

ISSUE BRIEF

Economic Impact of Tech-Neutral Tax Credit Provisions in the 2025 Reconciliation Bill

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Ashna Aggarwal, Jonah Kurman-Faber, George Rakushkin

Executive Summary

The House Ways & Means Committee's 2025 budget Reconciliation bill proposes major rollbacks to the Inflation Reduction Act's tech-neutral clean energy tax credits, particularly Sections 45Y and 48E. To assess the impact, we developed custom deployment models for five policy scenarios, each evaluated independently using the [Energy Policy Simulator](#) (EPS) by Energy Innovation to estimate net economic and emissions effects at the national level, as well as within a select number of states.

The most disruptive scenario involves restrictions on projects using components linked to Foreign Entities of Concern (FEOCs). These "material assistance" rules would disqualify a large share of clean energy projects, leading to **1.4 million cumulative jobs lost,¹ \$237 billion in GDP decline, and a 6% increase in national emissions through 2035**. An early sunset of the 45Y and 48E credits is similarly damaging, eliminating long-term certainty and stalling investment in major clean energy projects. This scenario results in nearly **1 million cumulative jobs lost and \$177 billion in GDP losses** through 2035.

Other rollbacks are less severe but nonetheless significant. Removing credit transferability leads to **237,000 cumulative jobs lost and \$49 billion in GDP decline, disproportionately affecting smaller developers**. The only provision with no measurable impact is the FEOC entity-level restriction, which targets project ownership rather than component sourcing. As an alternative, a hypothetical storage mandate for wind and solar was modeled, which projects **88,000 cumulative jobs lost and \$37 billion in losses**, with minimal emissions impacts.

State-level findings follow similar trends, with the largest losses concentrated in clean energy investment hubs like Texas, North Carolina, Louisiana, and Indiana. State-level economic losses reach as high as **over 170,000 jobs and \$20 billion in GDP**, in some cases. These results suggest that, to varying degrees, each major provision of the proposed Reconciliation bill threatens to cause large economic losses across a wide variety of technologies, industries, and geographies.

¹ In this study, jobs are measured as job-years, or one job for one year.

Introduction

In pursuit of deficit reduction targets set by the broader congressional budget, the House Ways & Means Committee (Committee) has sought to dramatically scale back domestic clean energy incentives. Among other changes, the Committee's 2025 budget Reconciliation bill would roll back key clean energy provisions of the Inflation Reduction Act—most notably the tech-neutral tax credits 45Y (Clean Electricity Production) and 48E (Clean Electricity Investment). These credits apply uniformly across zero-emission technologies and are central to accelerating nationwide deployment of new clean energy. In some cases, new provisions would also affect the 45U nuclear production credit, particularly for existing reactors.

The modeled rollback scenarios—including restrictions on involvement from Foreign Entities of Concern (FEOCs), a repeal of credit transferability, and an accelerated phase-down of the credits—introduce significant investment uncertainty across the energy and manufacturing sectors. These regulatory shifts would not only narrow the eligibility window for future projects, but also risk disrupting supply chains, undercutting project financing mechanisms, and eroding investor confidence at a time when long-term planning and predictability is critical to achieving the nation's energy abundance and reliability goals.

Recent analysis has found that repealing or otherwise significantly hampering the tech-neutral tax credits, as the Committee's 2025 budget Reconciliation bill proposes, would lead to significant energy cost increases, large decreases in GDP, and substantial job loss.² This analysis provides additional comparative estimates on which provisions of the bill are the most damaging for the economy at the national and select state levels.



² [Assessing Impacts of the 2025 Reconciliation Bill on U.S. Energy Costs, Jobs, Health, and Emissions](#), Energy Innovation, May 2025; [Ways and Means Brings the Hammer Down on Energy Credits](#), Rhodium Group, May 2025; [Projected Impacts of Repealing the Section 45Y and 48E Technology-Neutral Clean Electricity Tax Credits](#), Resources for the Future, May 2025.

Overview of Approach

We use a combination of custom-built models and the [Energy Policy Simulator](#) (EPS), developed by Energy Innovation, to evaluate the net impacts of scaling back or removing key tech-neutral tax credits. For each technology—solar PV, wind, battery storage, nuclear³, and geothermal—policy scenarios are translated into deployment trajectories outside of the EPS. These technology-specific pathways are then input into EPS to assess the resulting economic and emissions impacts.

