Discussant Remarks on "Economic Implications of the Climate Provisions of the Inflation Reduction Act"
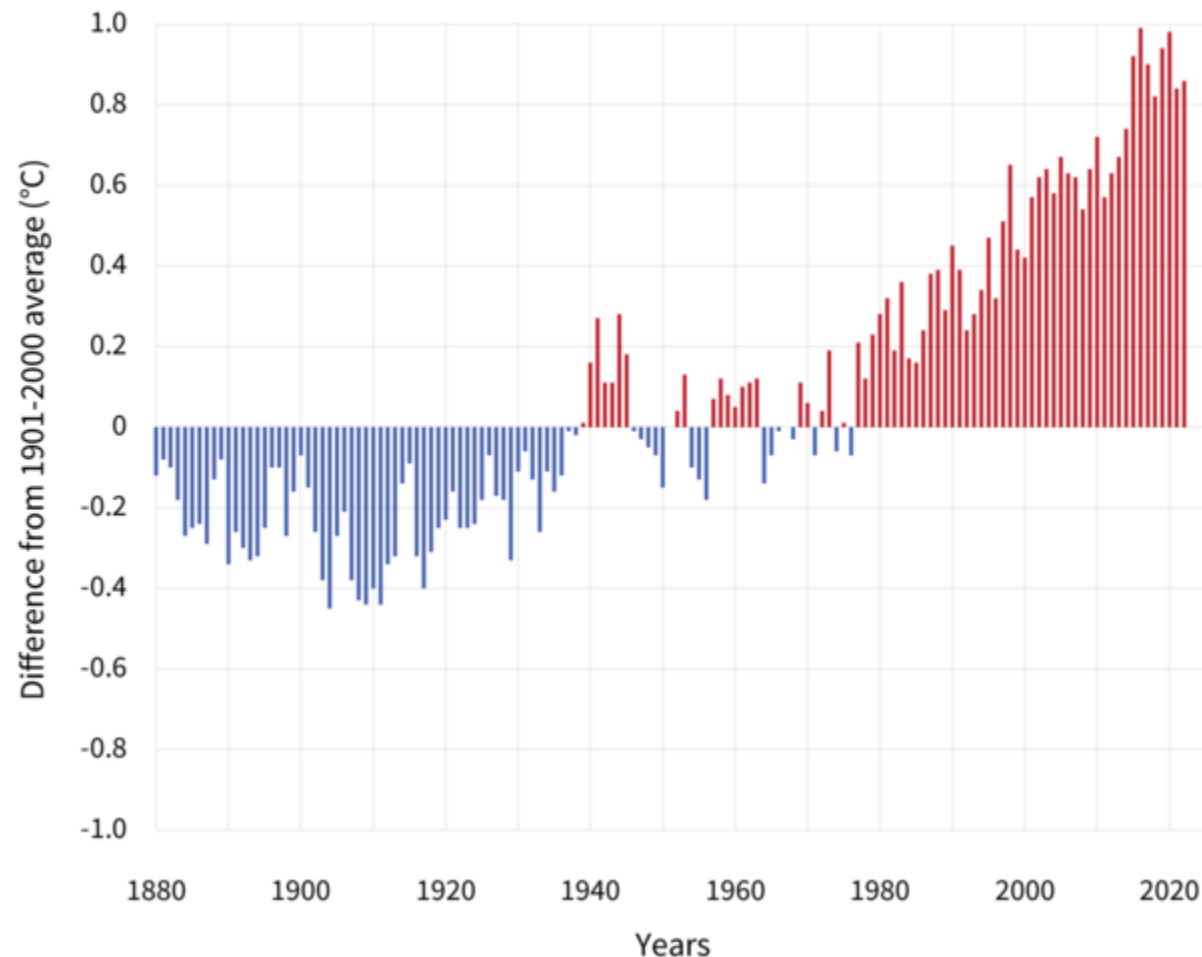
Brookings Papers on Economics Activity Spring 2023 Conference
March 30, 2023

Prof. Kenneth Gillingham
Yale University

Broader Context: Climate Change is Serious

GLOBAL AVERAGE SURFACE TEMPERATURE

"The greatest market failure the world has seen"

- The earth is warming
- Greenhouse gas emissions are the dominant cause

Passing Climate Policy is Tough

The archives of Congress are littered with failed bills

- 1993 – Senator Byrd killed the Clinton Admin's preferred carbon tax
- 2009 – Waxman-Markey was a vote or two away from passing an economywide cap-and-trade program

Is the US uniquely bad at tackling climate change?

