ENERGY INNOVATION
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The Economic, Consumer Cost, and Pollution Impacts of Recent Federal Energy Policy Changes

An Energy Policy Simulator analysis of the One Big Beautiful Bill Act alongside energy policy decisions of the 119th Congress and Trump administration

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EXECUTIVE SUMMARY

The United States' energy policy framework has shifted dramatically during the second Trump administration and 119th Congress. Over the past one and a half years, the federal government has overhauled many legislative and regulatory policies, creating significant implications for clean energy deployment.

At the same time, energy prices continue rising, exacerbating the affordability crisis Americans are facing. We used the Energy Policy Simulator (EPS) to model federal policy decisions made since January 2025 to determine what the near future holds for families and businesses in terms of energy costs, public health, job losses, and grid reliability. Our analysis focuses on seven key sets of policy changes:

- Passage of the One Big Beautiful Bill Act (OBBBA)
- U.S. Environmental Protection Agency's (EPA) reconsideration and repeal of Clean Air Act (CAA) §111 Greenhouse Gas (GHG) Standards, Mercury and Air Toxics Standards, and Clean Water Act Effluent Limitations Guidelines for electric power plants
- U.S. EPA's repeal of the Endangerment Finding and federal tailpipe emissions standards
- Passage of CAA §177 Congressional Review Act resolutions overturning approvals for state-level tailpipe emissions standards
- Administration actions to limit renewable energy development, especially onshore and offshore wind plants, including limitations on issuance of new permits
- U.S. Department of Energy (DOE) cancellations of hydrogen hub funding and easing of 45V tax-credit qualification for natural gas-based hydrogen
- U.S. EPA's cancellation of the $7-billion *Solar for All* grant program

This report analyzes effects of policy changes on energy prices, the economy, air pollution, and healthcare spending from 2026 to 2040. Our modeling shows higher energy costs, worsening public health impacts, and less capacity added to the grid – blocking new generation when it's needed most and increasing utility costs.

- Households will pay an additional $650 billion for energy – an average of $460 per household in 2035 and $490 in 2040.
- Cutting policies that drive innovation and efficiency in the transportation sector will inflate gasoline prices 14 percent in 2035 and 26 percent in 2040, atop near-term upward pressure from the Iran war and other market forces.
- OBBBA and reduced federal support for domestic manufacturing and innovation will cost the U.S. economy 820,000 jobs per year on average over the next decade, in addition to the 144,000 clean energy jobs lost within the past 18 months.
- Slowing down electrification and domestic energy manufacturing will lower GDP in all years, totaling $2.3 trillion cumulative lost GDP, with effects flowing into other economic sectors. The U.S. economy will lose $150 billion in GDP in 2030, peaking at a $250 billion net loss in 2032, then reverting to losses of $200 billion in 2035 and $120 billion in 2040.
- Worsening local air pollution will raise healthcare costs by $43 billion, with annual increases of $4 billion in 2035 and $4.5 billion in 2040, contributing to rising household costs alongside rising energy prices and goods inflation.

This analysis focused on energy policies.[1] While we do not explicitly model impacts of the Iran war or of broad-ranging tariffs, their effects are captured in the model and indirectly affect results. For example, the Strait of Hormuz blockade raised gasoline prices, so policies that slow new electric vehicle (EV) sales will burden consumers with bigger gasoline bills than if the war hadn't taken place. Tariff and inflationary pressure on technology prices and consumer costs up to 2026 are also incorporated where our source data factors in those impacts.

Accordingly, the assessment of net change in costs, particularly on households, should be considered conservative.

State leaders have options to help insulate their constituents from these impacts in meaningful ways: Energy Innovation's state policy blueprint lays out five no-regrets actions state and local governments can take until federal policies change.

- Help hundreds of gigawatts of wind and solar projects qualify for expiring tax credits under safe harbor rules by ensuring they are placed into service by the end of 2030 and pushing utilities to contract with and connect these resources quickly where they would save consumers money.
- Remove barriers to additional clean energy deployment by providing permitting certainty, improving the use of existing grid infrastructure, reducing soft costs, and cutting red tape for businesses and households to install clean energy.

[1] We also do not model the $12.5 billion in projects cancelled by the DOE except for the hydrogen-hub projects. While it is particularly difficult to quantify the emissions impact of many of these early-stage projects, they had potentially outsized ability to transform industries and drive innovation in the U.S.

- Sustain momentum for electric transportation through a mix of policies that will bolster the growing market for EVs and charging infrastructure.
- Double down on efficiency and electrification for buildings and factories by supporting technologies that provide efficient heat and cooling; adopting modern energy codes and standards; offering incentives and enable financing to level the playing field for energy saving measures.
- Stimulate investment in new clean industries, such as modern, efficient heating equipment and industrial parks designed to reduce the infrastructure costs and investment risks of cleaner manufacturing.

While these actions can't replace the pollution reductions and total affordability measures provided by strong federal policy, they can limit price increases, improve health, and add new capacity to the grid.

