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EVOLVED ENERGY RESEARCH

A Fork In The Road: Impacts of Federal Policy Repeal On The U.S. Energy Transition

May 2025

A Fork In The Road: Impacts of Federal Policy Repeal On The U.S. Energy Transition

Jesse D. Jenkins[1], Jamil Farbes[2], Ryan Jones[2], Abigail Cheng[1], Qian Luo[1], and Ben Haley[2]

1. Princeton University, Zero-carbon Energy Systems Research and Optimization Laboratory (ZERO Lab)
2. Evolved Energy Research

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Forward

This report summarizes REPEAT Project's analysis of the impacts of changes in federal policy proposed by the administration of President Donald Trump and the Republican majority in Congress on the U.S. energy transition. President Trump and Congressional Republicans have vowed to repeal and replace many of the legislative and regulatory policies created by the Biden Administration and 117th Congress to accelerate the transition to a cleaner U.S. energy system. If completed, these repeals may reshape the U.S. policy landscape once again. REPEAT Project continues to assess the impact of specific policy changes as legislative and regulatory changes are proposed and enacted. In this report, we assess three policy scenarios meant to bracket the range of likely outcomes:

A trio of **Continued Policies** scenarios ('Conservative', 'Mid-range', and 'Optimistic') assume the continuation of the full suite of policies enacted under the Biden Administration, including the combined impact the Inflation Reduction Act of 2022 (IRA) and the Infrastructure Investment and Jobs Act of 2021 (IIJA). This scenario also includes a set of regulatory policies enacted by the Biden Administration, including: Environmental Protection Agency (EPA) greenhouse gas emissions regulations on power plants, light and heavy vehicles, and oil and gas sector methane pollution; Department of Energy (DOE) efficiency standards; and Department of Transportation (DOT) vehicle fuel economy standards. The range of outcomes spanned by the three scenarios reflect uncertainty about the effectiveness of policy provisions and the potential impacts of constraints on siting, interconnection, supply chains and other rate-limiting factors.

An **Executive Repeal** scenario assesses the impact of executive actions the Trump administration has stated it will take to unwind Biden-era climate and clean energy policies. This includes repeal of all EPA greenhouse gas regulations, DOT vehicle fuel economy standards, and DOE efficiency rules. The scenario also assumes executive agencies freeze distribution of all unspent funding made available by the IRA and IIJA.

A **Full Repeal** scenario includes all of the executive actions included in the Executive Repeal scenario and also assumes full repeal of all tax incentives created by the Inflation Reduction Act at the end of 2025. On May 22, 2025, the U.S. House of Representatives passed the partisan budget bill, H.R. 1, which substantially repeals nearly all of the tax credits enacted by the IRA to support clean electricity, fuels, vehicles and manufacturing. The bill also rescinds all unobligated funding for clean energy and climate programs enacted by the IRA and the IIJA. **The potential impact of H.R. 1 is thus substantively similar to this Full Repeal scenario**.

We also provide a **Net-Zero Pathway** benchmark scenario. This scenario reflects a transition to net-zero greenhouse gas emissions across the economy by 2050.

Given the significant uncertainty about future outcomes, **all results in this report should be considered approximate**. REPEAT Project updates our analysis regularly as new data and inputs become available and new policies are proposed and enacted.

Note that this work has not been subject to formal peer review.

Summary

Full repeal of current federal energy and climate policies would:

- Increase U.S. greenhouse gas emissions by roughly 0.5 billion metric tons per year in 2030 and more than 1 billion metric tons per year in 2035.
- Raise U.S. household and business energy expenditures by $25 billion annually in 2030 and over $50 billion in 2035.
- Increase average U.S. household energy costs by roughly $100 to $160 per household per year in 2030 and roughly $270 to $415 per household per year in 2035.
- Reduces cumulative capital investment in U.S. electricity and clean fuels production by $1 trillion from 2025-2035.
- Imperil a total of $522 billion in announced but pending investments in U.S. clean energy supply and manufacturing.
- Reduce annual sales of electric vehicles by roughly 40% in 2030 and end America's battery manufacturing boom.
- Substantially slow electricity capacity additions, raising national average retail electricity rates and monthly household electricity bills by about 9% in 2030 — and as much as 17% in some states (including TX, OK and PA).
- Kill off the nascent clean hydrogen, CO_2 management, and nuclear power sectors.

Greenhouse Gas Emissions

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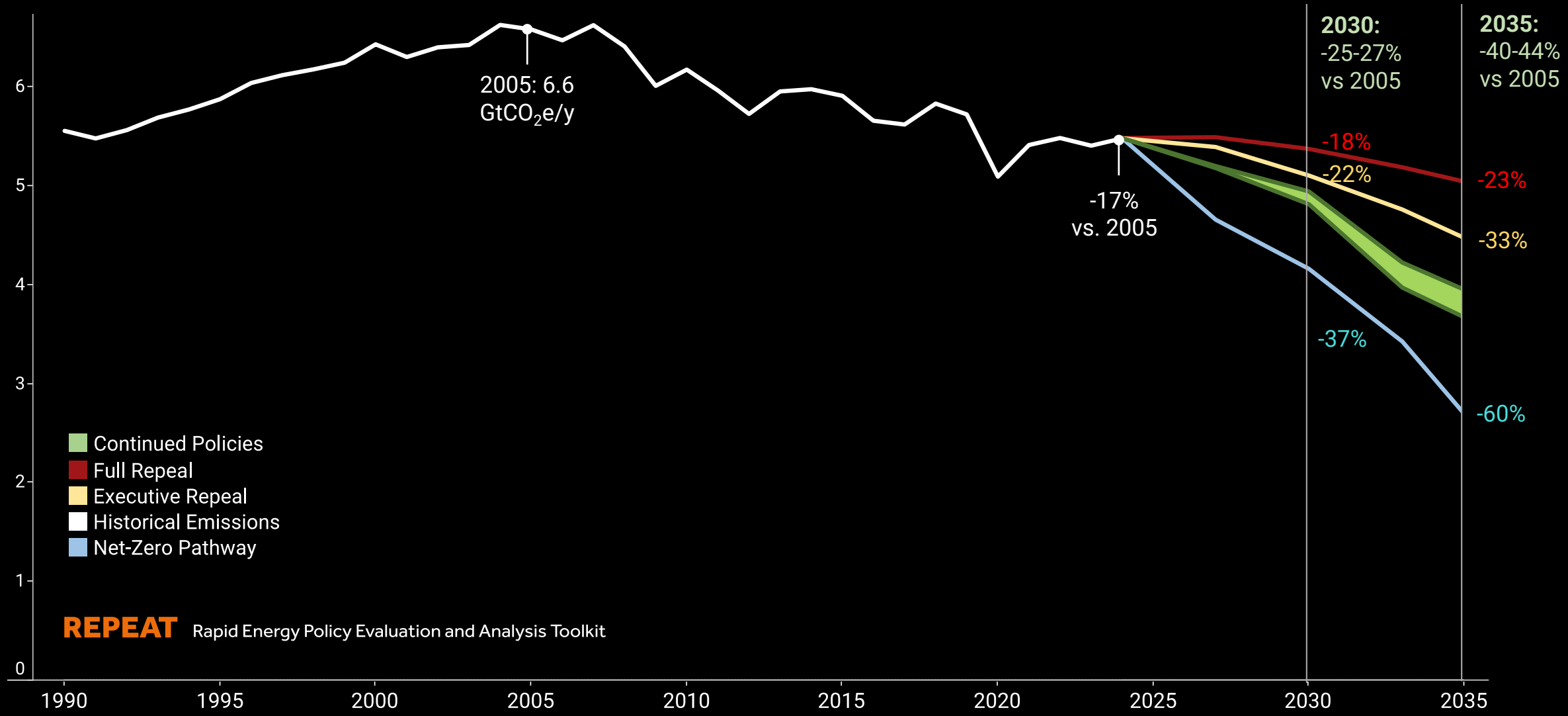
Historical and Modeled Net U.S. Greenhouse Gas Emissions (Including Land Carbon Sinks)

billion metric tons CO2-equivalent (Gt CO2-e)



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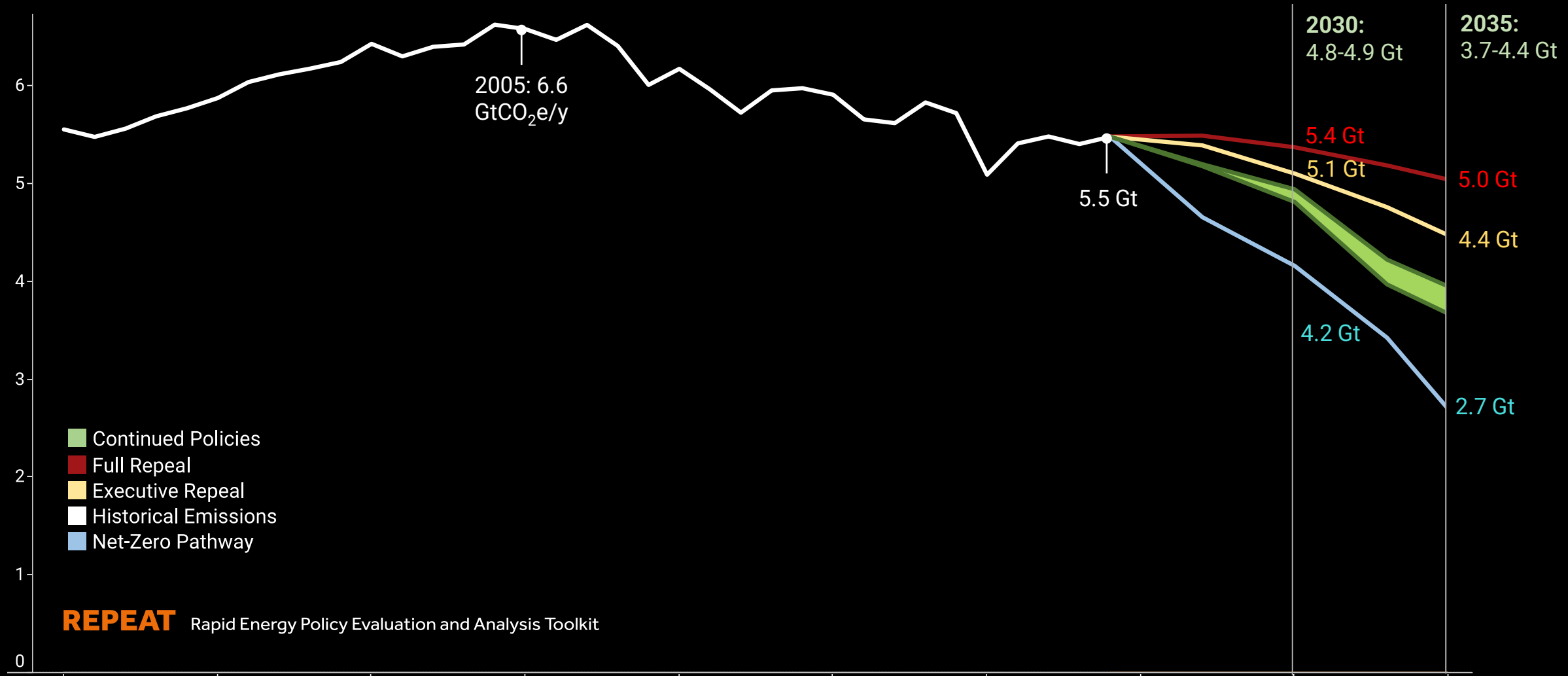
Historical and Modeled Net U.S. Greenhouse Gas Emissions (Including Land Carbon Sinks)

billion metric tons CO2-equivalent (Gt CO2-e)



