

Repeal of the Clean Power Plan: Social Cost and Distributional Implications

Objective

The Clean Power Plan (CPP) aimed to reduce CO₂ emissions from stationary sources by 32% relative to 2005 levels by 2030. However, repeal of the CPP due to perceived burdens on electric utilities has delayed efforts to reduce CO₂ emissions from the electricity sector. This work examines the greenhouse gas (GHG) and economy-wide welfare implications of this repeal, taking into account the presence of state renewable portfolio standards (RPS) as the new status quo for replacing fossil fuel-based electricity with renewable fuels.

Approach

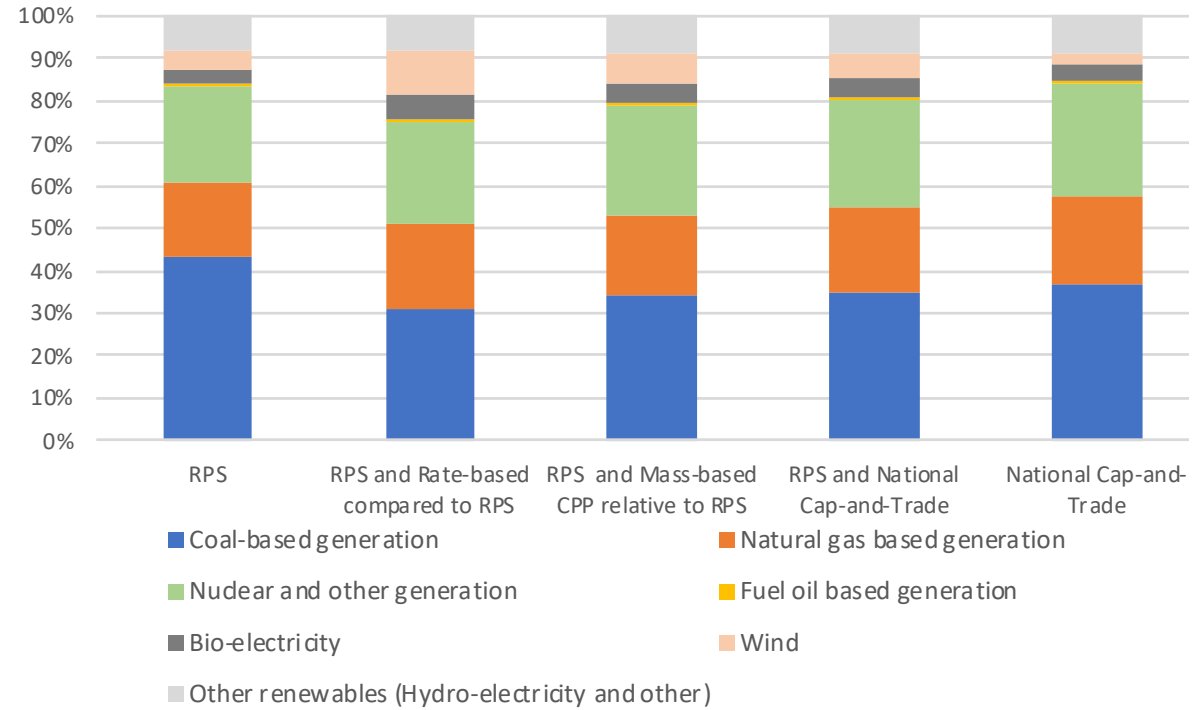
- ❖ Compared three scenarios: RPS + regional rate-based regulations, RPS + regional mass-based regulations, and RPS + national mass-based regulations.
- ❖ Used multi-sector model to assess implications of CPP for consumers and producers in the electricity sectors and producers in the natural gas and biomass sectors.
- ❖ Examined distributional implications for implementing the CPP for consumers and producers across regions

Results

- ❖ The CPP would reduce cumulative emissions from the electricity sector by 5.7% over that under the RPS alone and 10% relative to a no-policy baseline.
- ❖ Under the CPP, emissions from the electricity sector would have declined by 32.7% by 2030 relative to 2007 and 21% between 2022 and 2030.
- ❖ The social costs of the additional 3 billion metric tons of C emissions caused by the repeal are \$150 million (\$50/ton), 1.8 to 4 times higher than the avoided costs of the CPP.

Significance

The CPP would have significantly increased the share of bioelectricity in the mix of electricity generated in the United States; this share would have increased from 3% under the RPS alone to 5-6% under the regional CPP regulations and been highest with the RFS+ regional rate-based regulations. By repealing the CPP, the overall share of renewable electricity incentivized by the RPS alone will be significantly lower.



The effect of the Clean Power Plan on the share of electricity from various fuels.