BACKGROUND AND RESULTS

Electricity Capacity and Generation

OBBBA materially changed clean energy tax credits. The §45Y and §48E production and investment tax credits for wind and solar projects now terminate in 2027 (though a safe-harbor period allows developers to collect tax credits on projects that both commence construction by July 4, 2026, and come online by December 31, 2030). Additionally, OBBBA modified provisions related to sourcing materials from Foreign Entities of Concern, increasing the complexity of these requirements. For other technologies – like geothermal, nuclear, and hydroelectric – new projects have until the end of 2033 to commence construction to receive full 45Y/48E credit values, but these projects cannot scale in a cost-effective manner to fill the significant gap left by wind and solar.

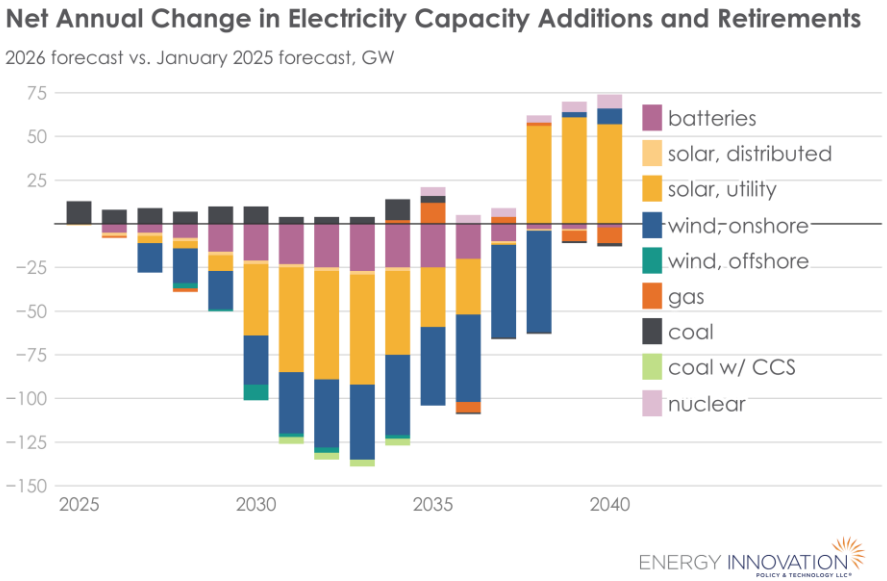
The safe-harbor provision has created a temporary deployment boom as developers pull construction timelines forward to ensure qualification for tax benefits before the final deadline in 2030. Crux Climate and Wood Mackenzie estimate approximately 170–210 gigawatts (GW) of safe-harbored renewables as of early 2026, with 85–90 percent being solar projects.[2] The U.S. Energy Information Administration (EIA) reports 314 GW of utility-scale wind and solar plants currently on the grid, so safe-harbored projects alone could expand America's total solar and wind grid capacity by 54–66 percent.

In addition to OBBBA, regulatory actions have significantly hampered clean energy deployment. Over the last year and a half, the EPA weakened or proposed to repeal several power plant rules, including the Mercury and Air Toxics Standards, GHG power plant rules, and Effluent Limitation Guideline rules. These rules would have forced the dirtiest power plants to reduce emissions of toxic air pollution, capture or eliminate carbon dioxide (CO_2) emissions, and limit discharge of toxic chemicals in wastewater. Unraveling these rules allows coal and gas power plants to continue polluting at unsafe levels and reduces demand for new clean technologies.

[2] Crux Climate reported 170 GW of safe-harbored generation capacity as of February 2026, including 147 GW solar and 23 GW wind. Wood Mackenzie reported between 216 and 240 GWdc of safe-harbored solar as of April 2026, which we convert to estimated GWac here.

In parallel, the Trump administration has made efforts to halt renewables projects, such as adding new permitting review layers, withdrawing the Outer Continental Shelf from disposition for wind-energy leasing, issuing stop-work orders on wind projects, and using taxpayer dollars to pay energy companies to cancel wind projects.

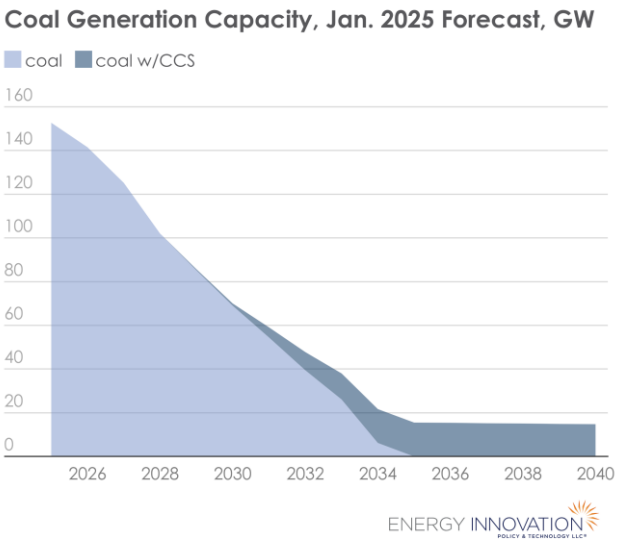
Under current policies, accelerated clean energy construction timelines and surging AI-induced electricity demand will keep clean energy capacity additions high through 2030. The modeling forecasts 170 GW of new solar coming online from 2026 to 2030, alongside 43 GW of wind.