Changes in sectoral emissions

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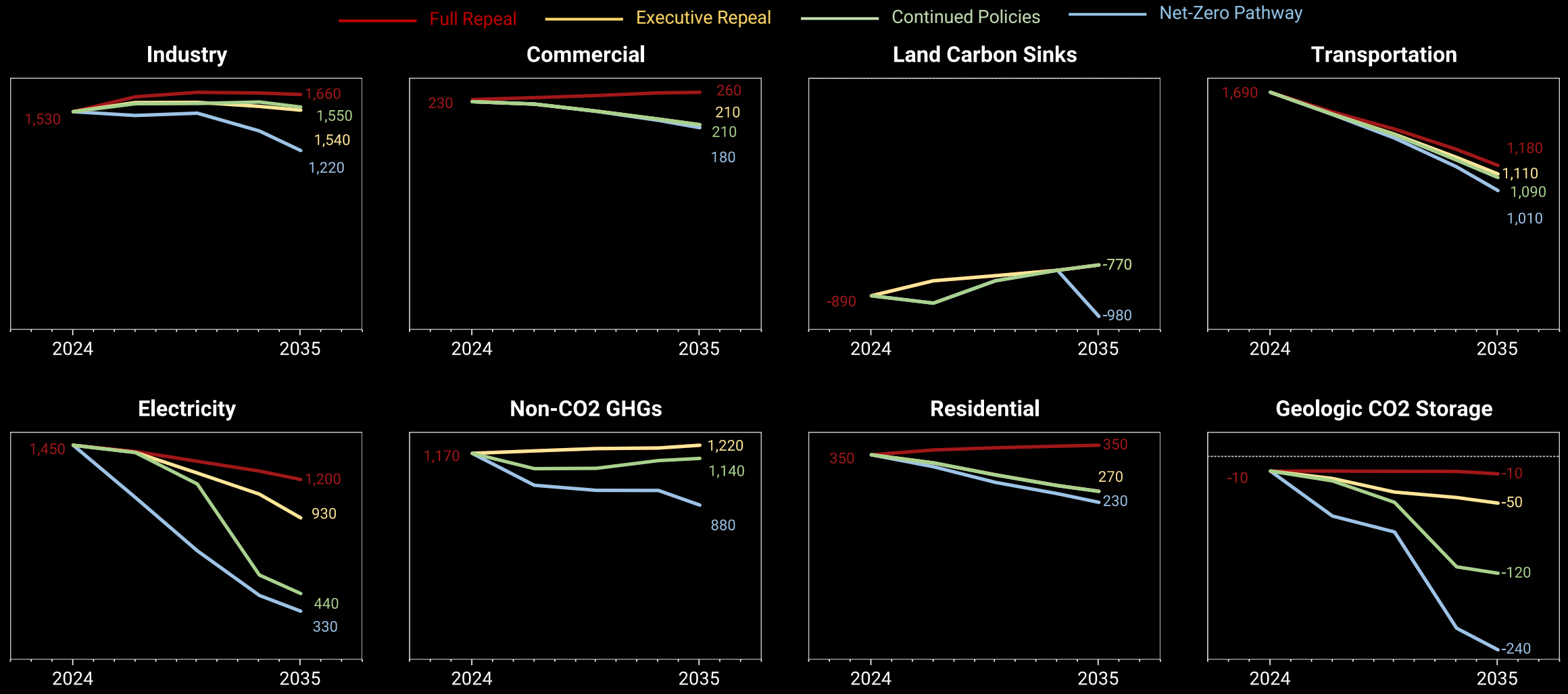
Modeled U.S. Greenhouse Gas Emissions By Sector

million metric tons CO2-equivalent (Gt CO2-e)



Increases in emissions by sector

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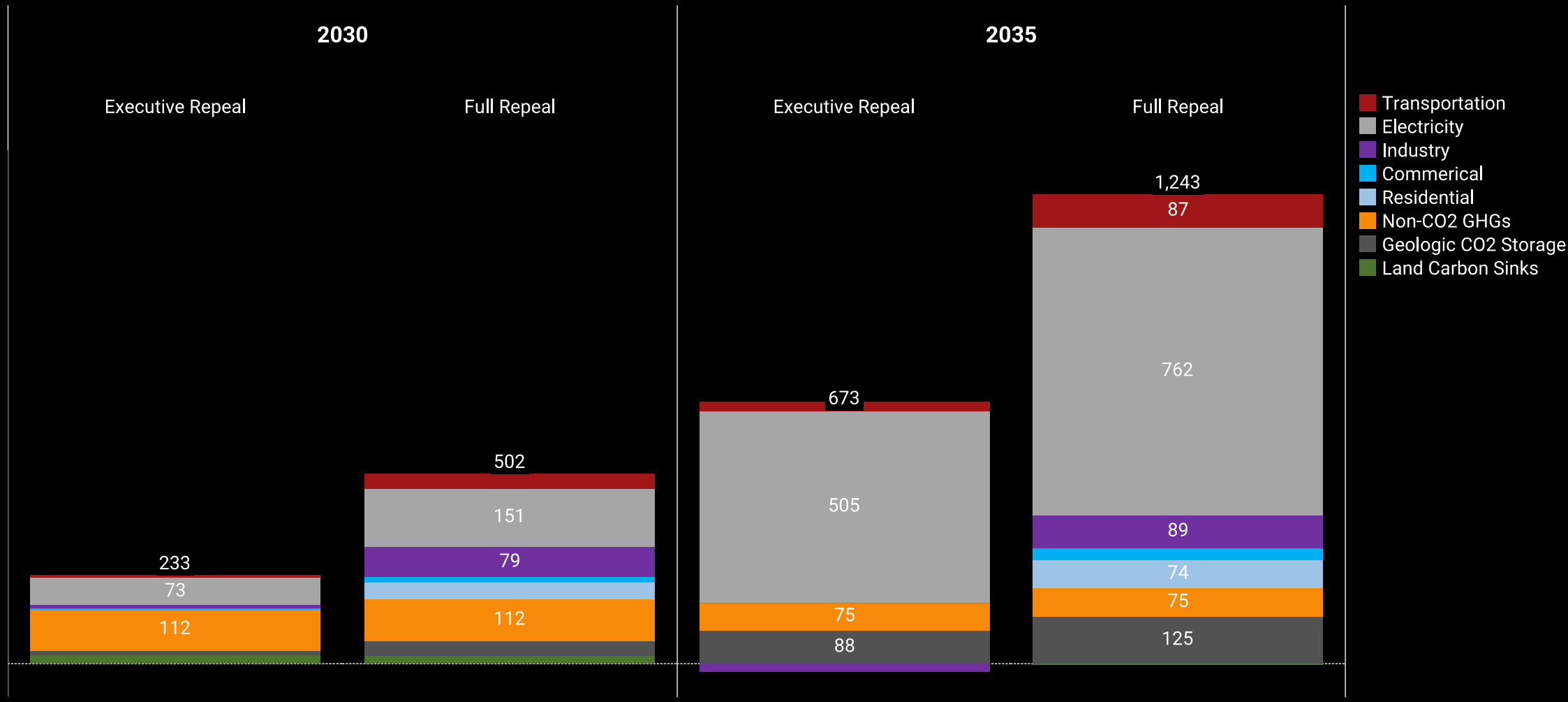
Change in Sectoral Emissions Due to Repeal of Continued Policies[1]

million metric tons CO2-equivalent (Mt CO2-e)



1 – Comparison is vs Continued Policies – Mid-range case

Energy Costs and Consumption

Repeal raises US energy costs

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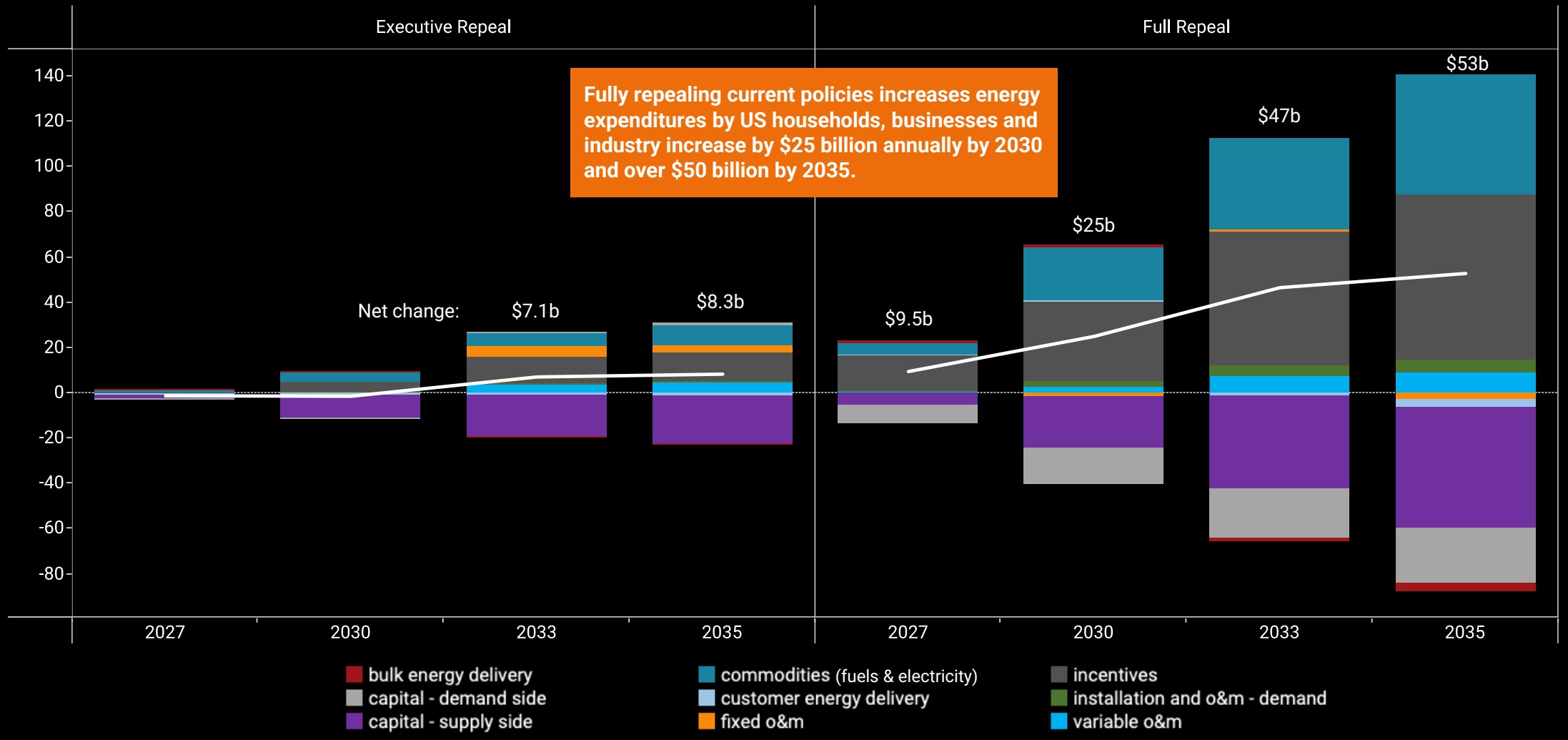
Change in Annual US Energy Expenditures Due to Repeal of Continued Policies[1]

Billions of 2022 dollars



1 – Note: REPEAT Project's modeling suite does not capture endogenous changes in coal, natural gas, or petroleum product prices as a function of changes in demand. Increases in consumption of fossil fuels under repeal scenarios would likely further increases prices and thus total energy expenditures beyond the levels depicted here.