The analysis evaluates five scenarios, each modeled independently to reflect the isolated effect of a single policy change to the IRA’s tech-neutral tax credits. These scenarios are designed to align with proposed legislative language or circulating policy drafts. A detailed explanation of scenario development is included in the Appendix.

Table 1. Overview of Modeling Scenarios

Scenario	Description
FEOC Entity-Level (Foreign Ownership/Influence)	Models restrictions that disqualify projects based on ownership by Foreign Entities of Concern (FEOCs), as defined by statute.
FEOC Component-Level (Material Assistance)	Assesses eligibility restrictions for projects that incorporate components, subcomponents, or critical minerals sourced with material assistance from FEOCs.
Transferability Removal	Simulates a repeal of the transferability provision, which currently allows developers to sell clean energy tax credits to unrelated third parties.
Early Sunset / Phase Down	Models an accelerated phaseout of Sections 45Y and 48E, with credits stepping down from 2029 and ending entirely by 2032.
Additional Storage Requirement (Hypothetical)	Based on a draft policy concept (not included in the Ways & Means text), this scenario requires projects with a capacity factor below 40% to pair with progressively scaled amounts of co-located energy storage beginning in 2028.

The results of multiple scenarios cannot be summed. They each represent a hypothetical scenario where that provision, and only that provision, is enacted. This allows for comparative analysis on the relative scale of net economic impacts of each provision.

³ While nuclear is not the primary focus of this modeling, recent guidance and developer activity suggest that some new projects—including Small Modular Reactors (SMRs) and major retrofits—could be affected by the proposed restrictions on 45Y and 48E. Additionally, certain existing reactors may seek to qualify for the 45U production credit, and some of the proposed restrictions affecting 45U are captured in this analysis.

National Findings

Across the five rollback scenarios, impacts range from negligible to severe. Entity-level FEOC restrictions have no measurable effect, reflecting minimal disqualifications under current market conditions. In contrast, component-level FEOC bans represent the most disruptive scenario, disqualifying a broad swath of clean energy projects and resulting in over 1.4 million jobs lost⁴, \$237 billion in GDP losses, and a 17% emissions increase in some states between now and 2035.

Table 2. National Impacts by Scenario through 2035

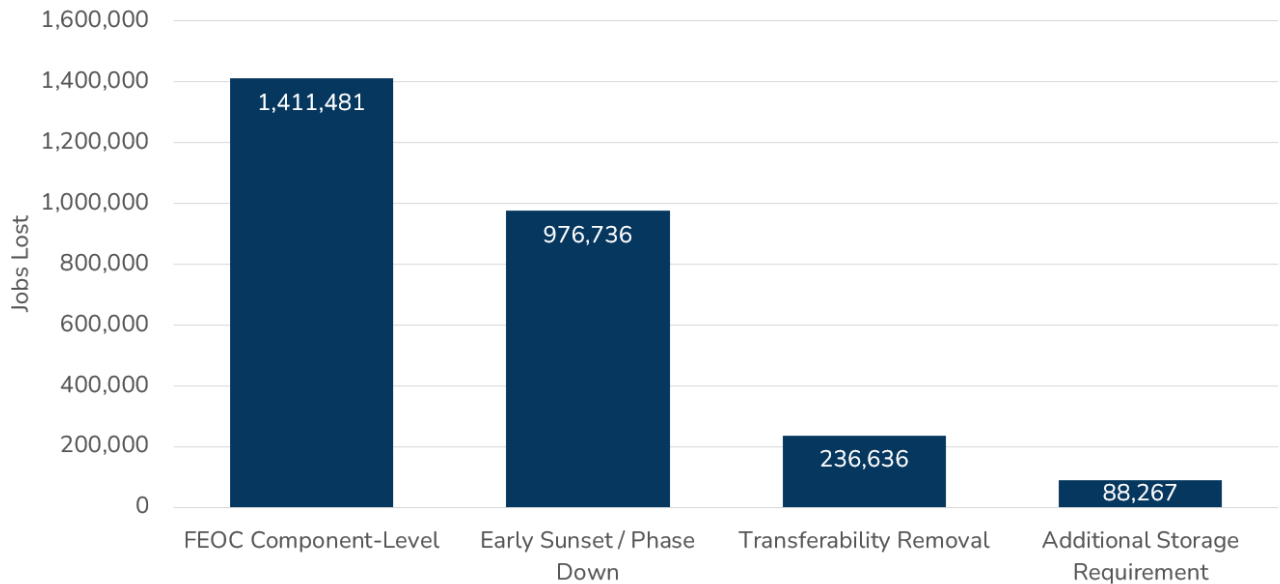
Scenario	Jobs Lost	GDP Lost	Wages Lost	Emissions Increase in 2035
	<i>Economy-wide cumulative job-years lost</i>	<i>Economy-wide cumulative GDP lost, 2024 USD</i>	<i>Economy-wide cumulative wages lost, 2024 USD</i>	<i>Percent Increase in Annual MMT CO₂e in 2035</i>
FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
FEOC Component-Level ("Material Assistance")	1,411,481	\$237 billion	\$162 billion	6%
Transferability Removal	236,636	\$49 billion	\$28 billion	1%
Early Sunset/Phase Down	976,736	\$177 billion	\$117 billion	6%
Additional Storage Requirement	88,267	\$37 billion	\$13 billion	0.5%