After decades of failed climate bills, America seems to have a problem.

Grist / Jose A. Bernat Bacete / Getty Images

Shannon Osaka
Reporter

| Published | Jan 06, 2022 |

| Topic | Climate + Politics |

A Democratic president was in the White House. The Democratic Party held a majority of seats in both the House of Representatives and the Senate. But a single senator — a moderate Democrat from West Virginia — blocked the White House's preferred climate plan.

Republicans and Democrats are deeply divided on whether climate change should be a top priority

% of U.S. adults who say dealing with global climate change should be a top priority for the president and Congress
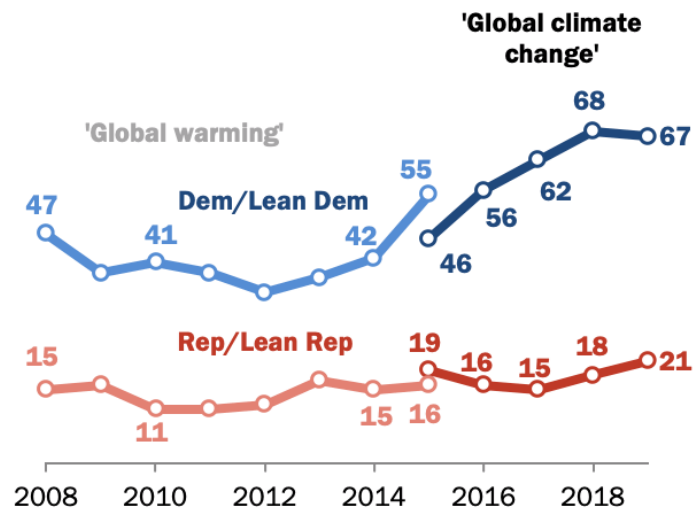
Note: In 2014 and earlier, respondents were asked about dealing with "global warming." In 2015, half the sample each was asked about "global warming" or "global climate change."
Source: Survey conducted Jan. 9-14, 2019, and prior surveys.

Source: https://www.brookings.edu/research/the-challenging-politics-of-climate-change/

# But the Inflation Reduction Act (IRA) Passed

Billions towards reducing emissions

Table 1: Fiscal score of the climate-related provisions of IRA by major category. Values are based on the September 7, 2022 CBO score (available here). Excludes $36 Billion in outlays related to tax credits.