Household energy expenditures rise

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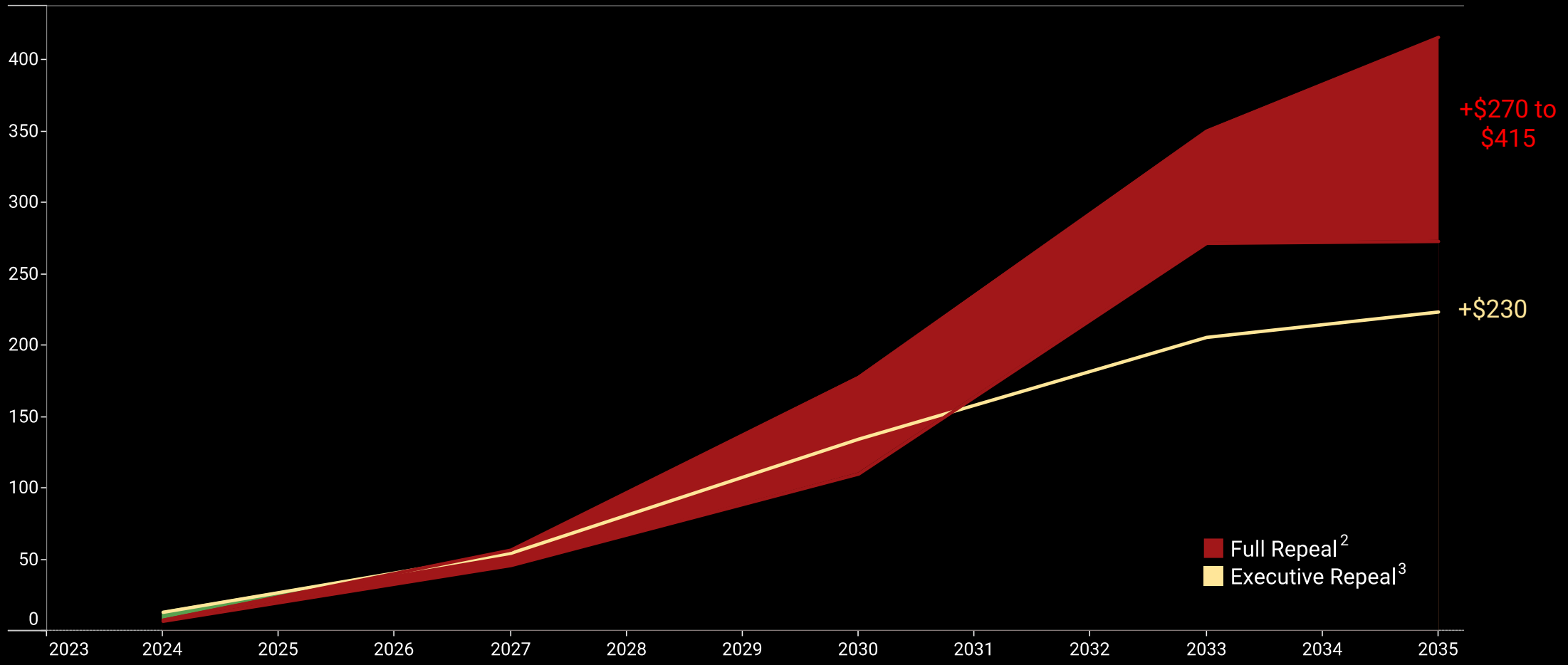
Change in Average Household Annual Energy Costs[1]

2022 dollars per year



1 – Note: REPEAT Project's modeling suite does not capture endogenous changes in coal, natural gas, or petroleum product prices as a function of changes in demand. Increases in consumption of fossil fuels under repeal scenarios would likely further increases prices and thus total energy expenditures beyond the levels depicted here.

2 – Low end of range reflects difference between Full Repeal and Continued Policies – Conservative and high end reflects difference vs Continued Policies – Optimistic.

3 – Comparison to Continued Policies – Mid-range.

Retail electricity prices increase

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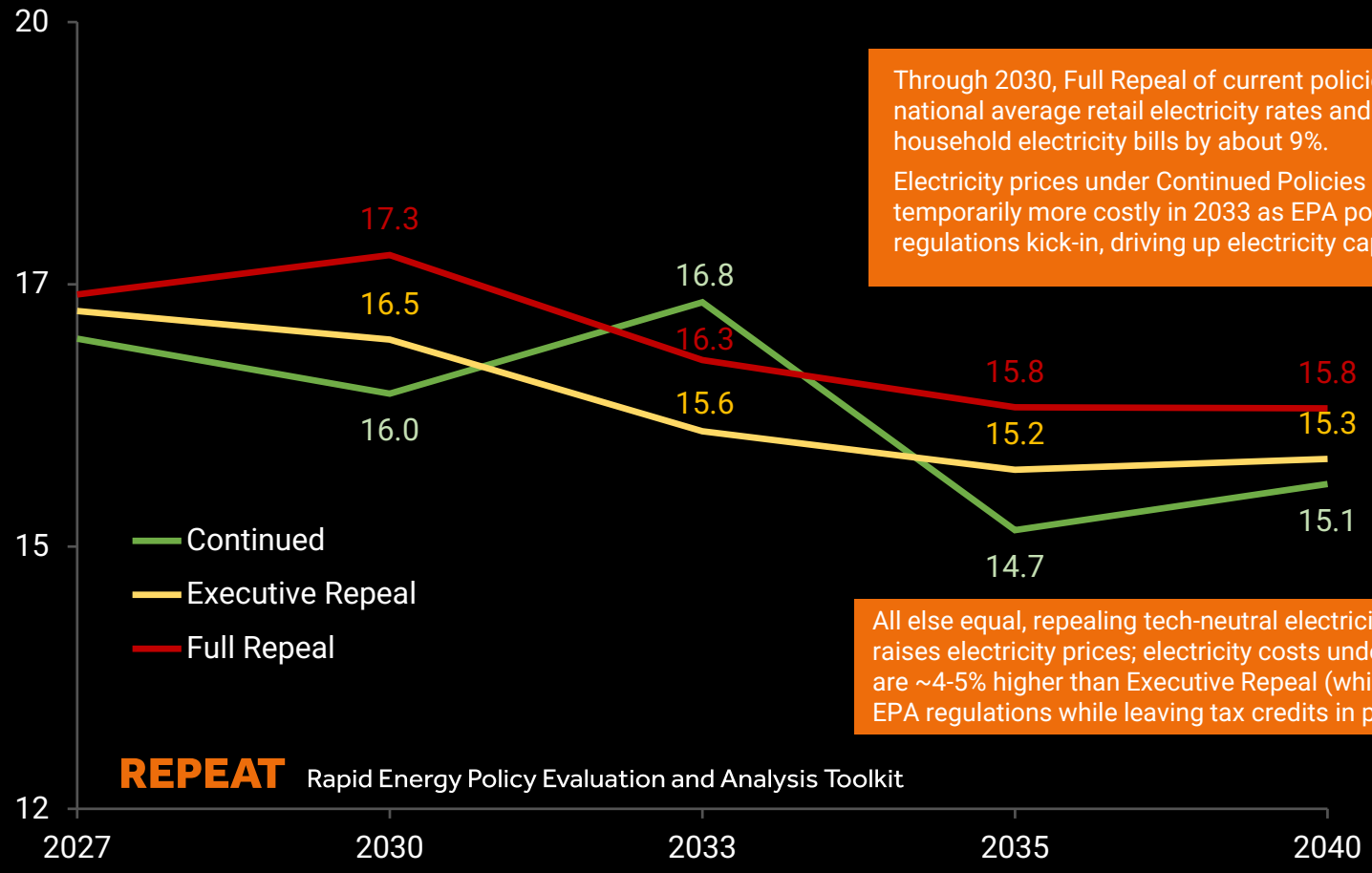
National Average Retail Electricity Price[1]

2022 cents per kWh



Through 2030, Full Repeal of current policies increases national average retail electricity rates and monthly household electricity bills by about 9%.

Electricity prices under Continued Policies are temporarily more costly in 2033 as EPA power plant regulations kick-in, driving up electricity capacity prices.

All else equal, repealing tech-neutral electricity tax credits raises electricity prices; electricity costs under Full Repeal are ~4-5% higher than Executive Repeal (which removes EPA regulations while leaving tax credits in place).

National Average Household Monthly Electricity Bill Estimate[2]

1. Source: Retail electricity price is based on EPA's Retail Price Model involving calculations for regulated and deregulated wholesale market structures. External inputs are from EIA AEO 2024 and the PUDL Project.
2. Source: National average monthly household consumption is from EIA AEO 2022 with scaling factors from EIA AEO 2025.

Retail rates in states with deregulated wholesale markets are more sensitive to EPA power plant regulations

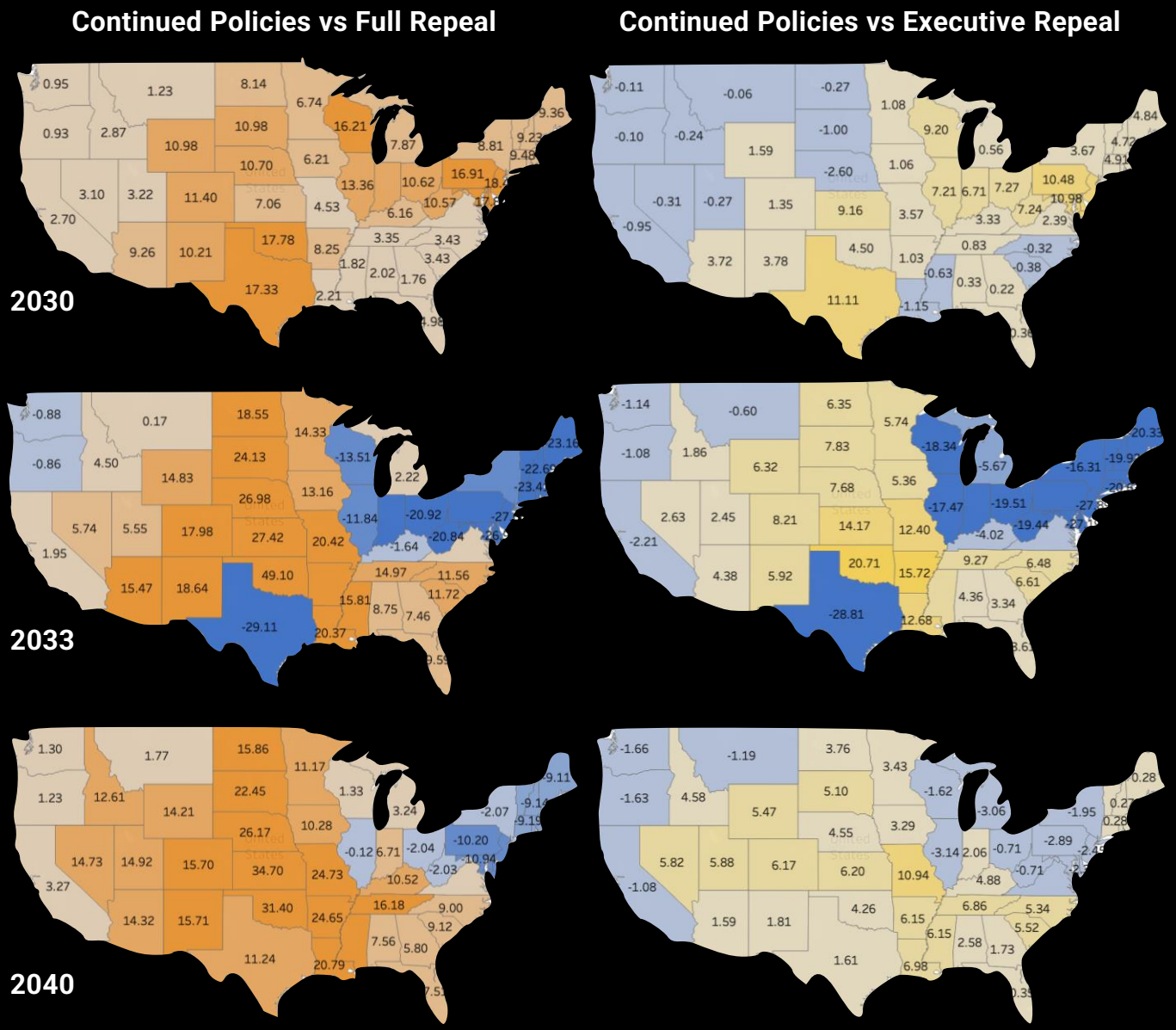
In states dominated by deregulated wholesale markets (e.g. TX and PA), the **relative costs of the Continued Policies and Repeal scenarios are primarily driven by capacity and energy market price increases**. For example, in Texas & Pennsylvania, Full Repeal raises electricity rates by about 17% in 2030. By 2033 however, rates in Continued Policies become more expensive in Texas and the PJM and Northeast regions, as EPA regulations trigger coal plant retirements and cause capacity market prices to rise, which are passed on to customers. By 2035-2040, more new capacity is built, stabilizing prices under Continued Policies and making rates higher under Full or Executive Repeal in most states.

