



Modeled Effects of Inflation Reduction Act of 2022

Kevin Rennert, Nicholas Roy, Dallas Burtraw

RFF LIVE

August 10, 2022



Key Power Sector Provisions from Inflation Reduction Act

- Long-term extensions of production tax credit (PTC) for producing renewable electricity and investment tax credit (ITC) for building clean electricity projects
- Transition to technology-neutral incentive structure, based on emissions rate, after 2024
- Base rate of \$5/MWh (PTC) and 6% (ITC)
- Layered bonus structure includes:
 - 5X bonus for meeting prevailing wage and apprenticeship requirements
 - 10% (PTC) or 10 pp increase (ITC) for projects located in energy communities
 - 10% (PTC) or 10 pp increase (ITC) for projects meeting domestic content criteria



Key Power Sector Provisions from Inflation Reduction Act

- PTC for existing nuclear generation, tied to market conditions
- 45Q credit for carbon capture increased to \$85/ton
- Direct pay for tax-exempt entities, enhanced transferability of credits for others



RFF's Haiku Electricity Market Model: Scenarios Modeled

- PTC/ITC extension (for wind, solar, and storage), with uncertainty bracketed across two main scenarios
 - Base case IRA: 30% ITC and 25 \$/MWh PTC
 - “Additional Bonus” case: all projects meeting domestic content and energy community requirements (50% ITC, 30 \$/MWh PTC)
- Effects of nuclear PTC approximated by fixing nuclear generation to a baseline



RFF's Haiku Electricity Market Model: Scenarios Modeled

- Sensitivities: High and low natural gas prices
- Projected effects of the methane fee included in natural gas prices
- The enhanced 45Q credit for CCS is not modeled



Projected Electricity Sector Emissions Reductions

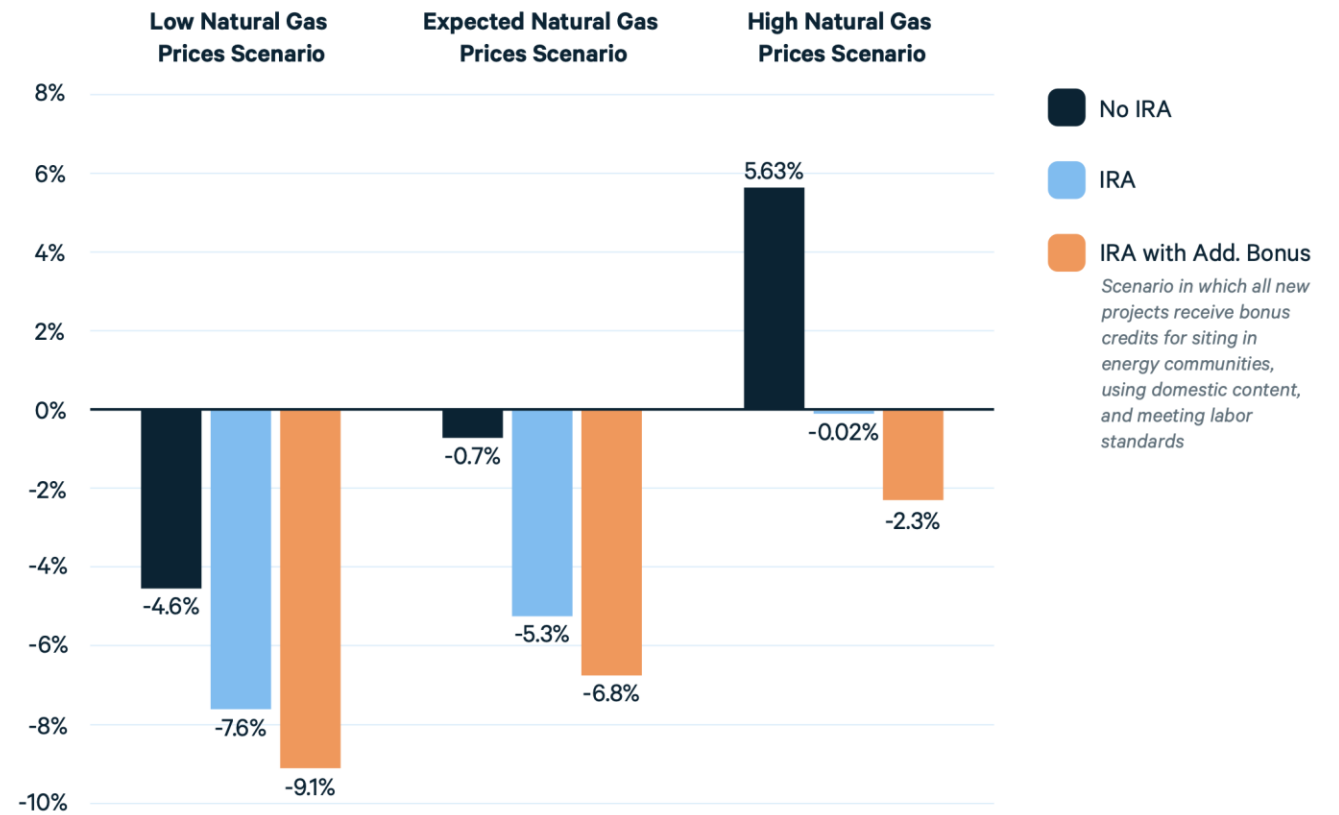
- 2030 electricity sector emissions are projected to drop to ~70-75 percent below 2005 levels, compared to 48.5 percent below 2005 levels without the policy
- Projected cumulative emissions reductions are ~4 billion metric tonnes below baseline over the next decade
- Effective cost per ton of reductions of \$20-40