An early phase-down of 45Y/48E credits poses the second most significant threat overall, with nearly one million jobs lost, \$177 billion in GDP reductions, and disproportionate impacts on long lead-time projects.

Provisions that impose sweeping rollbacks or disqualifications, such as FEOC component-level requirements and early sunset provisions, impact widespread eligibility across all major technologies (solar, wind, battery storage, and nuclear). This generates cascading losses across construction, manufacturing, the energy supply chain, and the broader economy, and large amounts of capital investment are cancelled.

⁴ Jobs in this study are measured as job-years, or one job for one year.

Figure 1. National Job Losses by Scenario, Cumulative through 2035



Removing transferability cuts off a key financing mechanism—especially for smaller developers—leading to an estimated 237,000 jobs lost and \$49 billion in GDP decline. By contrast, a hypothetical storage mandate for low-capacity-factor resources, as an alternative provision, adds compliance costs and deployment friction, with roughly 88,000 jobs and \$37 billion in GDP at risk, but minimal emissions impact.

Figure 2. National Wage and GDP Losses by Scenario, Cumulative through 2035



State-Level Findings

State results are prioritized for nine jurisdictions with large concentrations of clean energy deployment and manufacturing: Indiana, Iowa, Kansas, Louisiana, North Carolina, South Carolina, Texas, Utah, and West Virginia. Together these states represent a substantial share (48%) of recently announced capital investments according to data from Rhodium Group–MIT/CEEPR’s [Clean Investment Monitor](#), making them especially vulnerable to the economic fallout of tax credit rollbacks. All sub-national figures that follow refer only to this group; national totals reflect the full U.S. economy. See the Appendix for State-Level Results for these nine states.

Jobs Lost

Employment impacts are most severe under the FEOC Component-Level restrictions, Early Sunset/Phase Down, and Transferability Removal scenarios. These policy changes threaten significant job losses in states with high levels of clean energy deployment and manufacturing capacity. Texas experiences the largest employment declines across all scenarios, losing over 170,000 jobs under both the FEOC Component-Level and Early Sunset scenarios, and nearly 165,000 under Transferability Removal. These outcomes reflect the state’s leadership in wind and solar deployment, as well as its extensive energy-related supply chains. Other states such as North Carolina and Indiana also face substantial employment impacts, losing 112,000 and 54,000 jobs respectively under the FEOC Component-Level scenario. In the Southeast and Midwest, states like South Carolina, Louisiana, and Iowa see cumulative job losses ranging from 20,000 to 80,000 depending on the scenario—highlighting how deeply clean energy deployment drives local labor markets even in smaller states.

GDP Lost

Economic losses broadly mirror employment trends, with the Transferability Removal and Early Sunset scenarios producing the most widespread contractions. Texas leads in overall GDP losses, with \$21.5 billion lost under Transferability Removal and similarly large impacts under Early Sunset and the Additional Storage Requirement scenarios. These outcomes stem from the scale of Texas’s installed and planned clean energy infrastructure, where changes to federal incentives translate into direct reductions in investment and economic activity. North Carolina, Indiana, and Louisiana also see significant GDP losses, ranging from \$10 to \$18 billion under the more severe rollback scenarios. Even smaller states such as Utah and Kansas show noticeable losses, particularly under FEOC Component-Level and Early Sunset scenarios, as diminished project viability reduces construction activity and related economic multipliers.