For states dominated by regulated utilities (e.g. in the Great Plains, Southwest & Southeast), both **Repeal scenarios consistently lead to higher electricity rates**. This is because average costs increase due to slower wind and solar capacity additions, which means supply fails to keep up with new demand and the generation mix leans on higher-cost fossil generators.

Continued Policies is more expensive | No difference between scenarios | **Full or Executive Repeal is more expensive**

Difference in State Average Retail Rates

percent difference

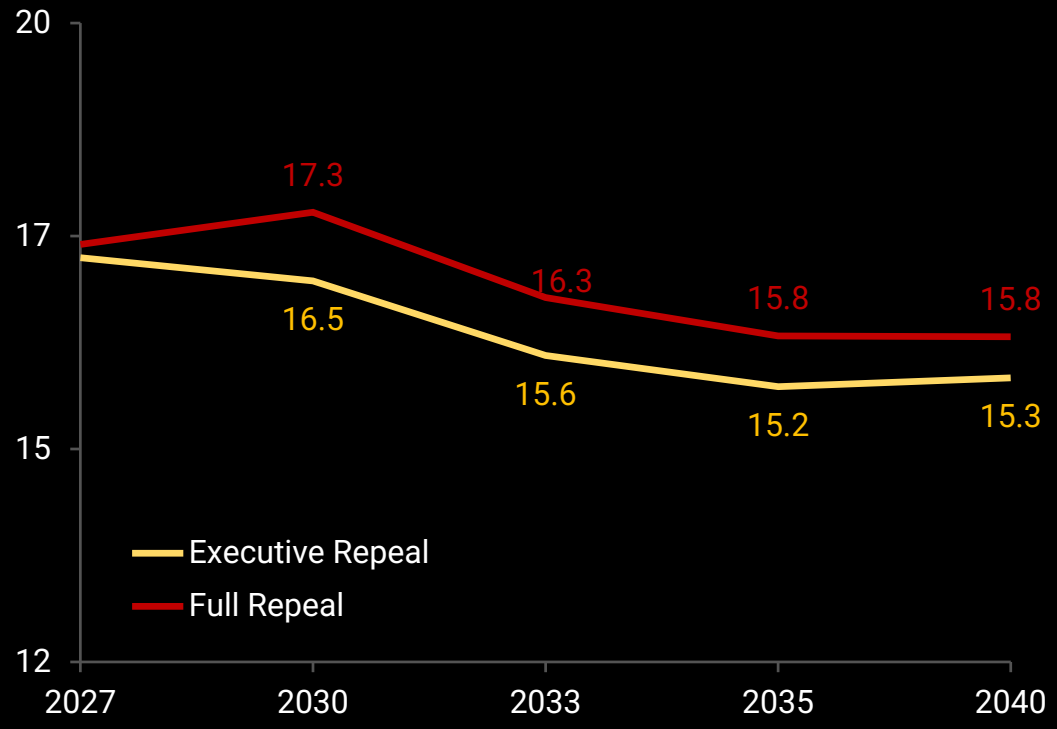


Repealing tech-neutral tax credits increases electricity rates ~4-5% on average and as much as 24% in certain states.

While both Repeal scenarios continue to rely more on coal plants with the repeal of EPA regulations, eliminating the tech-neutral tax credits in the Full Repeal scenario increases overall costs through a shift to fossil fuels with higher generation costs and removal of subsidies lowering cost of new electricity supply. This effect is especially pronounced in states with regulated wholesale markets, where increases in average generation costs are directly passed to consumers.

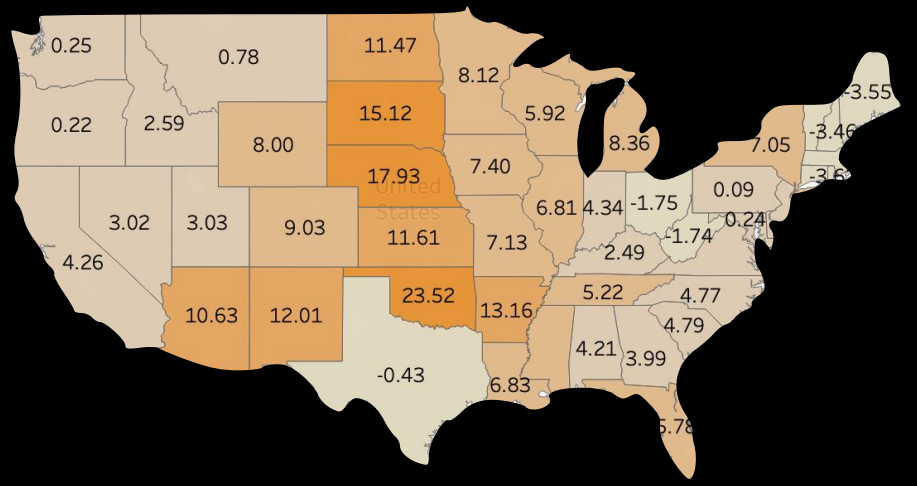
National Average Retail Electricity Price[1]

2022 cents per kWh



Difference in State Average Retail Rates in 2033 for Full Repeal vs Executive Repeal

percent difference



Executive Repeal is more expensive

Full Repeal is more expensive

REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

Fuel consumption higher under repeal

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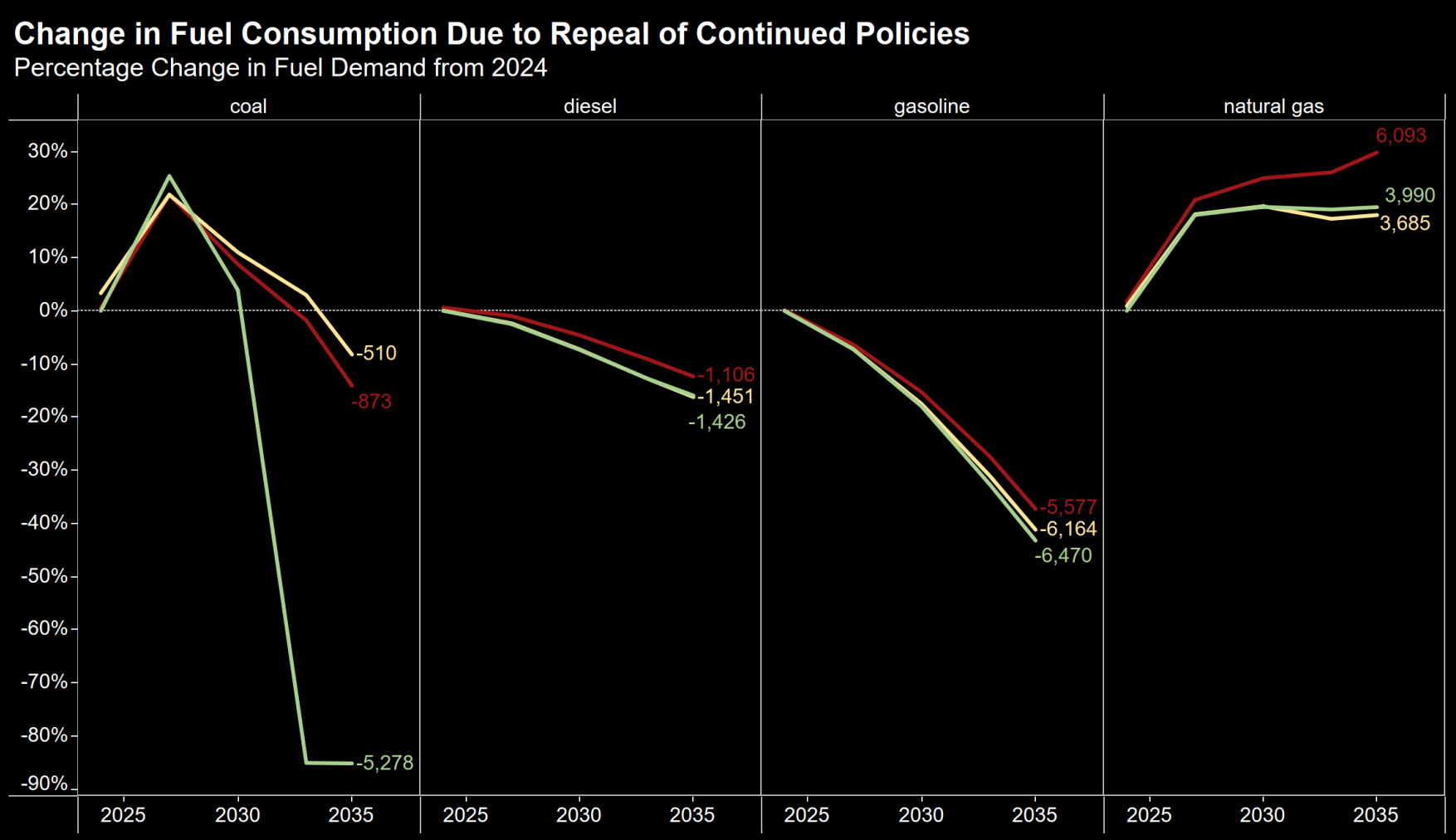


Fuel use increases under Repeal scenarios, as reduced sales of EVs, efficient appliances, and renewable electricity increase consumption of coal, motor fuels and natural gas.

REPEAT Project's modeling suite does not capture endogenous changes in coal, natural gas, or petroleum product prices as a function of changes in demand. Increases in consumption of fossil fuels under repeal scenarios would likely further increases prices and thus total energy expenditures not shown in this analysis.

For example, Rhodium Group estimates that increases in fuel consumption under repeal of current policies would increase retail gasoline prices 1-5% in 2035 (an increase of ~3-15 cents/gallon) and Henry Hub natural gas prices would increase 2-7%.

Energy Related Investment

Repeal eliminates up to $1 trillion in investment

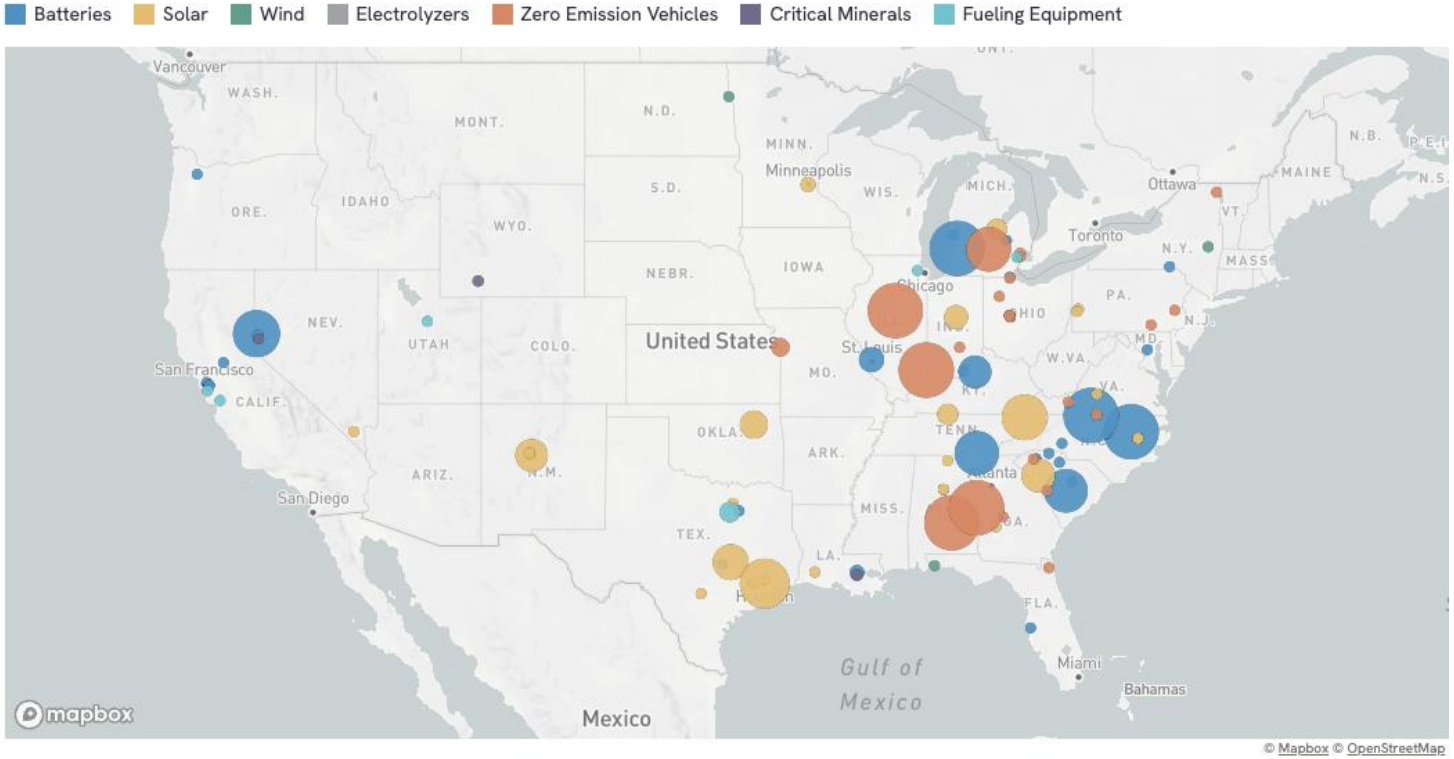
Change in Capital Investment by Sector Due to Repeal of Continued Policies
Billions of 2022 dollars

Full Repeal reduces cumulative capital investment in electricity and clean fuels production by **$1 trillion** from 2025-2035.