	Fiscal Score ($ B)
TAX CREDITS	
Investment and Production Tax Credits for Clean Electricity Generation and Storage	$131
Production Tax Credit for Carbon Capture and Sequestration	$2
Nuclear Power Production Tax Credit	$16
Clean Fuels	$14
Clean Energy and Efficiency Incentives for Individuals	$37
Clean Vehicles	$14
Clean Energy Manufacturing	$22
SUBTOTAL	**$235**
DIRECT EXPENDITURES	
Agricultural & Forestry Conservation and Sequestration Projects	$21
Energy Loans	$17
Energy Efficiency	$11
Industrial Decarbonization	$5
Other (e.g., Green Bank)	$66
SUBTOTAL	**$121**
TOTAL	**$356**
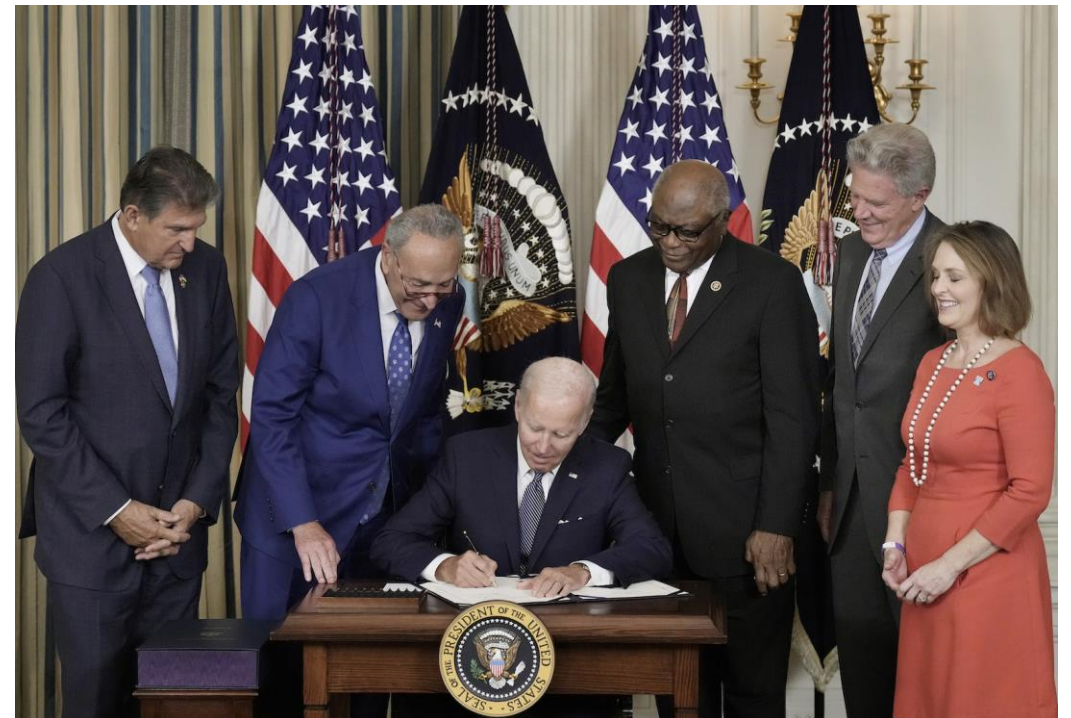
Many Analyses of the IRA
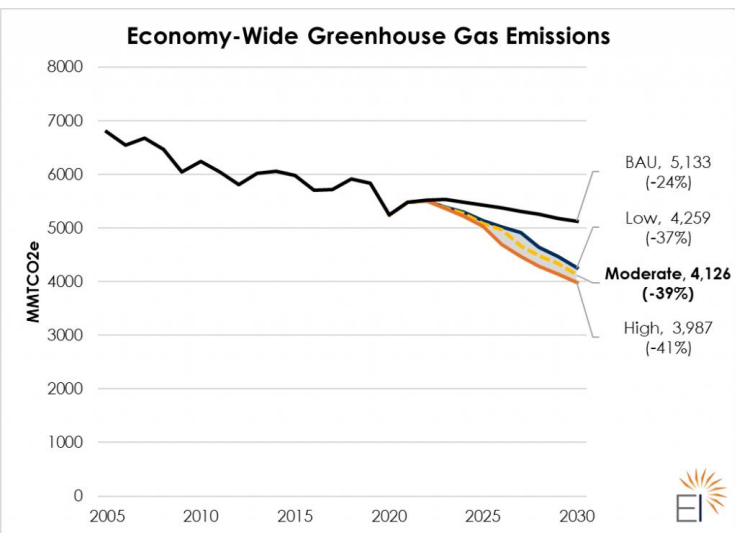
Energy Innovation

