AEO2020: Alternative Policies – Carbon Fee Cases

For
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By
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Electricity Analysis
Emissions decline with changing electricity generation fuel mix, then increase with growing consumption in industrial and transportation sectors.

**U.S. energy-related carbon dioxide (CO2) emissions by end-use sector, Reference case**

billion metric tons

Source: U.S. Energy Information Administration, Annual Energy Outlook 2020

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Three carbon fee assumptions grow 5% per year 2021 through 2050

Carbon fees for three scenarios
2019 dollars per metric ton CO2
The transportation and industrial sectors have modest responses to carbon fees

Transportation sector-related CO2 emissions
million metric tons

Industrial sector-related CO2 emissions
million metric tons

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The electric power sector drives the decrease in emissions as the fuel mix changes.

Electric power sector-related CO2 emissions

- History
- Projections

- Reference
- $15 Fee
- $25 Fee
- $35 Fee
Impact of $35 Fee case on electricity generation

Electricity generation from selected fuels,
Reference case
billion kilowatthours

Electricity generation from selected fuels,
$35 Fee case
billion kilowatthours

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Most of the reductions happen in the first decade of the projection.

Total energy-related CO2 emissions
million metric tons


$15 Fee
$25 Fee
$35 Fee
In the early years of the projection, higher emissions from natural gas consumption are more than offset by lower emissions from coal.
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U.S. Energy Information Administration homepage | www.eia.gov

Annual Energy Outlook | www.eia.gov/aeo

Short-Term Energy Outlook | www.eia.gov/steo

International Energy Outlook | www.eia.gov/outlooks/ieo/

Monthly Energy Review | www.eia.gov/mer

Today in Energy | www.eia.gov/todayinenergy