Capital investment in these sectors falls by a cumulative **$0.5 trillion** during this period under Executive Repeal.

Repeal halts U.S. manufacturing boom

Recent Manufacturing Investment Announcements (Last 4 Quarters)
Scaled by announced investment

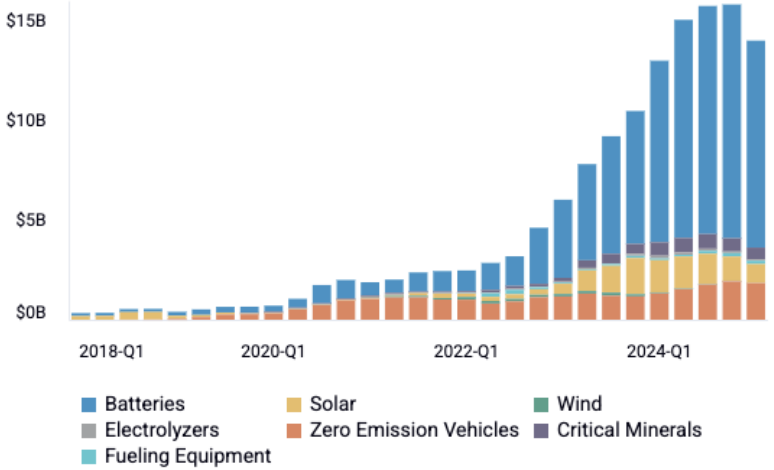


Current policies have driven a boom in advanced manufacturing and critical minerals production investment across the United States, including $14 billion of actual investment closed in Q1 2025 alone.

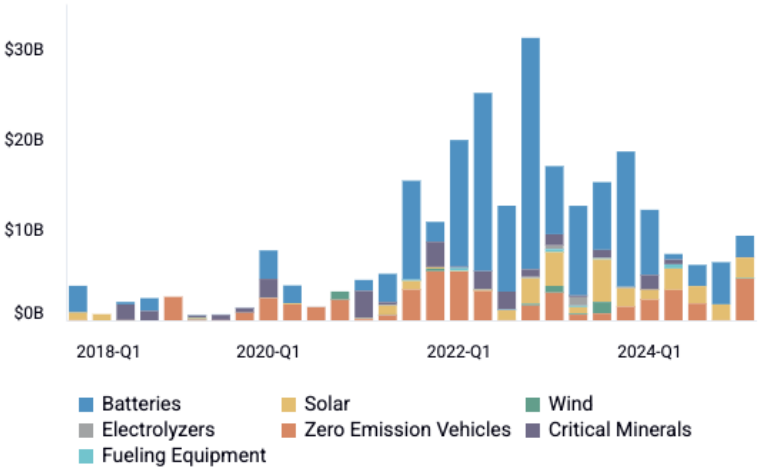
However, Repeal imperils another $29 billion of pending manufacturing investments announced over the last four quarters.

Including announced investments in clean energy supply, **a total of $522 billion in announced but pending investments are at stake if current policies are repealed**, including $388 billion located in districts represented by Republican members of Congress.

Actual Manufacturing Investment by Technology
2023 USD



Manufacturing Announcements by Technology
2023 USD



Graphics and data source: Rhodium Group and MIT CEEPR, Clean Investment Monitor: Q1 2025 Update, May 13, 2025

Vehicle Sales and Manufacturing

Electric vehicle sales contract

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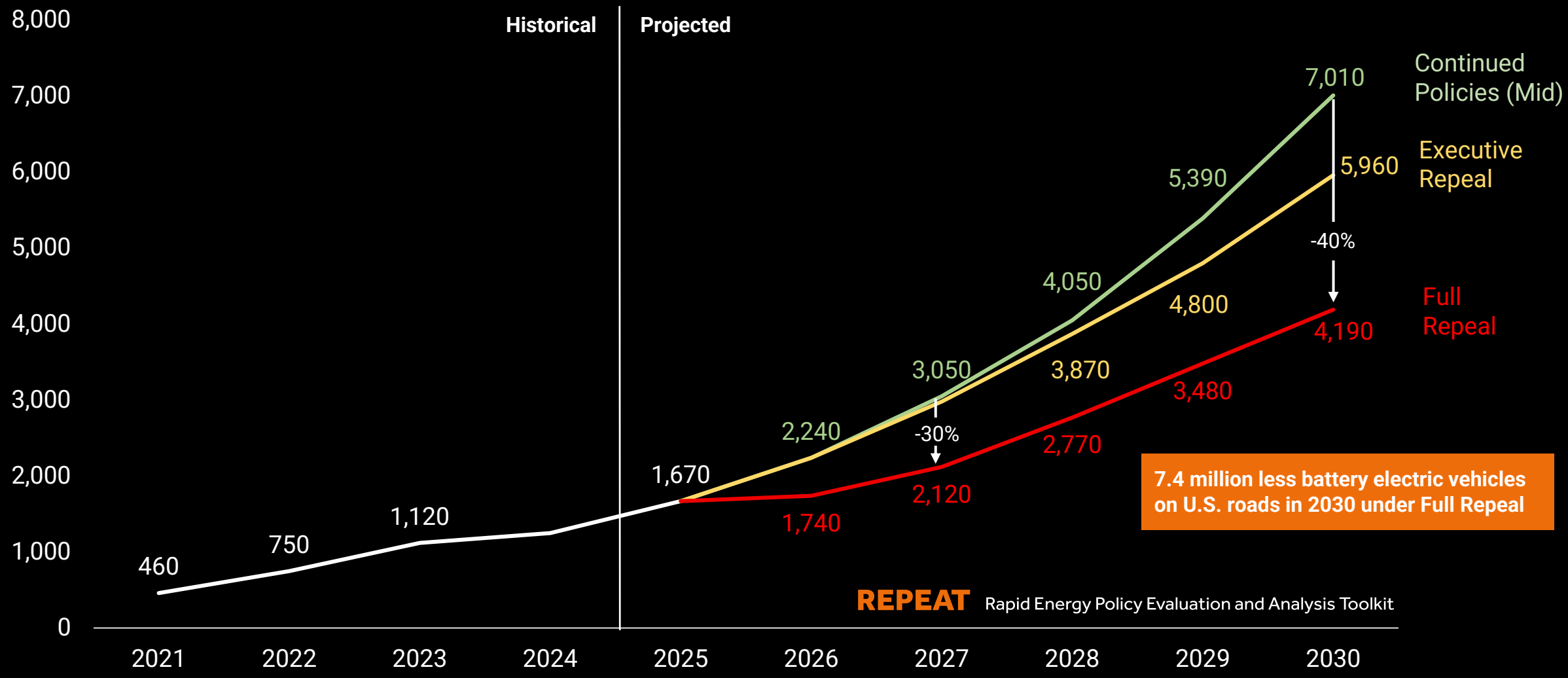
Battery electric light duty vehicles sales
Thousand vehicles per year[1]



7.4 million less battery electric vehicles on U.S. roads in 2030 under Full Repeal

REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

1. Values rounded to nearest 10,000 vehicles

Repeal slows, doesn't stop EV transition

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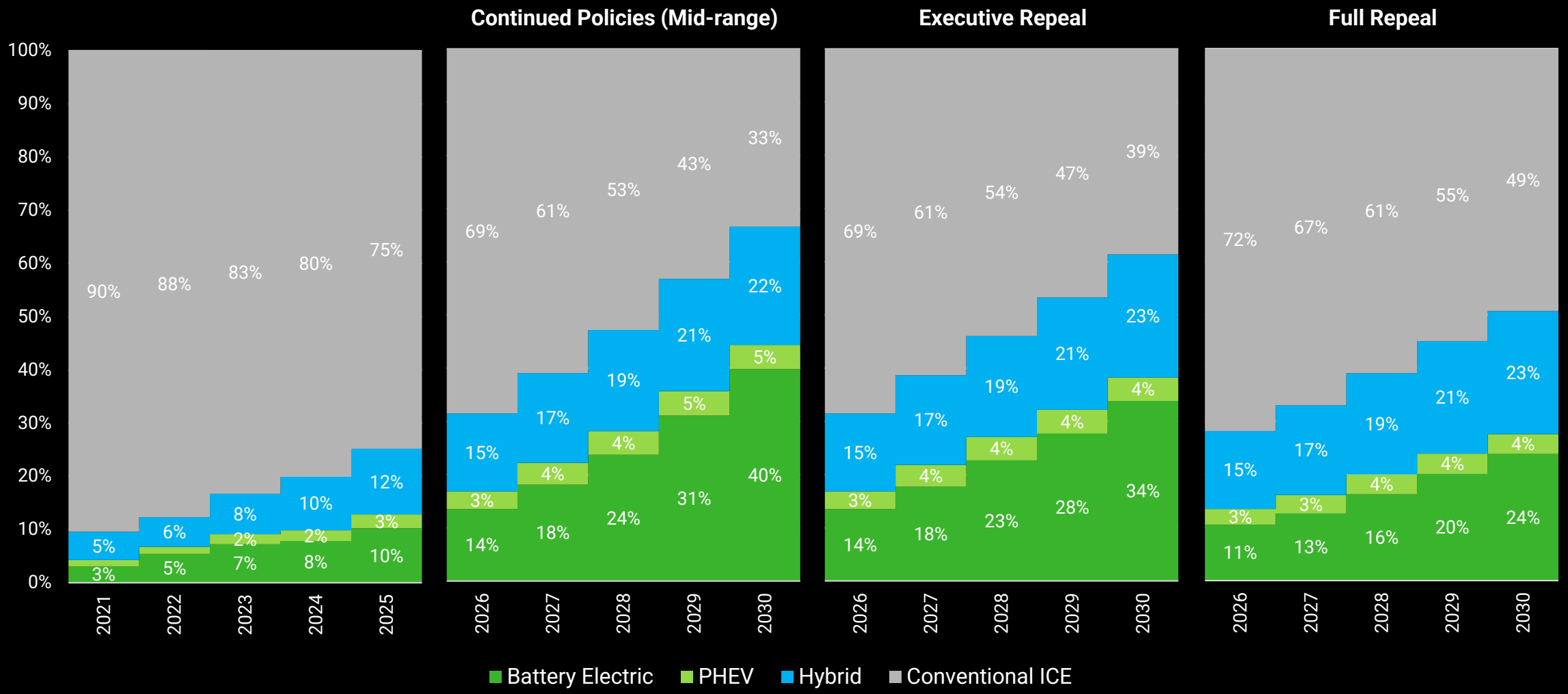
Light duty vehicle sales share by prime mover
Percent of annual sales



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Slower EV sales, slower stock changes

