



# Overview of RFF Research on Transportation and Reconciliation

Josh Linn, University of Maryland and RFF Senior Fellow

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# Context

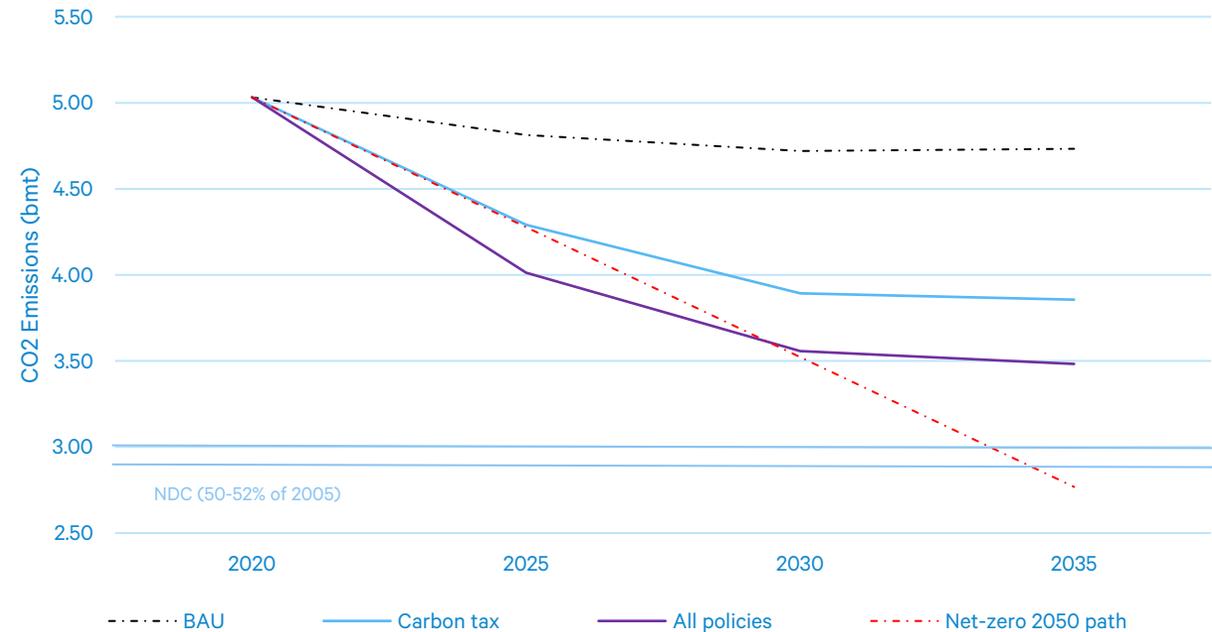
Biden administration goals: cut emissions in half by 2030 (compared to 2005) and net zero by 2050

RFF examined three policies: carbon tax, clean energy standard, and vehicles and energy efficiency subsidies

