

New Analysis Shows How Revenue-Neutral Carbon Tax Can Finance Extension of GOP Tax Cuts, Reduce Carbon Emissions, and Boost Growth

A new analysis from FTI Consulting, Inc. shows that the revenue from a carbon tax could permanently extend the newly enacted individual income tax cuts, as well as other expiring tax provisions, without adding to the deficit in the 10-year budget window. Commissioned by the Alliance for Market Solutions, the study also investigates the expected energy market impact, effect on carbon dioxide emissions, and state-by-state and national macroeconomic impact of a revenue-neutral carbon tax. At the end of the decade, the analysis predicts that national GDP and employment would be higher by 0.73 percent and 1 percent, respectively, while carbon emissions would be down 23 percent. Given this reduction in emissions, a carbon tax would negate the need for existing carbon regulations, which could further promote economic growth, as other studies have shown.

Study Design

To estimate the various impacts of a revenue-neutral carbon tax, FTI deployed a triad of models: the PLEXOS Integrated Energy Model, reflective of the near- and medium-term flexibility of the North American electric grid; the Carbon Tax Assessment Model (CTAM), predictive of consumer behavior in response to changes in fossil fuel prices; and a detailed 51-region (50 states plus DC), 70-sector dynamic model from Regional Economic Models Inc. (REMI), calibrated to the unique characteristics of each state economy with respect to production, trade, and demographics.

The policy scenario analyzed consists of two parts:

1. A \$20/ton carbon tax is levied beginning in 2019 and rising at 5 percent in real terms each year throughout the decade (2019–2028). A tax credit is provided for energy-intensive trade exposed (EITE) industries to avoid the adverse impacts of a unilateral carbon tax on these industries' global competitiveness and discourage leakages.
2. The revenue raised from the carbon tax finances the permanent extension of all expiring individual tax provisions enacted as part of the Tax Cuts and Jobs Act of 2017; the permanent extension of other expiring tax provisions regularly extended by Congress; and the repeal of four taxes established by the Affordable Care Act (ACA) – that is, the Cadillac tax, medical device tax, annual fee on health insurers, and net investment income tax.

Within the 2019–2028 budget window, the projected revenue gain from the carbon tax (net of the EITE credit) would be \$915 billion (all dollar amounts are inflation-adjusted, 2016 dollars). The 10-year cost of extending the expiring provisions and delaying or repealing the ACA taxes would be \$924 billion. On net, these two policies are virtually revenue-neutral within the budget window.

Macroeconomic Impact

The aggregate macroeconomic impact of these tax reforms is relatively small in any given year, but by 2028 employment is projected to be higher by 1.9 million jobs (1 percent) and GDP is projected to be \$171 billion greater (0.73 percent). These results are driven by the beneficial impact of extending tax relief for individuals through lower marginal tax rates, a larger standard deduction, and other reforms enacted in 2017; repealing the investment tax enacted as part of the ACA; and preventing a tax on insurance and other targeted industries. Prior to 2028, the macroeconomic impact is more mixed. Because the carbon tax is scheduled to take effect in 2019 but the majority of the tax relief begins in 2026, the policy is a slight drag on the economy initially.

The impact by state varies based on the natural resources in each state and the composition of the state’s economy. By 2028, 44 states would experience either a negligible or positive economic impact (see Figure 1). States with large coal-related activities would be adversely affected. (Additional policies to assist workers in those states, not considered in the FTI analysis, may mitigate or offset that impact.) Gains occur in all regions. For example, Florida would experience a 0.8 percent gain in real GDP in 2028, Illinois a 0.9 percent gain, Minnesota a 1.1 percent gain, and Pennsylvania a 0.7 percent gain.

Figure 1. Percentage Change in State GDP, 2028

CT	1.6%
DC	0.6%
DE	1.4%
HI	0.5%
MA	1.4%
MD	0.9%
NH	1.1%
NJ	1.1%
RI	1.3%
VT	0.8%

Source: FTI, “The Economic, Fiscal, and Emissions Impacts of a Revenue-Neutral Carbon Tax,” July 2018.

Carbon Emissions Impact

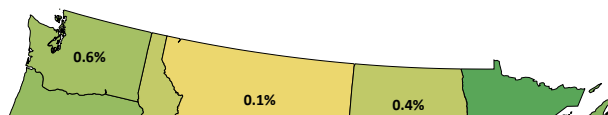
The impact of the revenue-neutral carbon tax on carbon emissions is significant. Relative to a reference case for carbon emissions based on the Department of Energy’s Annual Energy Outlook, the carbon tax will reduce emissions by 23 percent overall by 2028 (see Table 1).

The impact within the power sector is even larger, a 43 percent decline in emissions in 2028 relative to the current baseline. In the non-power sector the impact is more moderate, a 14 percent decline in emissions. During the budget period examined, 2019–2028, U.S. emissions would decline 7.4 billion metric tons. Two-thirds of that decline would come from the power sector.