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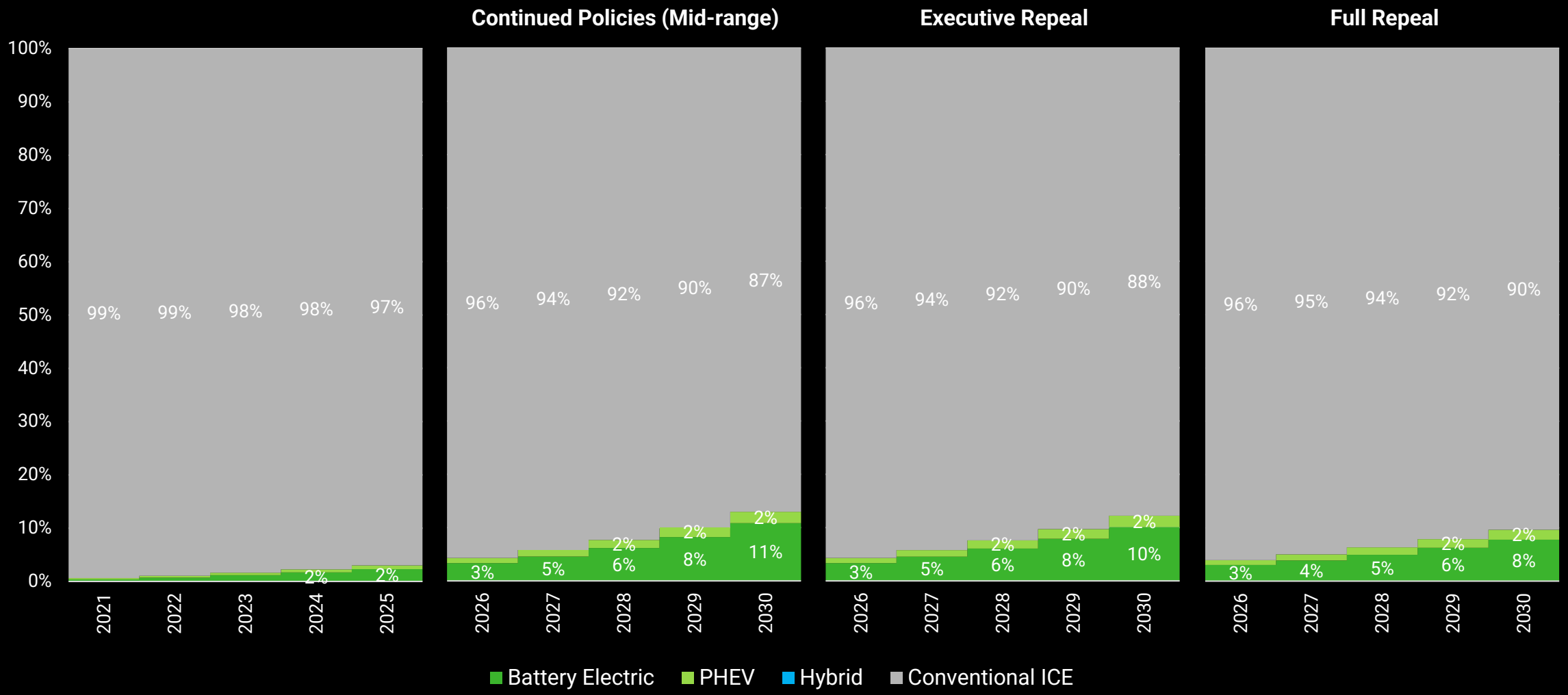
Light duty vehicle sales share by prime mover
Percent of annual sales



Current tax credits help build a Made-in-USA battery supply chain

The 30D New Clean Vehicle Tax Credit is a key component of a broader, pro-manufacturing industrial strategy to build a Made-In-USA electric vehicle assembly, battery manufacturing and critical minerals supply chain and to eliminate the influence of Chinese firms, the Chinese Communist Party, or other foreign entities of concern from U.S. supply chains.

To secure eligibility for the 30D tax credit, clean vehicles must: (1) be assembled in North America; (2) use battery components substantially sourced from North America; and (3) use critical minerals produced, processed or recycled in North America or free trade agreement countries allied with the United States. Additionally, new clean vehicles are disqualified from any portion of the 30D credit if they contain battery components manufactured by a Foreign Entity of Concern (FEOC) or critical minerals extracted, processed, or recycled by a FEOC. Foreign entities of concern are defined as individuals, businesses, or government entities either subject to the jurisdiction of the government of a covered nation (China, Iran, North Korea, and Russia) or owned by, controlled by, or subject to the direction of a covered nation's government.

Where 30D provides a strong 'demand pull' for vehicles and batteries manufactured in North America without Chinese influence, the 45X Advanced Manufacturing Production Tax Credit directly incentivizes investment in U.S. battery manufacturing and critical minerals mining, processing, and recycling.

Together, this pair of tax incentives have succeeded in supporting over $85 billion of capital investment in electric and plug-in hybrid vehicle assembly and battery manufacturing facilities currently operating or under construction across the United States. These facilities directly employ roughly 100,000 Americans today, a figure that could double as plants reach planned manufacturing volumes and complete ongoing construction.[1]

Summary of 30D New Clean Vehicle Tax Credit Requirements

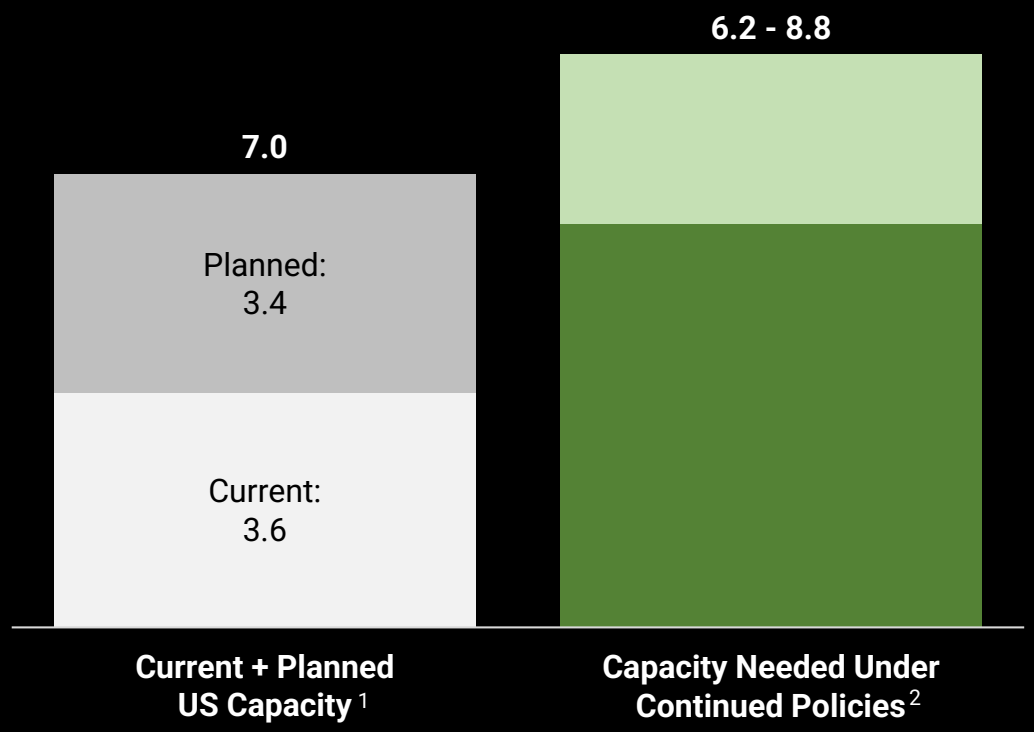
Year	Critical minerals requirement	Battery components requirement	50% Value Added Test for Critical Minerals	Impracticable-to-trace FEOC exemption
2023	40%	50%	Yes	Yes
2024	50%	60% (FEOC begins)	Yes	Yes
2025	60% (FEOC begins)	60%	Yes	Yes
2026	70%	70%	Yes	Yes
2027	80%	80%	No	No
2028	80%	90%	No	No
2029-2032	80%	100%	No	No

1. Data source: The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025

Source: Zero Emission Transportation Association (ZETA), "Overview of Final 30D New Clean Vehicle Tax Credit Requirements."

Planned investments in US EV manufacturing are sized to meet demand if current policies persist

US electric vehicle assembly capacity needed in 2030 vs current and planned capacity
Million vehicles per year manufacturing capacity

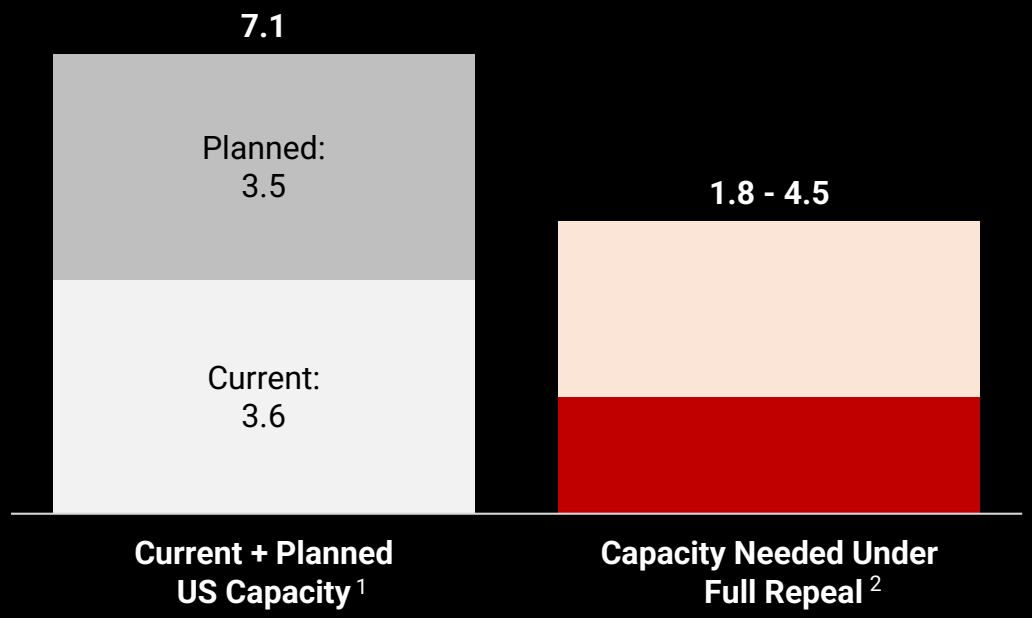


Announced manufacturing capacity additions and expansions would nearly double US capacity to produce electric vehicles by 2030 and are well sized to meet expected demand for Made-in-USA vehicles under a continuation of current policies.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Assumptions: 75% factory utilization rate for auto assembly facilities (as per US auto industry long-term average); US-assembled vehicles represent 60-85% of annual EV and PHEV sales in Current Policies scenarios (vs 70% share in 2024).

Repealing clean vehicle tax credits would destroy demand for new US EV manufacturing

US electric vehicle assembly capacity needed in 2030 vs current and planned capacity
Million vehicles per year manufacturing capacity



If policies supporting projected market demand for EVs are repealed, demand could potentially be met entirely with current assembly plant capacity. This calls into question the economic viability of all additional manufacturing plants that have been announced or are under construction across the US and would potentially result in the idling of some existing EV assembly plants and workers.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Assumptions: 75% factory utilization rate for auto assembly facilities (as per US auto industry long-term average); US-assembled vehicles represent 28-70% of annual EV and PHEV sales in IRA Repeal scenario, where 28% assumes no expansion in US production from 2024 levels and 70% assumes maintenance of 2024 market share.