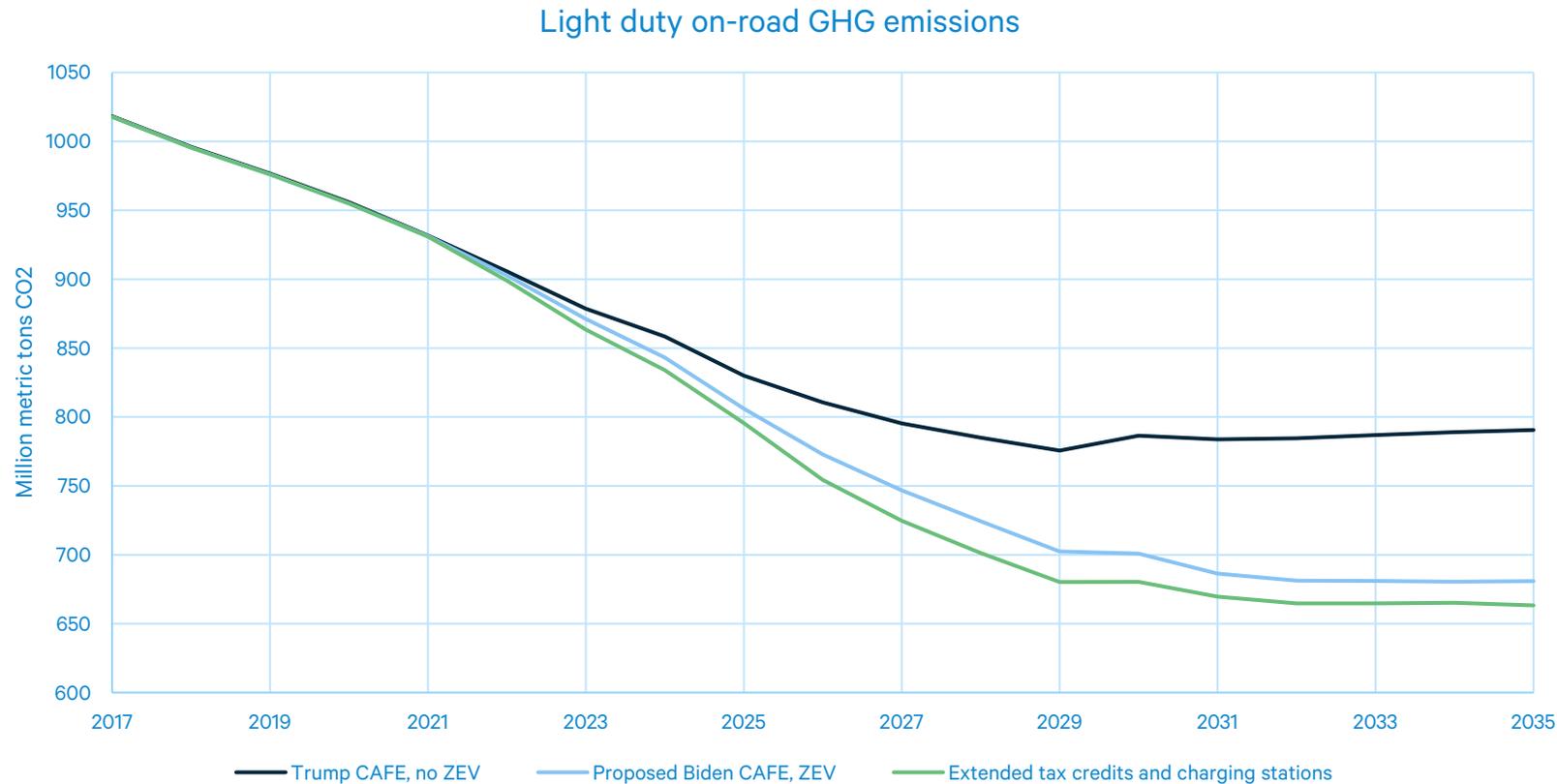
The policies reduce emissions, but fall short of the 2030 goal

But: carbon tax and clean electricity standard appear unlikely

## US carbon dioxide emissions



# The light-duty challenge for Congress: pushing past ZEV and federal standards



## Policies considered

- Eliminate phase-out of EV tax credits
- 100k new public charging stations



# Target EV subsidies to low-income households?

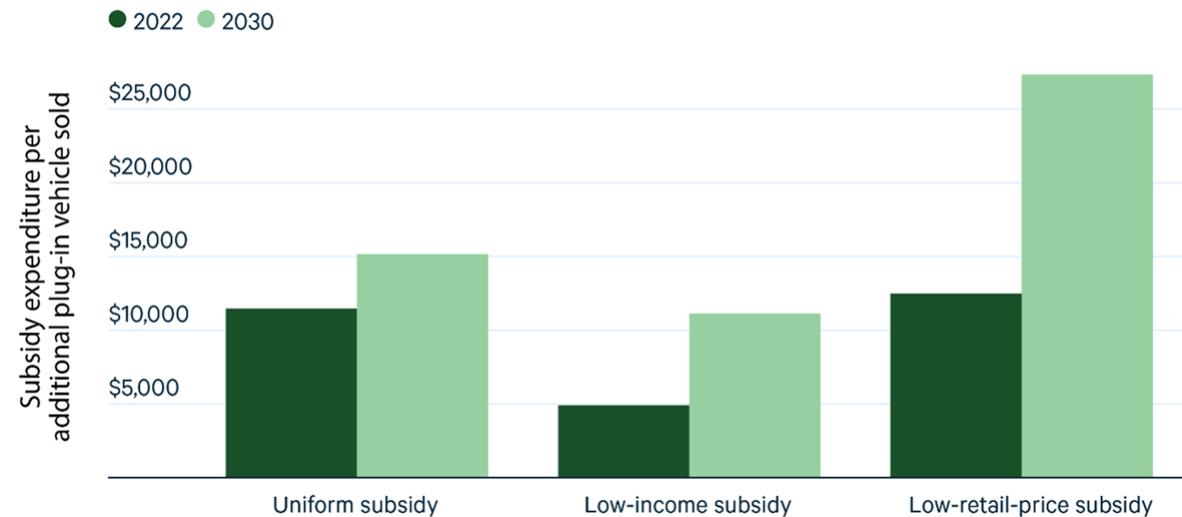
## How to extend EV subsidies?