Rhodium Group
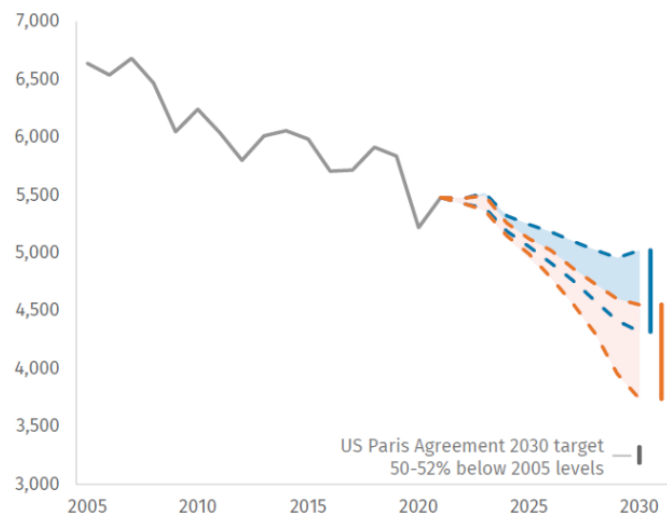
Princeton REPEAT
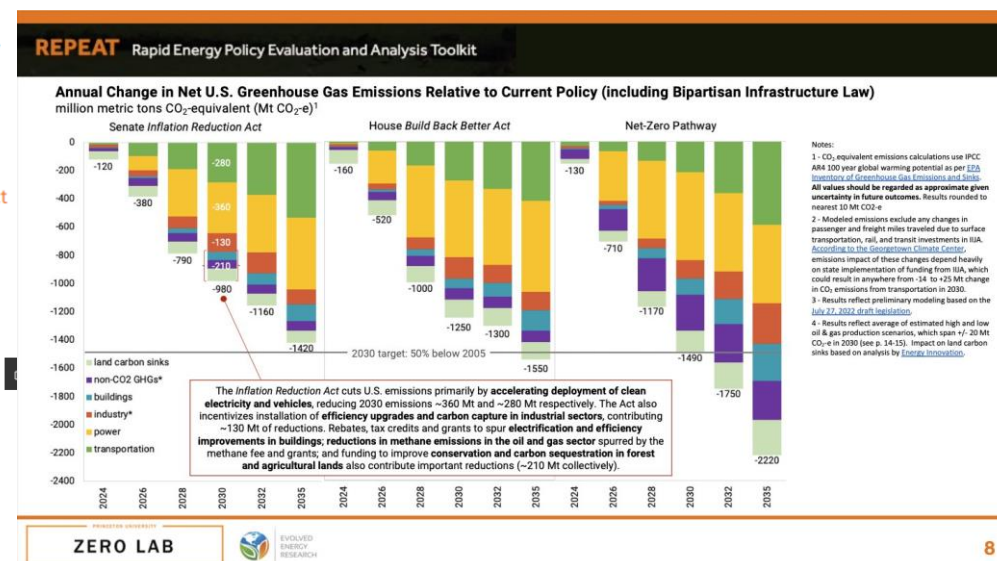
Bistline et al. Contributions

Extensive set of multiple analyses of the IRA arguing:
1. Fiscal costs may be much larger than expected
2. But even at the high end, the IRA is *cost-effective*
3. It is likely to lead to lots more renewables, and thus lower wholesale electric prices
4. Aggregate macro implications are small
5. But macro conditions likely to influence the IRA's effects
6. Subsidies like the IRA is only preferable to a carbon tax with very large learning-by-doing externalities