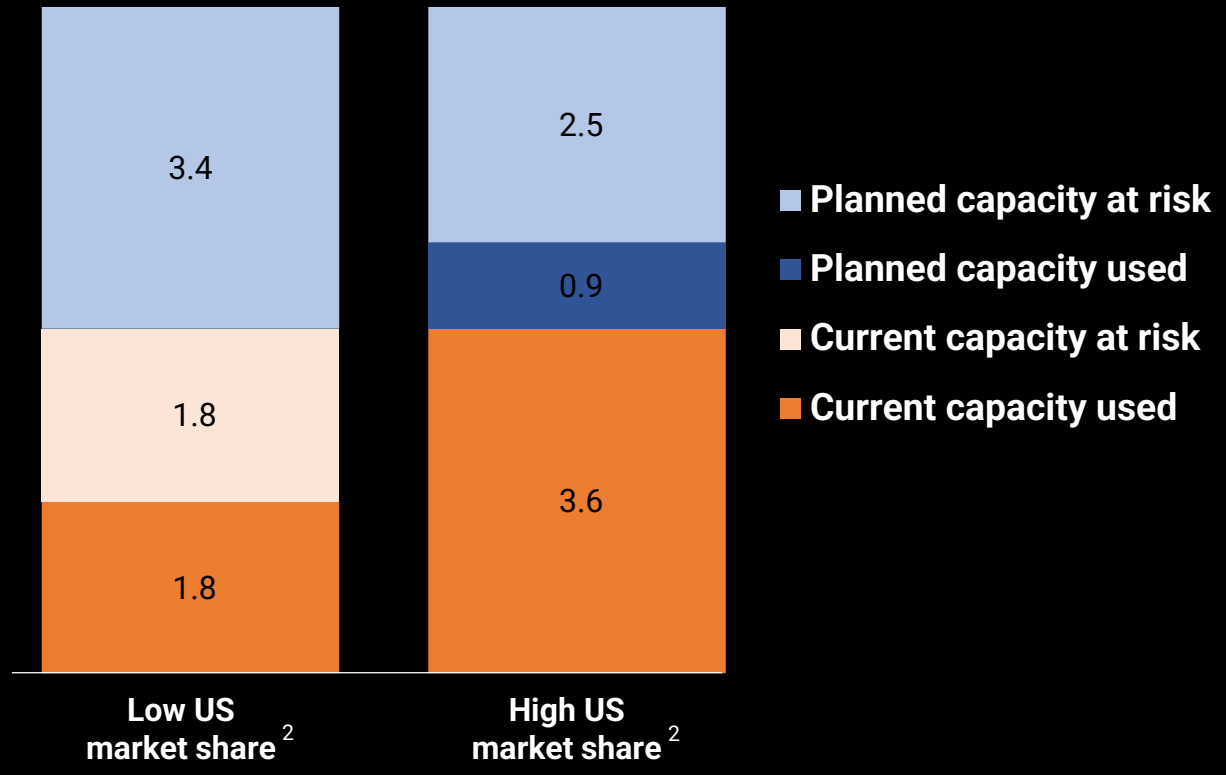
If clean vehicle credits are repealed, both planned and current vehicle assembly plants could be at risk

If clean vehicle tax credits are repealed, as much as 100% of planned construction and expansion of US EV assembly and half of *existing* capacity could be at risk of cancellation or closure.

If the share of EVs manufactured in the US remains at 2024 levels, nearly three-quarters of planned projects would be unnecessary.

Current and planned US electric vehicle assembly capacity utilized or at risk in 2030 under Full Repeal

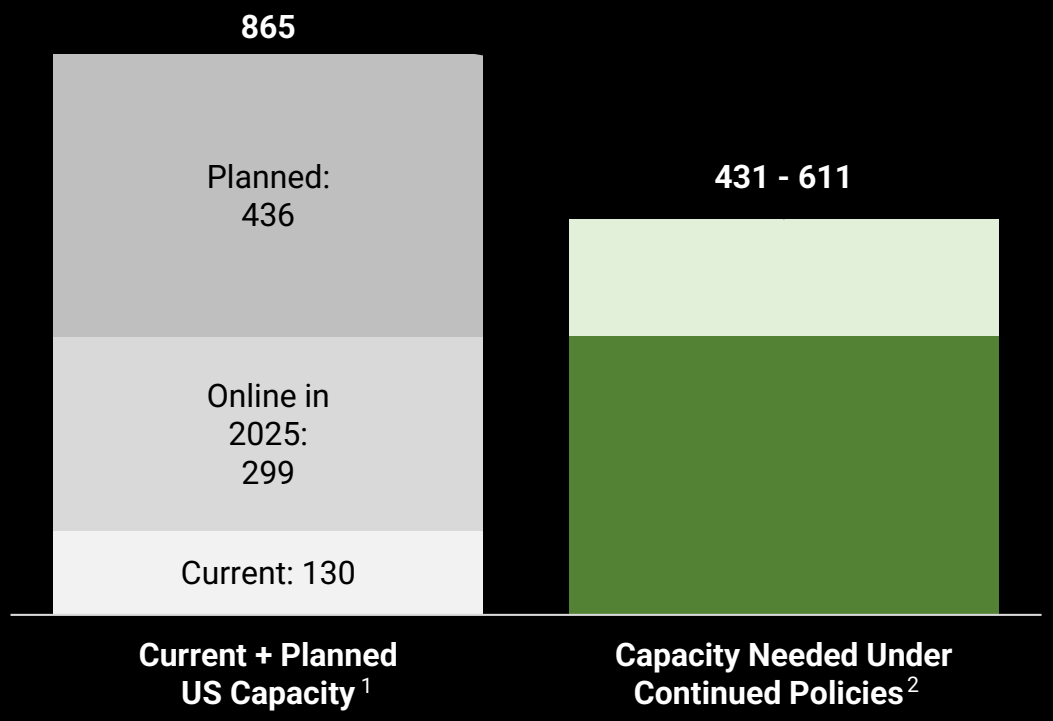
Million vehicles per year manufacturing capacity[1]



1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025
2. Low US market share: 28% consistent with continuation of 2024 US production volumes; high US market share: 70% consistent with continuation of 2024 US market share.

Planned expansion of US battery cell manufacturing exceeds demand under Continued Policies

US battery cell manufacturing capacity needed in 2030 vs current and planned capacity
Gigawatt-hours (GWh) of battery cells per year manufacturing capacity

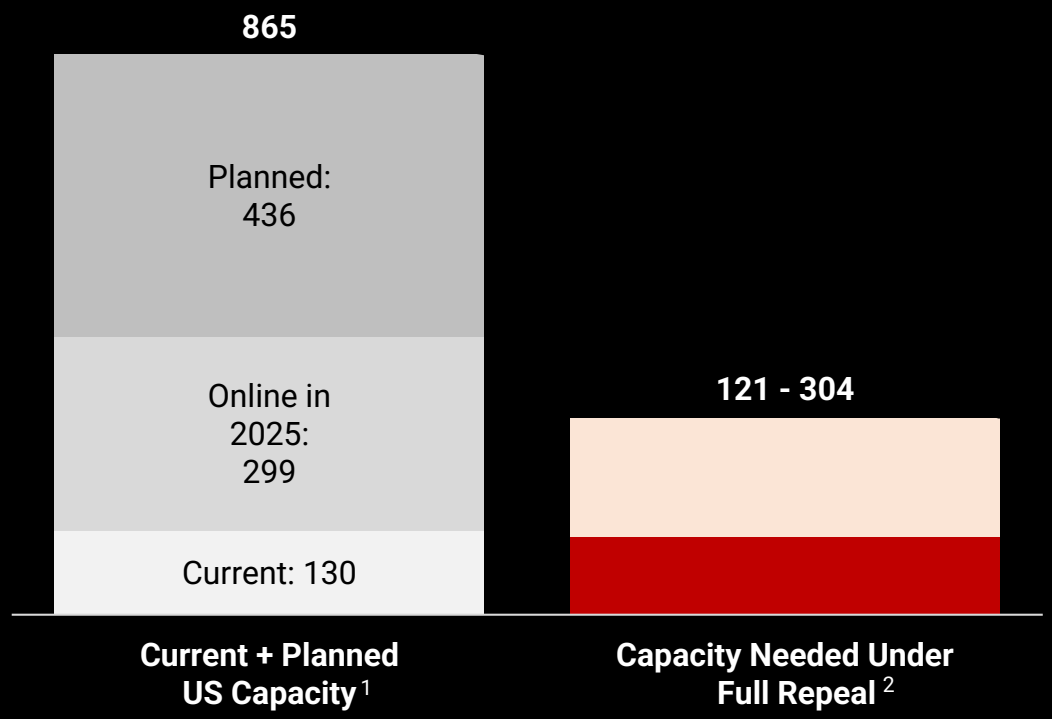


Currently planned construction of US battery cell manufacturing demand already exceeds requirements to supply electric vehicles assembled in the United States under a continuation of current policies.

1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," *Inside Climate News,* 2/20/2025.
2. Assumptions: 75% factory utilization rate for battery cell assembly facilities (as per US auto industry long-term average); all vehicles assembled in USA source battery cells from the USA; US-assembled vehicles represent 60-85% of annual EV and PHEV sales in Current Policies scenarios (vs 70% share in 2024).

Without EV tax credits, planned battery cell manufacturing would result in large overcapacity

US battery cell manufacturing capacity needed in 2030 vs current and planned capacity
Gigawatt-hours (GWh) of battery cells per year manufacturing capacity



New battery cell manufacturing capacity expected to come online in 2025 will bring US production capacity to more than 400 GWh per year, well in excess of demand under Full Repeal, making all other planned additions unnecessary.

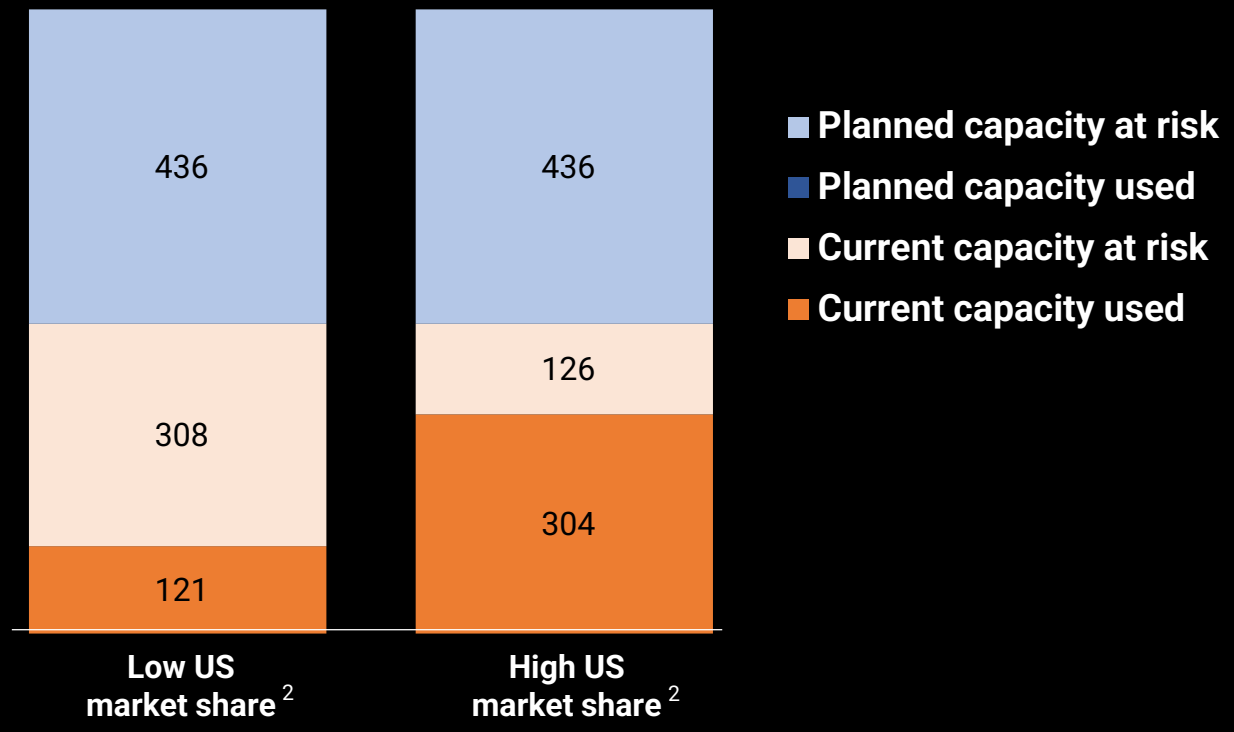
1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," *Inside Climate News,* 2/20/2025.
2. Assumptions: 75% factory utilization rate for battery cell assembly facilities (as per US auto industry long-term average); all vehicles assembled in USA source battery cells from the USA; US-assembled vehicles represent 28-70% of annual EV and PHEV sales in IRA Repeal scenario, where 28% assumes no expansion in US production from 2024 levels and 70% assumes maintenance of 2024 market share.