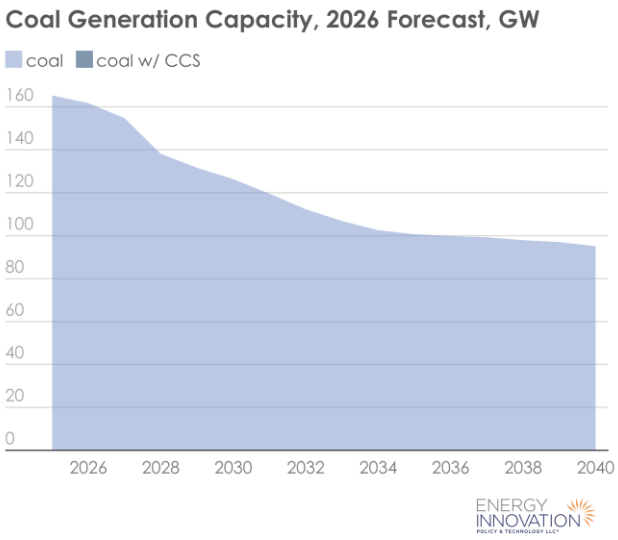


However, following the credits' full termination in 2031, our modeling suggests the industry will significantly contract, adding 68 GW less annual new capacity from 2031 to 2040 than in our January 2025 policies forecast.

This will largely comprise losses in new grid batteries, solar, and onshore wind installations with 16, 13, and 36 GW fewer additions per year on average, respectively.

As shown in the Net Annual Change in Electricity Capacity figure, the combination of terminated tax credits and rescission of EPA power plant rules means expensive coal generation capacity is expected to remain online longer.





The modeling does not forecast any new coal capacity additions, but current policies result in around 100 GW of coal online in 2035 compared to previous forecasts of under 20 GW, largely because of changes to EPA rules.

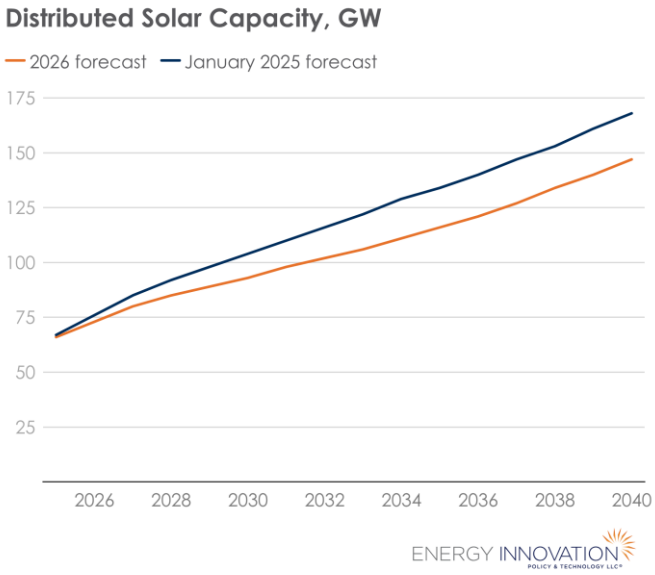
Manufacturing

OBBBA also modified the 45X advanced manufacturing tax credit, which provides tax credits for producing certain materials (e.g., battery cells and modules) meeting domestic content and sourcing requirements. It terminated the credit for wind components early, phased out the critical minerals credit, and tightened the credit qualification for batteries.

Rhodium Group's Clean Investment Monitor shows $13 billion in canceled investment in battery manufacturing facilities from Q1 2025 to present, versus $100 billion in investment announcements from Q3 2022 to present (since the Inflation Reduction Act). Many battery factories continue to move forward, although some have announced plans to shift towards grid battery production considering AI-driven load growth and a transportation-policy reversion towards internal-combustion vehicles.

Buildings

OBBBA terminated the §25D federal tax credit, which offered incentives for homeowners to invest in new, efficient, clean technologies. It also ended the §48E federal tax credit which provided funding for commercial building owners who invested in rooftop solar. Lastly, the EPA terminated its $7-billion *Solar for All* competitive grant program, which aimed to expand solar deployment within low-income and disadvantaged communities. Together, these policies will reduce distributed solar deployment by 21 GW through 2040.[3]



Transportation

OBBBA terminated clean vehicle tax credits that provided up to $7,500 for new or leased clean passenger vehicles and up to $40,000 for clean commercial vehicles. Congress also rescinded the EPA's waiver for California's tailpipe CO_2 rules and eliminated any non-compliance penalties for vehicles failing to meet National Highway Traffic Safety Administration corporate average fuel economy standards, and the EPA later rescinded its tailpipe CO_2 rules for cars and trucks.