Table 1. Reduction in Carbon Emissions (Millions of Metric Tons)

Sector	Reduction	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2019-28
Total	Absolute	257	414	511	620	701	769	912	999	1052	1136	7371
	Percent	5%	8%	10%	12%	14%	15%	18%	20%	21%	23%	13%
Power	Absolute	219	342	400	467	503	521	610	640	631	649	4982
	Percent	13%	21%	25%	29%	32%	33%	39%	41%	41%	43%	28%
Non-Power	Absolute	38	72	111	153	198	248	302	359	421	487	2389
	Percent	1%	2%	3%	4%	6%	7%	9%	11%	12%	14%	6%

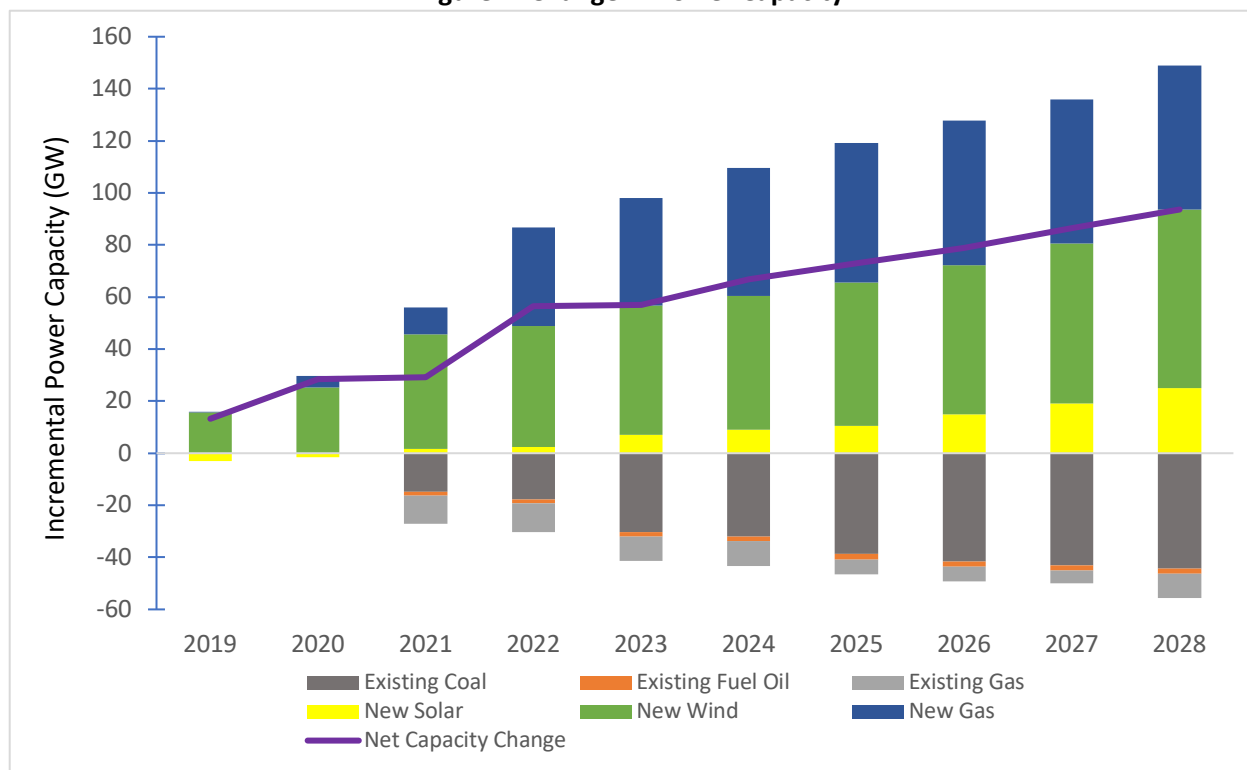
Source: FTI, “The Economic, Fiscal, and Emissions Impacts of a Revenue-Neutral Carbon Tax,” July 2018.



Energy Sector Impact

Over the decade, the carbon tax would result in 56 gigawatts (GW) of coal plants, fuel oil plants, and older gas plants retiring and 94 GW of new solar and wind production being brought online (see Figure 2). Despite older gas plants being retired, natural gas would see a net gain of 46 GW of capacity owing to newer, more efficient plants coming online.

Figure 2. Change in Power Capacity



Source: FTI, "The Economic, Fiscal, and Emissions Impacts of a Revenue-Neutral Carbon Tax," July 2018.

Conclusion

A revenue-neutral carbon tax offers U.S. policymakers both an efficient strategy for reducing carbon emissions and the means to finance other tax reductions. Relative to a regulatory regime to curb emissions, a carbon tax is simple, efficient, transparent, and market-based. As such, it could negate the need for existing regulatory strategies. Though efficiency gains associated with the repeal of various regulatory schemes targeting carbon emissions were beyond the scope of the FTI study, they would likely further promote economic growth.

Given both long-run fiscal pressures imposed by projected increases in entitlement spending and the pending tax increases over the next few years, a carbon tax offers a means to responsibly permit the current law baseline of tax policy to be extended without increasing the 10-year deficit.

The complete FTI study is available here [link].