potential GHG Sequestration/Capture Opportunities in Agriculture

Implementation of BMP's

Methane Collection and Use

10

Potential GHG Emission Reduction in Municipalities



Landfill Gas Capture



Increase Recycling Efforts



Energy Consumption Conservation

11

Ideas for Expanding GHG Reduction Potential in North Dakota

- Encourage Development of New Technologies
 - Example: CSEA
 - Promote Benefits and Safety of Carbon Capture/Transport/Sequestration
- Develop Clearing House for Agriculture BMP's and Carbon Credits
- Develop Program to Verify Carbon Capture/Reduction Claims
- Develop State Program to track and verify carbon emission reductions

12