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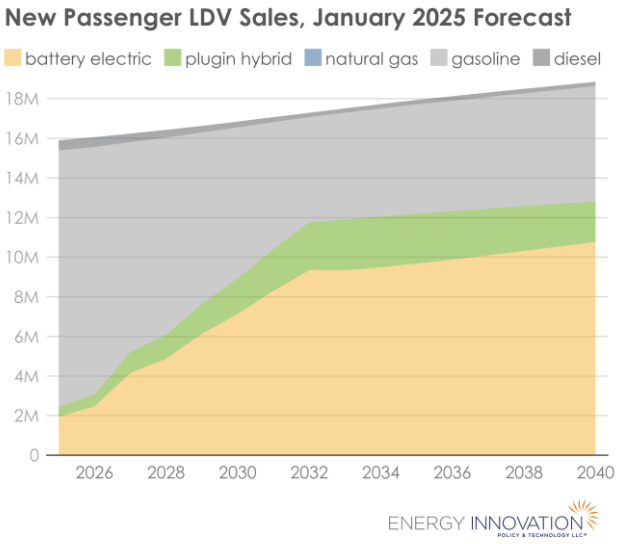
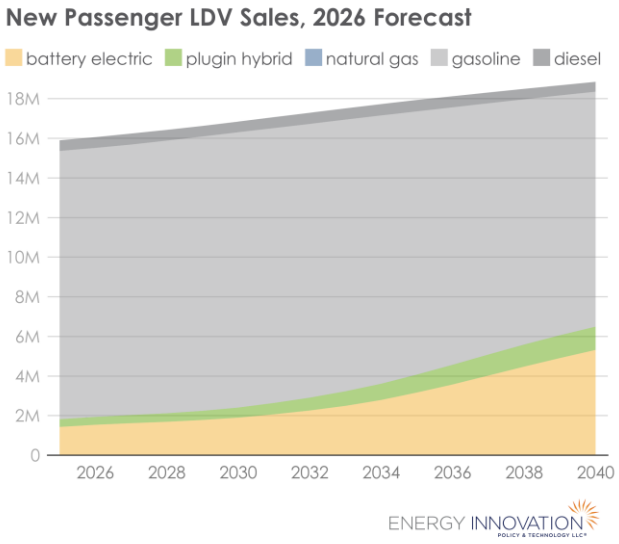
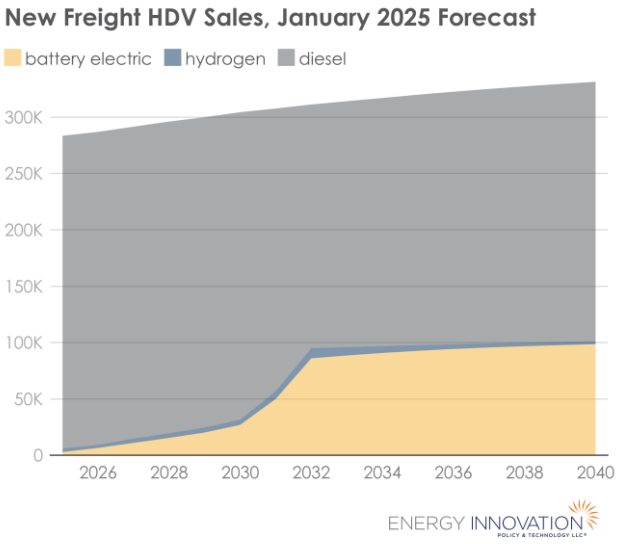
[3] We model a loss of the full 4 GW in distributed solar deployment projected from *Solar for All* termination, as only 1 percent of the obligated funds were drawn down by grantees before cancellation. We find another 17 GW of solar deployment lost as a result of 25D and 48E tax-credit early termination.

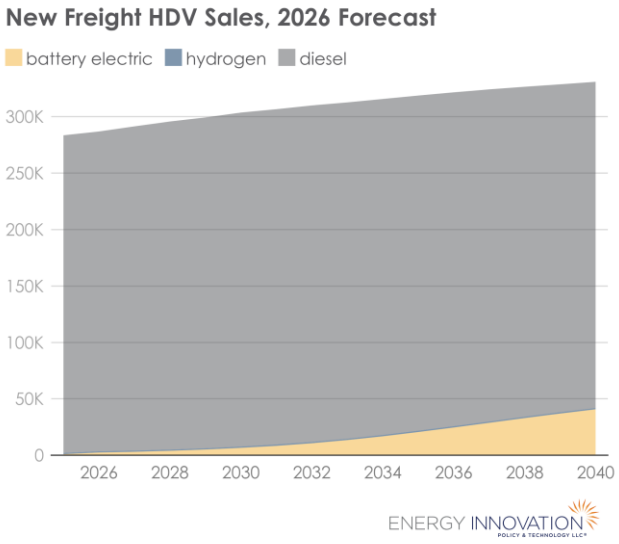
As a result, the modeling finds significantly reduced U.S. passenger EV sales, with EVs comprising 23 percent of new car/SUV sales in 2035, versus earlier projections of 68 percent.