Average Retail Electricity Prices (2023-2032) projected to fall under the IRA

- Real electricity prices are projected on average to be ~5-7 percent lower than today
- Average electricity prices under the IRA are projected to be lower than the no policy case
- Greater deployment of clean electricity insulates prices against natural gas price fluctuations

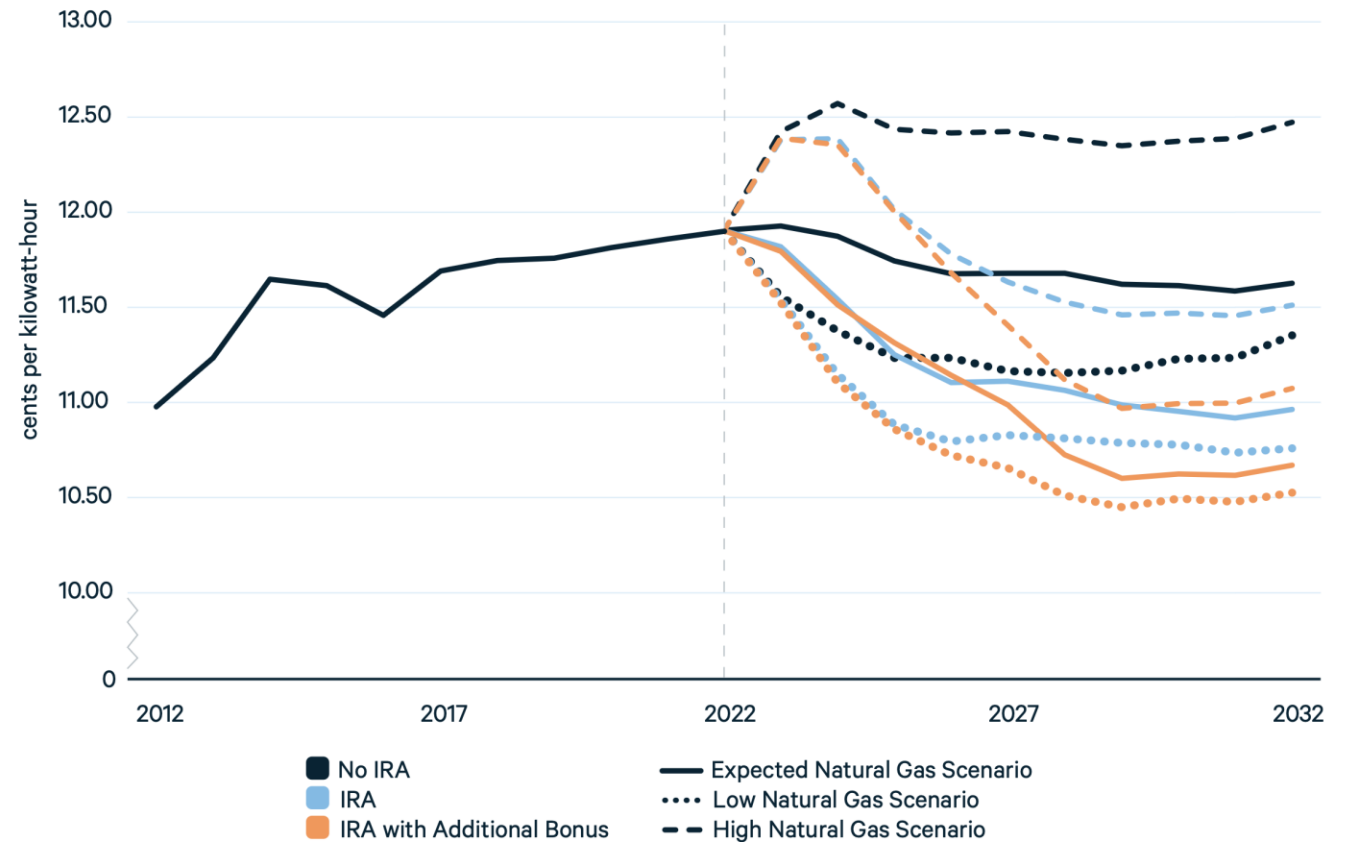
Figure 1. Change in Average Retail Electricity Prices in 2023-2032 with and without the Inflation Reduction Act (IRA)



Average Retail Electricity Prices projected to fall under the IRA

- Retail prices fall, even in the near-term, due to projects already planned for next year
- Prices stay below expectation for the next decade in the policy case even for the high natural gas price scenario

Figure 2. National Average Real Retail Electricity Prices (2022 USD)



Quick Takes on Other Sectors

- Emission reductions from **transportation provisions** (based on previous analysis) are projected to be modest; set the stage for enhanced action at federal and state level
- **Oil and gas leasing provisions** are projected to contribute ~20 MMt of additional emissions domestically in 2030
- Reductions from the **methane fee** are highly uncertain due to the structure of the provision



Today's RFF Experts



Nicholas Roy
Research Analyst
roy@rff.org



Kevin Rennert
Fellow, Federal Climate
Policy Initiative Director
rennert@rff.org



Dallas Burtraw
Senior Fellow
burtraw@rff.org

Explore More of RFF's Analysis of the Inflation Reduction Act

<https://www.rff.org/topics/federal-climate-policy/us-infrastructure/>