Fiscal Costs are Unbounded

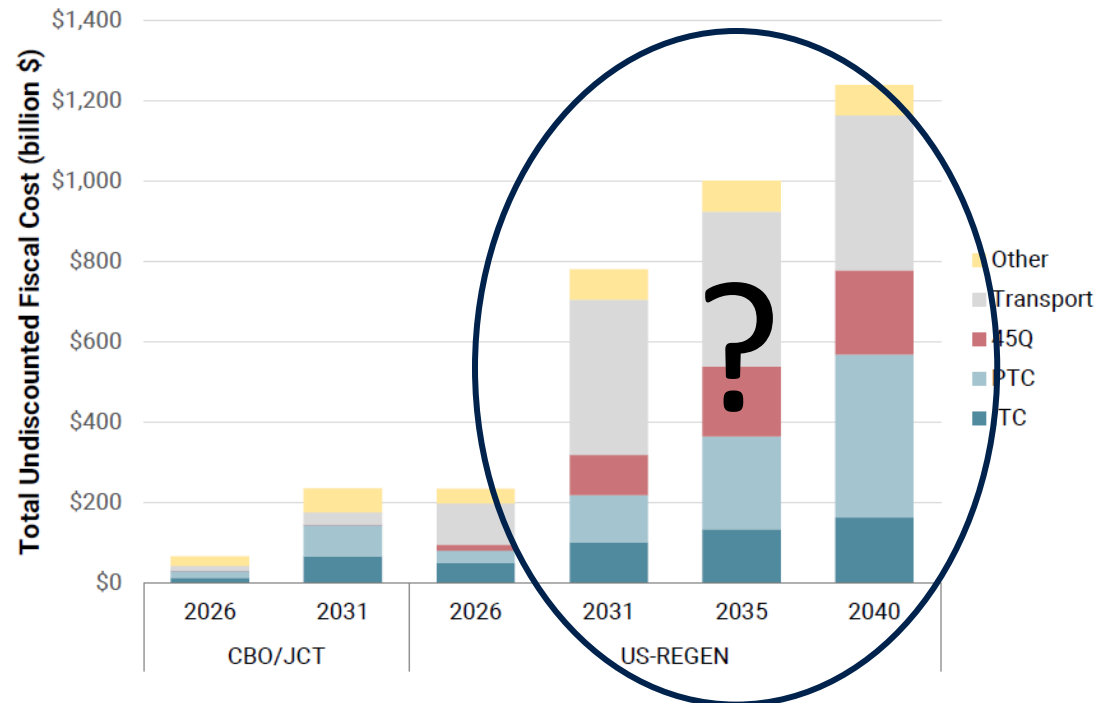## No cap on the tax credits, so could have much higher costs

- This is a win for the climate but not the Treasury
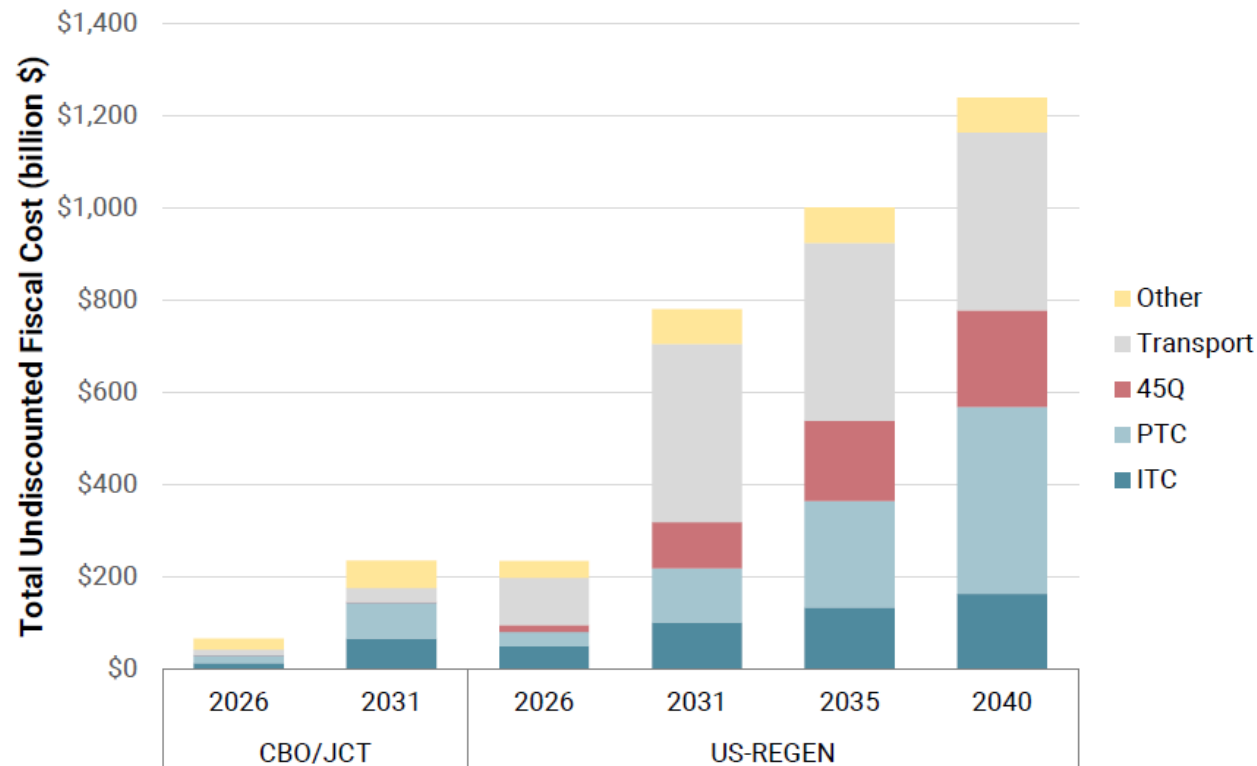
Could a Future Admin Cap the Costs?