Pollution rules and purchase incentives for heavy-duty trucks were forecast to drive clean truck sales by the 2030s. Absent incentives and rules, the modeling similarly finds sales of new zero-emission trucks fall from 31 percent to 7 percent in 2035.





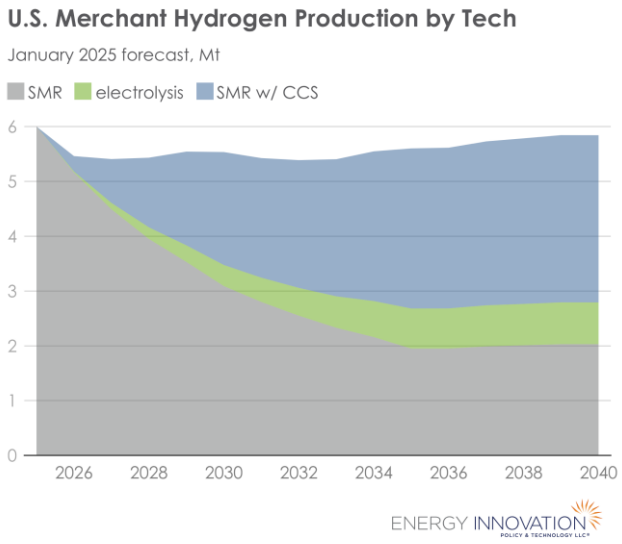
Hydrogen

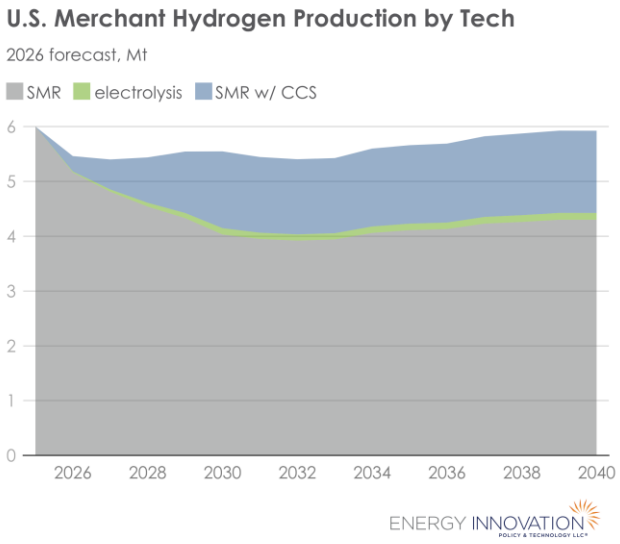
OBBBA modified the end date for the 45V clean-hydrogen tax credit – projects must now commence construction before 2028 to qualify, rather than 2033. The modified credit timeline favors hydrogen derived from CCS-equipped natural gas (blue), which is quicker to build than electrolytic hydrogen capacity, and was expected to gradually grow cheaper as electrolyzers come down in cost. DOE also eased qualification of blue hydrogen for 45V.

Simultaneously, DOE terminated funding for two of seven regional clean hydrogen hubs: the ARCHES Hub in California and Pacific Northwest Hub. These specific hubs aimed to demonstrate green electrolytic hydrogen production, while most surviving hubs skew towards gas-with-CCS (blue) production.

These changes shrank the pool of qualifying hydrogen projects by shortening the timeline for construction and shifted it towards natural gas CCS projects, away from electrolysis. As a result, the model forecasts less clean hydrogen overall, with a skew towards blue hydrogen (1.4 Mt now vs. 2.9 before) and away from green hydrogen (0.12 Mt now compared to 0.73 before).

America now stands as a global outlier, as most clean hydrogen production outside the U.S. will come from electrolysis, driven by strict demand levers in regions like the European Union and electrolyzers' greater potential for long-term cost declines.





Energy Prices

The U.S. is currently witnessing its biggest surge in electricity demand in decades. Load growth was roughly flat dating back to the early 2000s, but the rise of data centers and electrification is putting the grid under new strain, pushing utilities, developers, market operators, and large energy users to build whatever they can to meet demand.

In tandem, many technology prices have increased. Combined-cycle gas turbine plants, for example, have soared from between $1,000 and $1,400 per kilowatt (kW) for projects scheduled for completion in 2026-27 to over $2,000/kW for recently commenced projects, according to GridLab.

A global gas-turbine shortage compounds the problem, with Wood Mackenzie claiming six-year lead times on new orders as of April 2026. And orders for behind-the-meter (BTM) installations to power data centers will eat up a considerable share of generator-manufacturing capacity. Cleanview estimates 90 GW of planned BTM generation capacity in queue in the U.S. RAND forecasts 32 GW of BTM additions from 2026 to 2030. As a result, the bulk of new capacity being built to meet rising utility demand is solar, wind, and batteries. The EIA projects nearly 90 percent of new additions will be from these clean sources in 2025, 2026, and 2027,.