Increase in Emissions

Emissions impacts are most pronounced under the FEOC Component-Level and Early Sunset scenarios, both of which delay or cancel zero-emissions energy buildout and thereby increase reliance on fossil fuels. North Carolina experiences the steepest rise in annual emissions in 2035, with a 17% increase under the FEOC Component-Level scenario and nearly the same under Early Sunset. The state also sees a 13% increase in emissions under Transferability Removal, suggesting that a wide range of policy changes could meaningfully disrupt its clean energy transition. Emissions increases are also notable in Texas, Indiana, Iowa, and Louisiana, each showing 5–8% higher annual emissions in 2035 under the more aggressive rollback scenarios. Even in states with more modest clean energy deployment, the direction of impact is consistent: every modeled rollback scenario results in higher emissions, with no case yielding climate or pollution benefits.

Appendix: Methodology

In most cases, we use the external scenario models to estimate changes in clean energy deployment (capacity additions) relative to an IRA-induced baseline. This structure is designed to reflect how each policy change alters the incentives created by the IRA's tech-neutral credits. As a result, the modeling is often more representative of the investment tax credit (48E) structure—where project viability is closely tied to upfront capacity deployment—than the production tax credit (45Y), which rewards electricity generation over time. While both credits are modeled through the same tech-neutral framework, our capacity-based approach provides a clearer picture of how each scenario reshapes near- and medium-term buildout trajectories.

The following sections describe the methodology for each scenario in greater detail.

FEOC Entity-Level ("Foreign Ownership/Influence"): Project developers themselves are assessed for disqualification under the taxpayer-level provisions. Using data primarily from the Clean Investment Monitor, the top 25 developers in each clean energy technology—including utility-scale solar, land-based wind, and battery storage—are identified, and SEC filings, corporate records, and other public sources are reviewed to examine ownership structure. For geothermal, which remains in early commercial deployment, additional research is carried out to identify a smaller group of leading developers. This analysis allows for flagging of companies that may be considered "foreign-influenced" or "specified foreign entities" under the new rules. While the scenario does not capture every disqualification pathway described in the Reconciliation bill (e.g., board representation and debt exposure), it approximates the entity-level restrictions by focusing on ownership and control as the primary disqualifying factor.

FEOC Component-Level (Material Assistance): Project eligibility is prioritized under the “material assistance” clause. [International trade data](#) is used to estimate the share of key components—such as solar panels, inverters, tracking systems, and wiring—that are imported from FEOC countries, primarily China. These shares are adjusted based on transshipment risk and indirect exposure (e.g., components produced in Southeast Asia but owned or controlled by Chinese firms). Each component is evaluated against a strict FEOC sourcing cap, and the resulting pass/fail status is weighted by the component’s cost share to estimate system-level exposure. While this scenario approximates the intent of the proposed legislative text, it does not capture all forms of “material assistance” that could trigger disqualification—such as use of intellectual property, technical services, or licensing agreements from prohibited foreign entities. Nonetheless, it provides a structured and component-specific estimate of potential project exposure under the sourcing restrictions.

Transferability Removal: Transferability is repealed for tech-neutral tax credits two years after the bill's enactment. Assuming enactment in 2026, this means provision takes effect for projects that begin construction in 2028 or later, which we assume will impact projects placed in service in 2030. Facility-level capital investment data is gathered from the Clean Investment Monitor and each project is assigned a monetization rate based on size. Large facilities are assumed to monetize a larger fraction of their credit value, while smaller projects receive lower rates to reflect [limited tax liability and restricted access to tax equity](#). An estimation is made on the total value of the tech-neutral credits each facility receives under full monetization, which is then used to calculate the shortfall created by reduced monetization without transferability. Projects falling below an assumed threshold are disqualified from claiming the tax credit, allowing for estimation of the share of deployment and capital investment at risk.

Early Sunset / Phase Down: The national Energy Policy Simulator is used to phase down 45Y and 48E credits beginning in 2029, applying a placed-in-service interpretation of eligibility. Projected deployment under this timeline is compared to a baseline in which the credits remain in place through 2032. The resulting gap captures the impact of curtailing these incentives ahead of schedule.

Additional Storage Requirement: A model is developed to assess how a hypothetical co-location mandate for energy storage would affect new capacity. The policy requires certain resources—defined by a capacity factor threshold of 40%—to pair with 2 to 4 MWh of storage per MW of generation. Affected technologies are identified using the [NREL Annual Technology Baseline data](#) and adjusted for natural hybridization trends based on historical [Energy Information Administration](#) data. The final estimate reflects the incremental capacity subject to the storage mandate and assumes partial compliance based on user-defined scenarios.