## Picture a different President and Congress on Jan 20, 2025

- Clearly the very high projections would not come to pass
- Further uncertainty due to labor/domestic content provisions
- Possibly even sooner for EV tax credits

Electric vehicle uncertainty even larger

Will the IRA EV provisions make a difference?

- The domestic content provisions are not trivial if strictly enforced
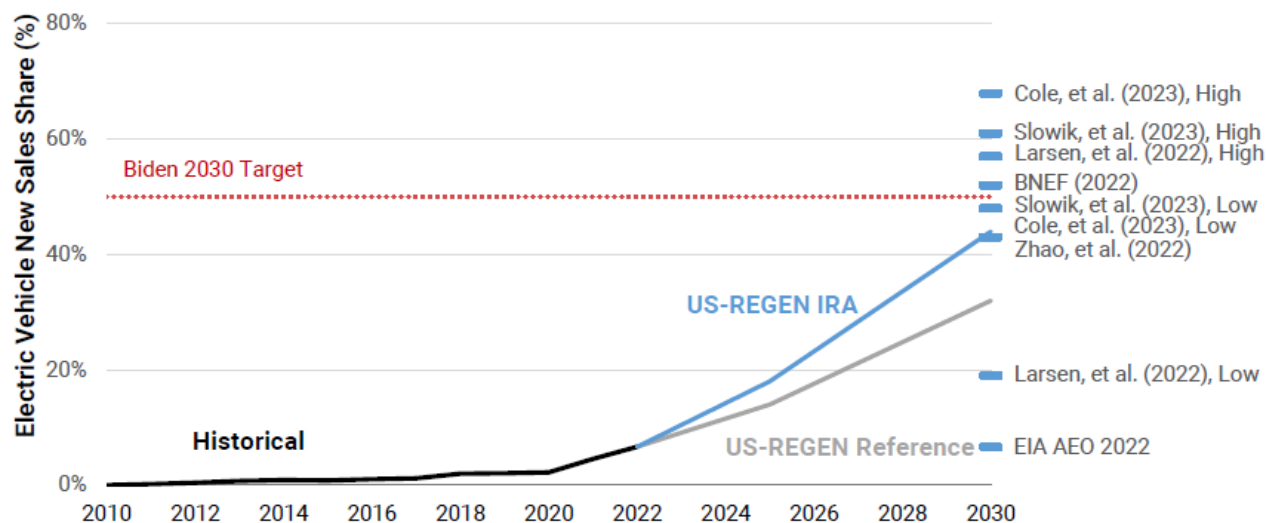
Why you may choose to lease — rather than buy — your next electric car

Consumers are confused which EVs qualify for subsidies under a new federal law. A Treasury Department proposal this week may clear up questions – or create new ones.

By Timothy Puko, Steven Mufson and Maxine Joselow
March 29, 2023 at 1:30 p.m. EDT

On Friday, the Biden administration is expected to release guidance that will sharply limit the number of vehicles eligible for the $7,500 tax credit authorized under the Inflation Reduction Act, a landmark climate law Congress passed last year, according to auto industry lobbyists.