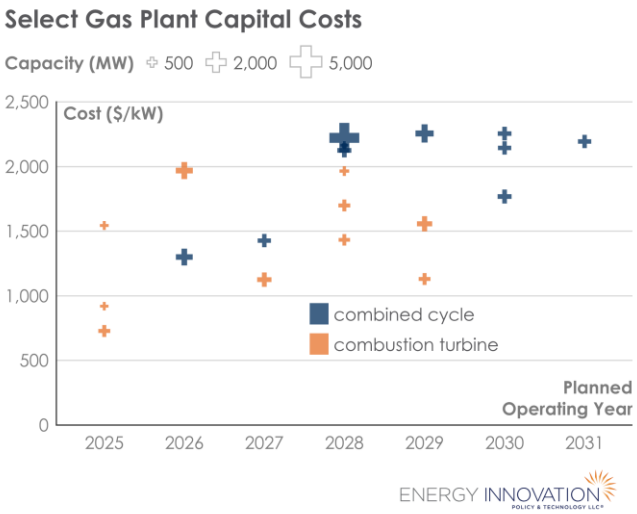


Chart: Energy Innovation • Source: GridLab

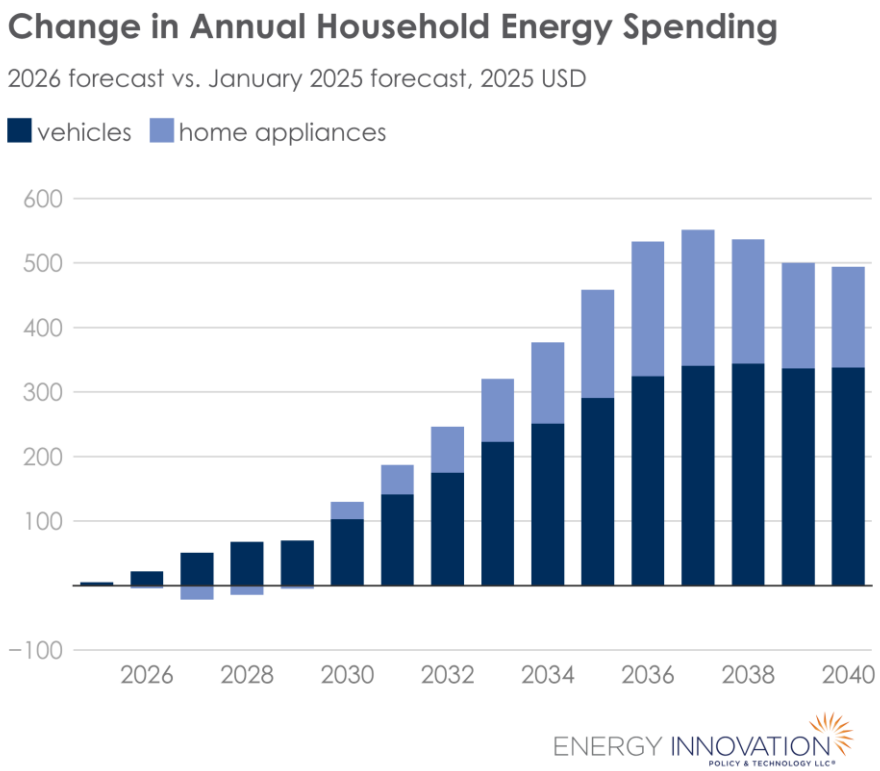
Trump administration and Congressional actions over the past 18 months have exacerbated price increases. The rule changes for tax credits alone could double costs for new projects when tax credits expire, depending on the technology and other factors. Refusal to issue permits for new facilities is also hampering how quickly projects can be deployed. Limiting the ability to build new clean energy increases fossil fuel dependence, which forces price increases for fuels like natural gas as demand increases.

Our modeling finds that by pushing up natural gas demand, recent policies will raise gas prices paid by power plant operators by 10 percent by 2040 versus 2025 levels. If not for the policies, we forecast operators would have seen a 31 percent decrease over the same timeline as the grid shifted towards renewables. Prices paid by homeowners will follow suit, with 2025-26 policies raising consumer gas prices by 13 percent and electricity rates by 12 percent in 2040.

Repealing transportation sector electrification policies will significantly boost demand for refined petroleum products, driving a 37¢/gallon increase in gasoline prices in 2035 and a 64¢/gallon increase in 2040 because of greater demand (in 2025 USD). These increases would be in addition to any continued price increases from the Iran war.