Appendix: State-Level Results

Note: state-level EPS models are run independently and do not fully account for cross-state offsets, so their results may not sum to national totals.

State	Scenario	Jobs Lost	GDP Lost	Wages Lost	Emissions Increase
		<i>Economy-wide cumulative job-years lost</i>	<i>Economy-wide cumulative GDP lost, 2024 USD</i>	<i>Economy-wide cumulative \$ wages lost, 2024 USD</i>	<i>Percent Increase in Statewide Annual MMT CO₂e in 2035</i>
Indiana	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	54,269	\$9.7 billion	\$4.6 billion	5.7%
	Transferability Removal	38,814	\$6.7 billion	\$3.2 billion	4.5%
	Early Sunset/Phase Down	50,282	\$8.9 billion	\$4.2 billion	5.4%
	Additional Storage Requirement	32,618	\$5.8 billion	\$2.7 billion	4.5%
Iowa	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	24,190	\$2.6 billion	\$1.8 billion	7.6%
	Transferability Removal	18,480	\$1.2 billion	\$1.3 billion	8.0%
	Early Sunset/Phase Down	20,964	\$2 billion	\$1.6 billion	7.6%
	Additional Storage Requirement	14,685	\$1.4 billion	\$1.1 billion	7.4%
Kansas	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	18,889	\$1.2 billion	\$0.2 billion	4.7%
	Transferability Removal	14,560	\$0.4 billion	\$0.4 billion	0.4%
	Early Sunset/Phase Down	27,897	\$1.6 billion	\$1 billion	3.8%
	Additional Storage Requirement	13,183	\$0.4 billion	\$0.1 billion	3.2%
Louisiana	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	77,682	\$13.1 billion	\$6.8 billion	5.3%
	Transferability Removal	48,575	\$7.5 billion	\$4.1 billion	3.0%
	Early Sunset/Phase Down	61,288	\$10.5 billion	\$5.4 billion	3.8%
	Additional Storage Requirement	43,282	\$7.2 billion	\$3.7 billion	2.4%

State	Scenario	Jobs Lost	GDP Lost	Wages Lost	Emissions Increase
		<i>Economy-wide cumulative job-years lost</i>	<i>Economy-wide cumulative GDP lost, 2024 USD</i>	<i>Economy-wide cumulative \$ wages lost, 2024 USD</i>	<i>Percent Increase in Statewide Annual MMT CO₂e in 2035</i>
North Carolina	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	112,191	\$18.8 billion	\$9.5 billion	17.0%
	Transferability Removal	81,895	\$14 billion	\$7 billion	13.3%
	Early Sunset/Phase Down	109,718	\$18.4 billion	\$9.3 billion	16.9%
	Additional Storage Requirement	78,413	\$13.4 billion	\$6.6 billion	12.7%
South Carolina	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	41,178	\$4.2 billion	\$2.9 billion	9.0%
	Transferability Removal	23,042	\$1.8 billion	\$1.4 billion	5.3%
	Early Sunset/Phase Down	31,175	\$2.8 billion	\$2.1 billion	7.1%
	Additional Storage Requirement	5,118	\$1 billion	\$0.1 billion	3.8%
Texas	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	172,696	\$17.6 billion	\$10 billion	6.4%
	Transferability Removal	164,993	\$21.5 billion	\$11.9 billion	6.9%
	Early Sunset/Phase Down	173,471	\$21.3 billion	\$11.6 billion	6.7%
	Additional Storage Requirement	159,397	\$19.6 billion	\$10.8 billion	6.5%
Utah	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	33,223	\$5.1 billion	\$2.6 billion	7.8%
	Transferability Removal	25,196	\$3.7 billion	\$2 billion	5.3%
	Early Sunset/Phase Down	32,660	\$5.1 billion	\$2.6 billion	9.0%
	Additional Storage Requirement	18,276	\$3 billion	\$1.4 billion	2.9%
West Virginia	FEOC Entity-Level ("Foreign Ownership/Influence")	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>	<i>negligible</i>
	FEOC Component-Level ("Material Assistance")	10,712	\$1.2 billion	\$0.7 billion	5.7%
	Transferability Removal	8,057	\$0.9 billion	\$0.6 billion	4.9%
	Early Sunset/Phase Down	9,914	\$1.1 billion	\$0.7 billion	5.7%
	Additional Storage Requirement	5,898	\$0.6 billion	\$0.4 billion	4.2%

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