- Continue offering uniform subsidy to all buyers
- Link subsidy to household income
- Link subsidy to vehicle MSRP

## Perhaps equity and effectiveness go hand in hand

- Low-income consumers tend to have lower EV demand
- They're also more sensitive to vehicle prices

## Subsidy expenditure per additional plug-in sold



# Implications of ZEV and CAFE for Plug-in Subsidies

Subsidies are layered on top of other policies

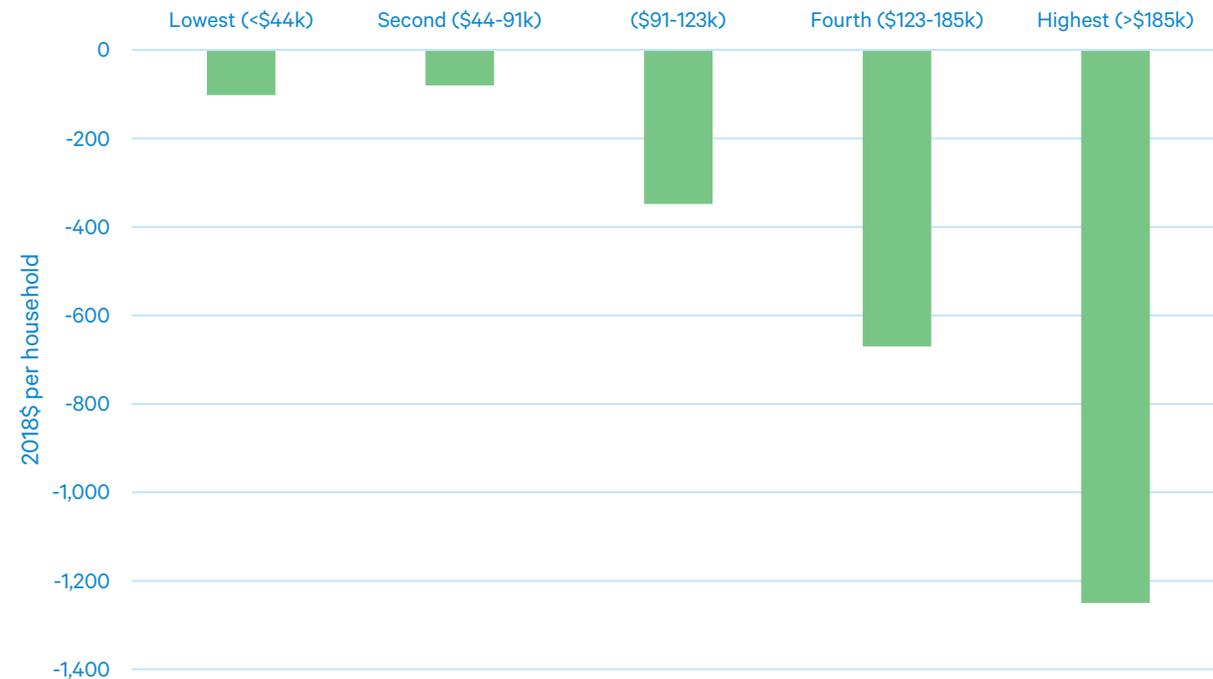
- Zero emission vehicle (ZEV) requirements through 2025
- Recently proposed fuel economy standards through 2026
- Plug-in subsidies effectively reduce incremental costs of these policies

Standards impose larger costs on high-income consumers

- These consumers have high valuation of fuel economy
- They also care more about forgone horsepower

Implication: income-based subsidies may be regressive in the short term

## Effects of 2019 fuel economy standards on consumer wellbeing



# **Summary of key findings from recent RFF analysis**

**National GHG standards and ZEV largely determine emissions and EV market shares through mid-2020s**

**Difficult to predict EV uptake from large-scale investments in charging stations**

**In reconciliation, targeting plug-in subsidies can improve cost effectiveness, but income-based subsidies may be regressive in the short run**



# Electric Vehicle Policy Research at RFF

- Examine policies aiming to increase the adoption of electric cars and trucks
- Evaluate costs, effectiveness, and equity
- Recent research and blog posts:
  - [Emissions projections for a trio of federal climate policies](#)
  - [Electric vehicles and equity: How would aiming subsidies at lower-income households affect sales?](#)
  - [How targeted vehicle scrappage subsidies can reduce pollution effectively](#)
  - [Carbon pricing 202: Pricing Carbon in the Transportation Sector](#)
  - [Have US fuel economy and greenhouse gas standards improved social welfare?](#)
  - [Reducing the costs of federal fuel economy and greenhouse gas standards by accurately estimating vehicle miles traveled](#)



Joshua Linn  
[linn@rff.org](mailto:linn@rff.org)





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