OBBBA aimed to offset demand pressures with increased oil and gas leasing on federal lands and waters. However, it's unclear oil majors will drill more in response to more frequent auctions; the first three post-OBBBA auctions yielded low interest, including one auction generating only a single bid. [4]

[4] Our July 2025 modeling of OBBBA estimated a summed 3.3 million acres would be leased between these three auctions; the auctions yielded successful bids on only approximately 1.1 million bids between the two Big Beautiful Gulf auctions. The Big Beautiful Cook Inlet auction yielded no interest. Separately, a June lease sale in the Arctic National Wildlife Refuge yielded bids on only five of 58 offered tracts, for a total of $3.7 million in revenue, with no bids from oil majors.



Our modeling finds these policy changes will lower crude and wholesale natural gas prices by less than 0.4 and 0.7 percent in 2035, respectively, far less than demand related increases.

These price reductions from additional leasing are included in all reported price changes.

Fewer consumers will be driving EVs, which are significantly cheaper to operate than gasoline or diesel engine vehicles.

In all, we project annual energy spending will increase by $460 per household in 2035 and $490 per household in 2040, with a cumulative $4,500 increase over the 15 years from 2026 to 2040. Near-term increases will be driven by higher spending on gasoline. In the 2030s, after many federal tax credits expire, elevated electricity and natural gas prices will exacerbate residential utility bill increases.

The Economy and Labor Market

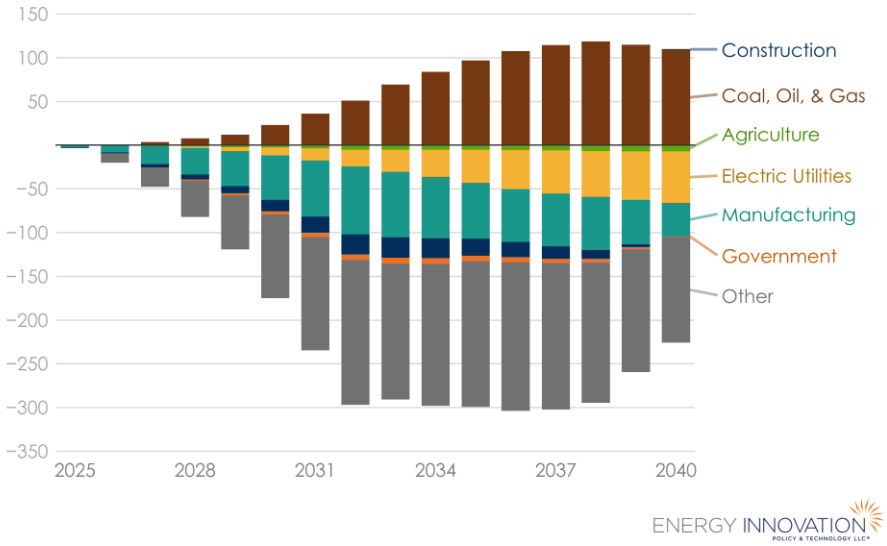
By repealing tax credits and rules aimed at driving American innovation, recent energy policy threatens America's' budding clean energy manufacturing base and labor force. Rhodium's Clean Investment Monitor shows approximately $13 billion in canceled manufacturing facility investment since Q1 2025.

Our modeling finds a net loss in GDP in all years as federal policies slow down electrification and domestic energy manufacturing, totaling $2.3 trillion cumulatively lost GDP from 2026-2040, with the effects flowing into other economic sectors. Near-term manufacturing GDP will be reduced by $51 billion by 2030 and $78 billion in 2032. Our modeling finds the fossil industry will grow due to 2025/26 federal policy changes, peaking at a $119 billion gain in 2038.

Including those gains, our modeling shows a net change of $150 billion lost GDP in 2030, peaking at a $250 billion net loss in 2032, then reverting to losses of $200 billion in 2035 and $120 billion in 2040.

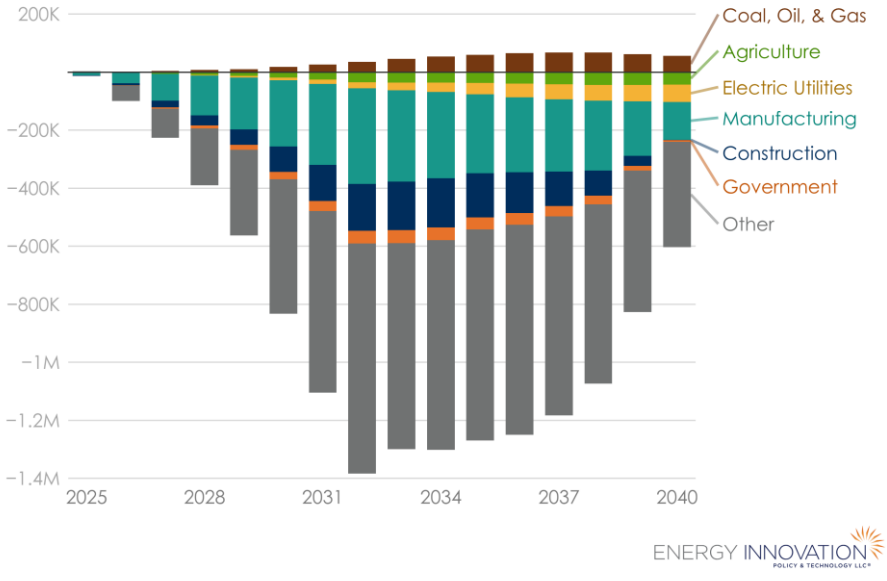
Change in GDP by Sector

2026 forecast vs. January 2025 forecast, billion 2025 USD



Change in Domestic Jobs by Sector

2026 forecast vs. January 2025 forecast



The "other" category represents output from the rest of the economy, in fields like trade, transportation, hospitality, real estate, finance, education, and healthcare.