The IRA is Cost-effective at Reducing Emissions

This is a **Big** result

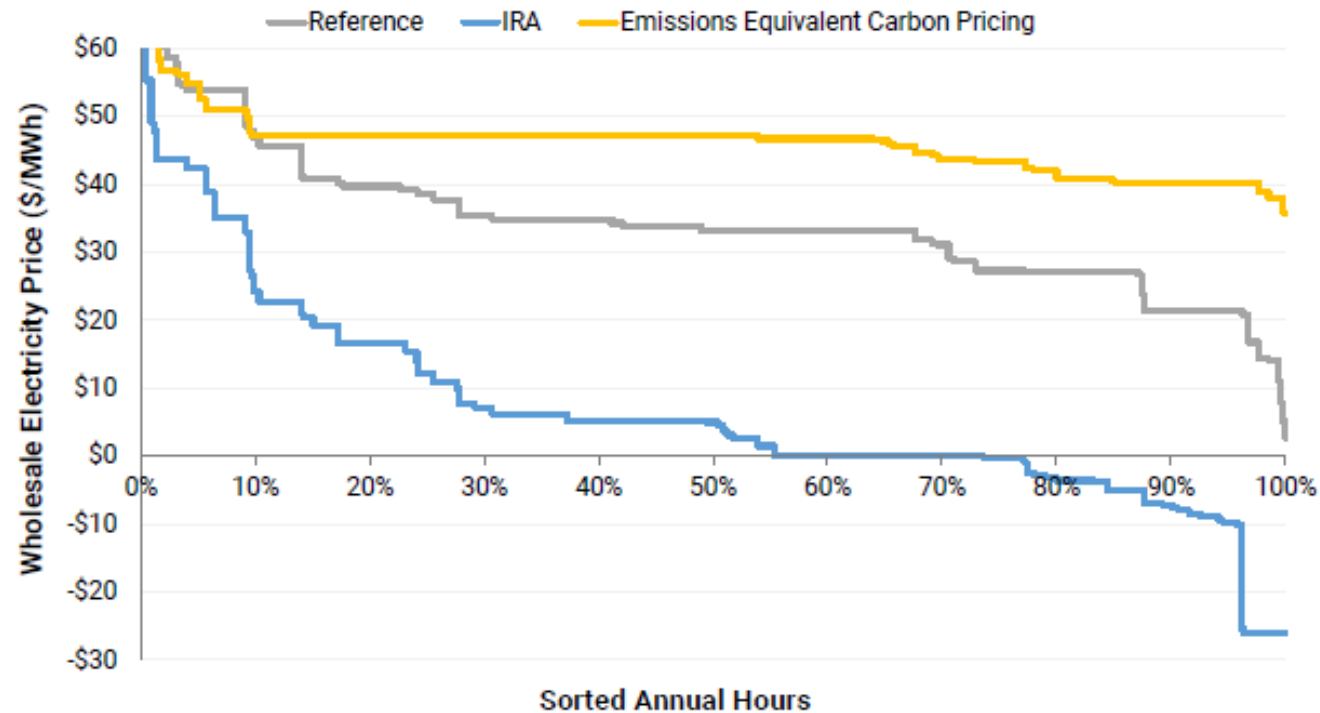- At the higher end of costs, average power sector abatement cost is **$83/ton CO2**
- Compare this to the Rennert et al. (2022) social cost of carbon of **$185/ton**
- And local air pollution benefits are likely to be just as large, if not larger

Renewables and Macro Implications

These results are not as surprising, but make sense

- The modeled effect of wholesale prices is striking

Economic Motivation for Policy

I appreciated the discussion on the economic motivation

- Indeed, innovation market failures (in this case, primarily learning-by-doing spillovers) are key to justifying a subsidy over a carbon tax

Two Key Thoughts:

- Economic logic argues for a policy for each market failure, so it is not necessarily clear to me that we should be focusing on the comparison to a carbon tax
- There also seems to be a missing discussion about path dependencies and directed technical change possibly induced by having a viable market (Acemoglu et al. 2016, Vogt-Schilb et al. 2018, etc)

Importance of Innovation
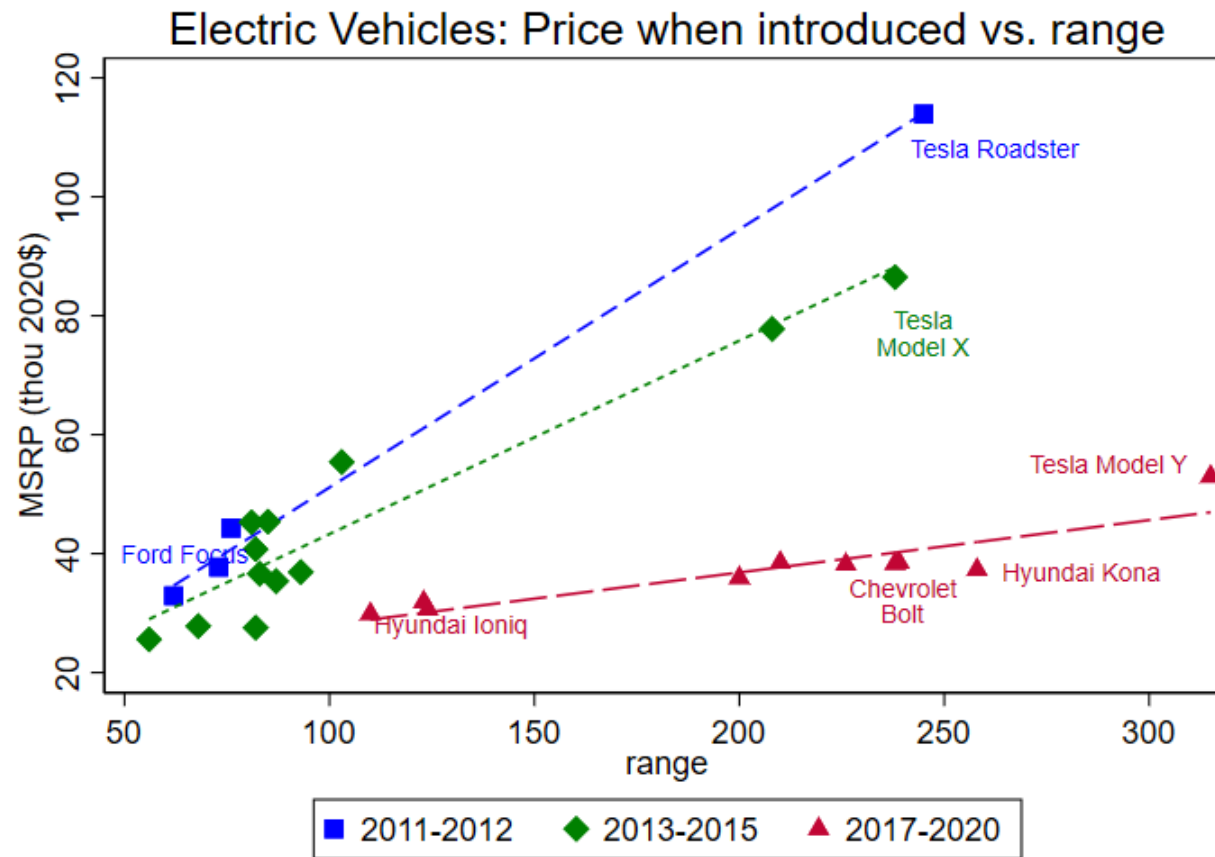
Source: Updated by Jim Stock from Gillingham and Stock (2018)

Final Thoughts

This is important work

- Understanding the deeper implications of the IRA beyond overall emissions is crucial for the policy discourse

It sets the stage for even deeper analyses of individual provisions

- So many fascinating unanswered questions were brought up in this paper