As these policy choices slow the U.S. economy, the labor market will contract in tandem. Our modeling finds federal energy policies will cost America 810,000 jobs in 2030, with a peak of 1.3 million jobs lost in 2032 and a reversion to around 550,000 jobs lost in 2040. Losses will be especially focused in manufacturing, peaking at 330,000 job losses in 2032.

Utilities will expand more slowly due to impeded electrification (despite the AI data center demand increases), while coal/oil/gas production and refining will only offset gross losses by a peak of under 67,000 new jobs in 2038.

Notably, the impact of faster fossil industry growth and slowed utility industry growth are more significant in GDP terms than employment, since these sectors are less labor intensive than other sectors like construction and manufacturing.

Pollution and Healthcare Spending

Burning fossil fuels releases pollutants with varying effects on the environment and public health: particulate matter lodges in lungs and bloodstream, nitrogen oxides (NOx) contribute to smog and ozone, and sulfur oxides (SOx) cause respiratory problems. Federal energy policies will bolster coal power plants and internal combustion engine vehicle sales, raising local pollution levels and harming community health, especially among children and the elderly, raising healthcare costs across America.

We project that increased pollution from these policies during the 15-year window from 2026 to 2040 will raise Americans' healthcare-related costs by $43 billion. This figure includes only direct healthcare costs, and excludes economic valuation of premature mortality, work loss days, school loss days, and minor restricted activity days, as explained in the footnote for Table 1.

Table 1. Annual change in health endpoints due to 2025/26 energy policies alongside economic valuations

Health Endpoint	Change, 2035	Change, 2040	Costs, 2035 ($ million)	Costs, 2040 ($ million)
Childhood asthma exacerbations	4,400,000	4,900,000	$1,200	$1,400
New childhood asthma cases	26,000	30,000	$2,200	$2,500
New childhood hay fever/rhinitis cases	170,000	200,000	$200	$230
New lung cancer cases	240	250	$12	$12
New stroke cases	200	200	$13	$13
New cardiac arrest cases	45	44	$3.1	$3.0
Emergency room visits (respiratory)	10,000	12,000	$17	$20
Emergency room visits (cardiac)	1,000	1,000	$2.3	$2.3
Hospital admissions (respiratory)	660	740	$24	$27
Hospital admissions (cardiovascular)	500	510	$15	$15
Hospital admissions (Alzheimer's)	1,900	2,000	$44	$46
Hospital admissions (Parkinson's)	220	220	$5.5	$5.5
Non-fatal heart attacks	2,500	2,500	$230	$240
Total costs, healthcare[5]	-	-	**$4,000**	**$4,500**
Premature adult mortality	10,000	11,000	$5,600	$6,000
Infant mortality	6	6	$9.7	$9.7
Restricted activity days	2,100,000	2,100,000	$270	$270
Work loss days	360,000	360,000	$110	$120
School loss days	1,900,000	2,200,000	$3,500	$4,100
Total costs, healthcare + societal	**-**	**-**	**$14,000**	**$15,000**

[5] Healthcare cost estimates exclude four categories: premature mortality (valued using discounted present value of foregone lifetime productivity), minor restricted activity days (valued as the willingness to pay to avoid mild symptoms), work loss days (lost wages), and school loss days (caregiver lost wages and discounted lost future earnings from reduced learning). These endpoints represent welfare losses and productivity impacts that, while real, are distinct from healthcare spending. This sum includes all other categories. Notably, healthcare cost values combine single-event costs (e.g., hospitalizations) with discounted present-value estimates of multi-year treatment costs (e.g., 5-year lung-cancer treatment), all expressed in 2025 USD.

When accounting for related costs, such as households' lost wages from missed workdays, the health-related cost of pollution rises to $14 billion per year by 2035 and $15 billion per year by 2040, or a cumulative $140 billion from 2026 to 2040.

All health outcomes and costs reported here correspond only to increased particulate matter, NOx, and SOx air pollution. We do not include alternate measures such as heat-related illnesses and death – often accounted for through the social cost of carbon – or illness related to other pollutants such as mercury toxicity from extending the lifetime of coal plants.

METHODOLOGY

Our model's current policies scenario projects the evolution of the energy system under current federal and state policies as of July 2026. This report's analysis compares the current policies baseline to a January 2025 policy counterfactual.

Full results from our modeling and the model repository are available on Zenodo.

The scenario's documentation is available on the EPS docs website.