Repealing clean vehicle tax credits will end America's battery manufacturing boom

Without clean vehicle tax credits, between 29% and 72% of battery cell manufacturing capacity currently operating or online by the end of 2025 would be unnecessary to meet automotive demand and could be at risk of closure, in addition to 100% of other planned facilities.

Current and planned US electric vehicle assembly capacity utilized or at risk in 2030 under Full Repeal

Million vehicles per year manufacturing capacity[1]



1. Current and planned manufacturing capacity from The Big Green Machine: Tracking North American Clean Energy Supply Chain, database accessed 2/13/2025. Projects expected to be completed in 2025 from "EV Battery Manufacturing Capacity Will Rise When 10 New Plants Come Online This Year," I*nside Climate News,* 2/20/2025. Current capacity in this plot includes projects under construction and expected to be operation in 2025.
2. Low US market share: 28% consistent with continuation of 2024 US production volumes; high US market share: 70% consistent with continuation of 2024 US market share; all vehicles assembled in USA source battery cells from the USA

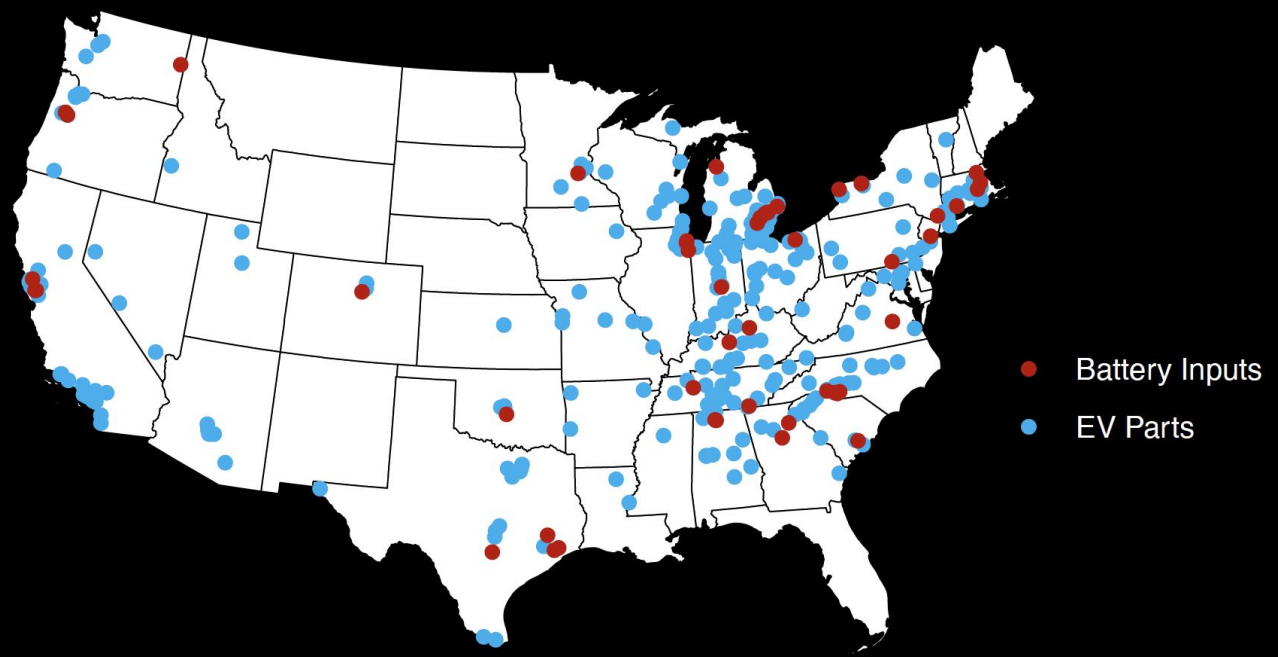
Impacts on EV and battery component suppliers and critical minerals production

A substantial reduction in demand for US-produced electric vehicles and battery cells would also have broader implications for the US EV and battery component supply chain and demand for critical minerals production, processing and recycling in the United States.

While quantifying these impacts is beyond the scope of this report, it is clear that repeal of tax incentives for electric vehicle adoption would have two damaging effects on this broader supply chain:

- First, overall demand for electric vehicle assembly and battery cell and pack manufacturing would decline significantly, as discussed above.
- Second, the loss of the battery component and critical minerals sourcing requirements enshrined in the 30D new clean vehicles tax credit would further reduce demand for battery inputs produced in the United States.

Operating US suppliers of inputs, components and parts for batteries and electric vehicles[1]



1. Source: Blue Green Alliance Foundation, accessed 2/24/2025. Battery Inputs facilities include operating facilities directly supplying 30D eligible materials and components for EV batteries, excluding cell and pack assembly. EV Parts facilities represent suppliers of non-battery components to electric vehicle assembly facilities. Data set is not exhaustive.

Electricity Sector

A new era of demand growth begins

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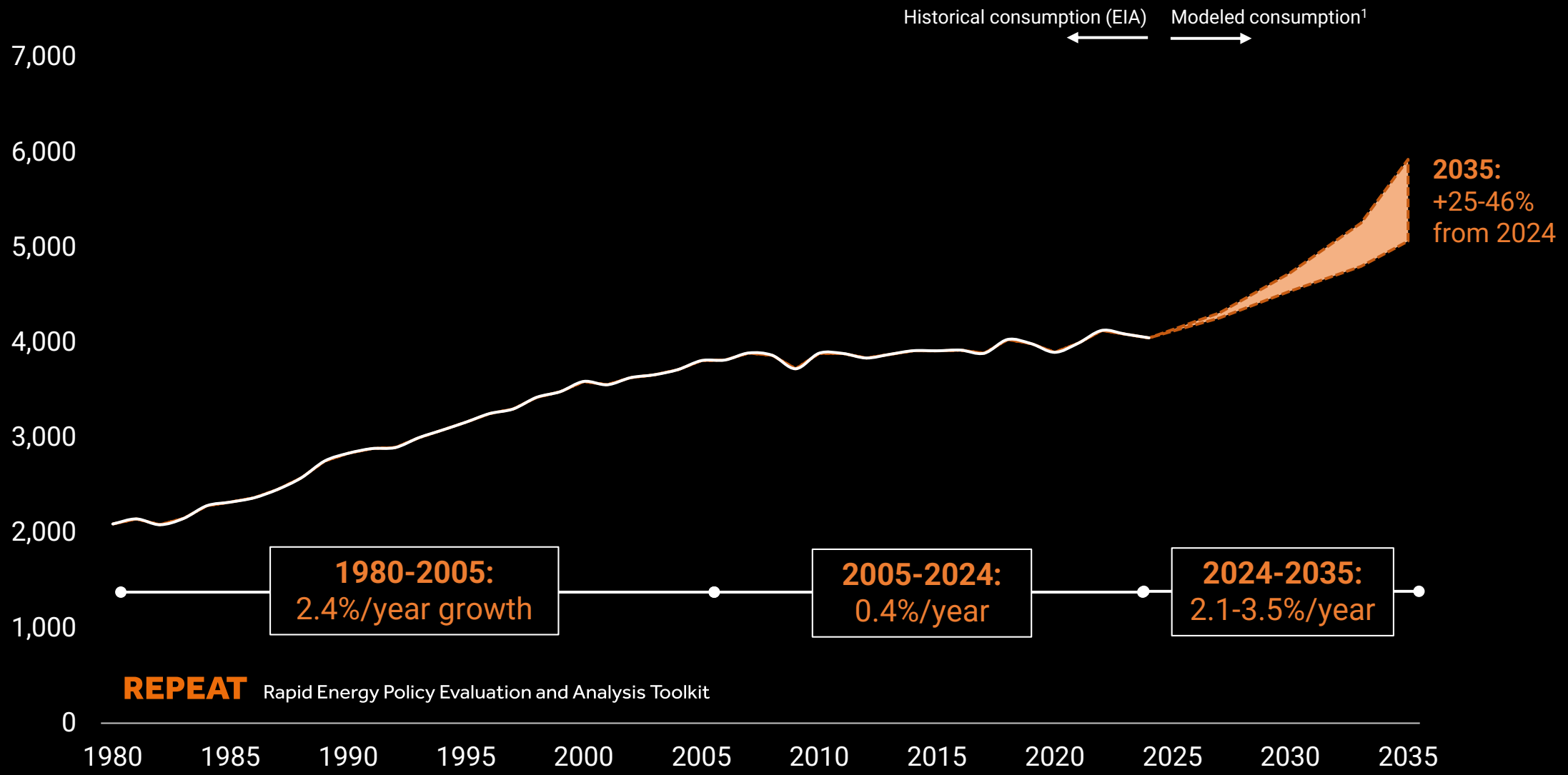
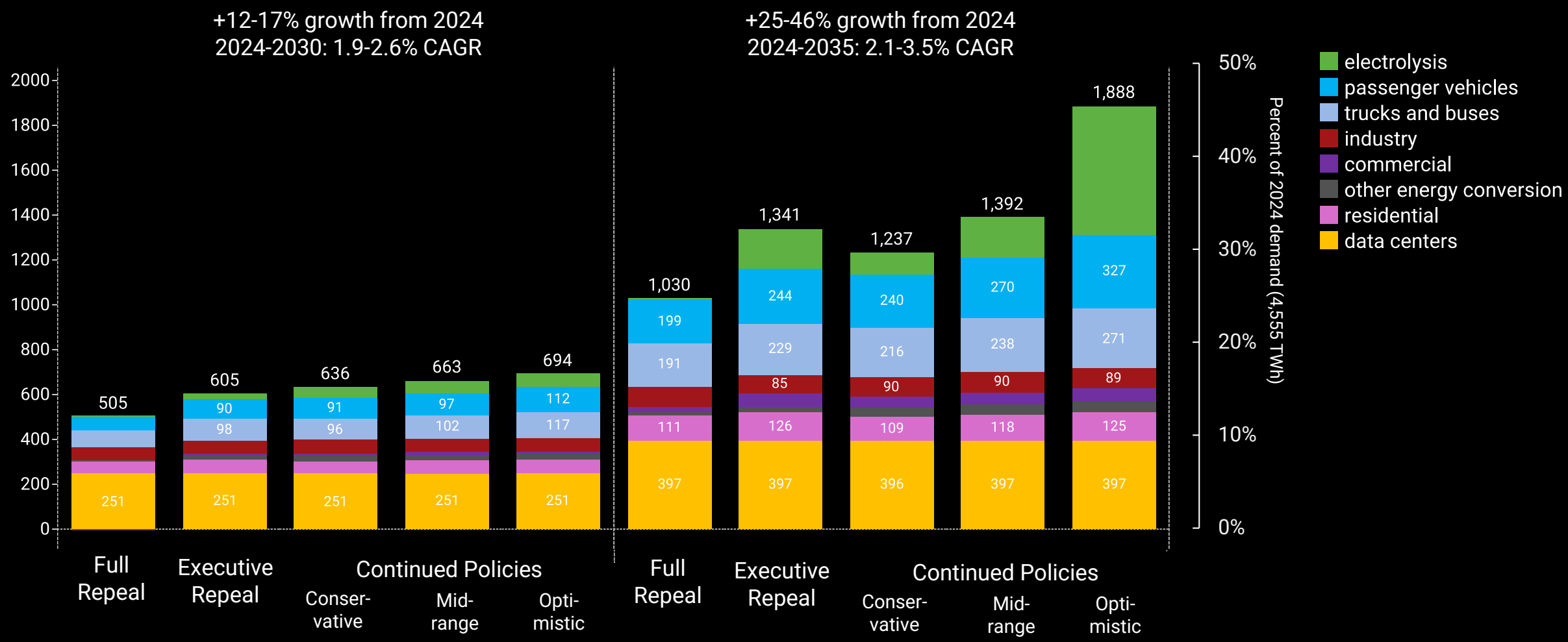
Total Annual U.S. Electricity Consumption
Billion kilowatt-hours (or terawatt-hours)[1]



1 – Low range of modeled growth reflects repeal of current Biden-era policies (Full Repeal). High reflects continuation of Biden era policies (Continued Policies – Optimistic)

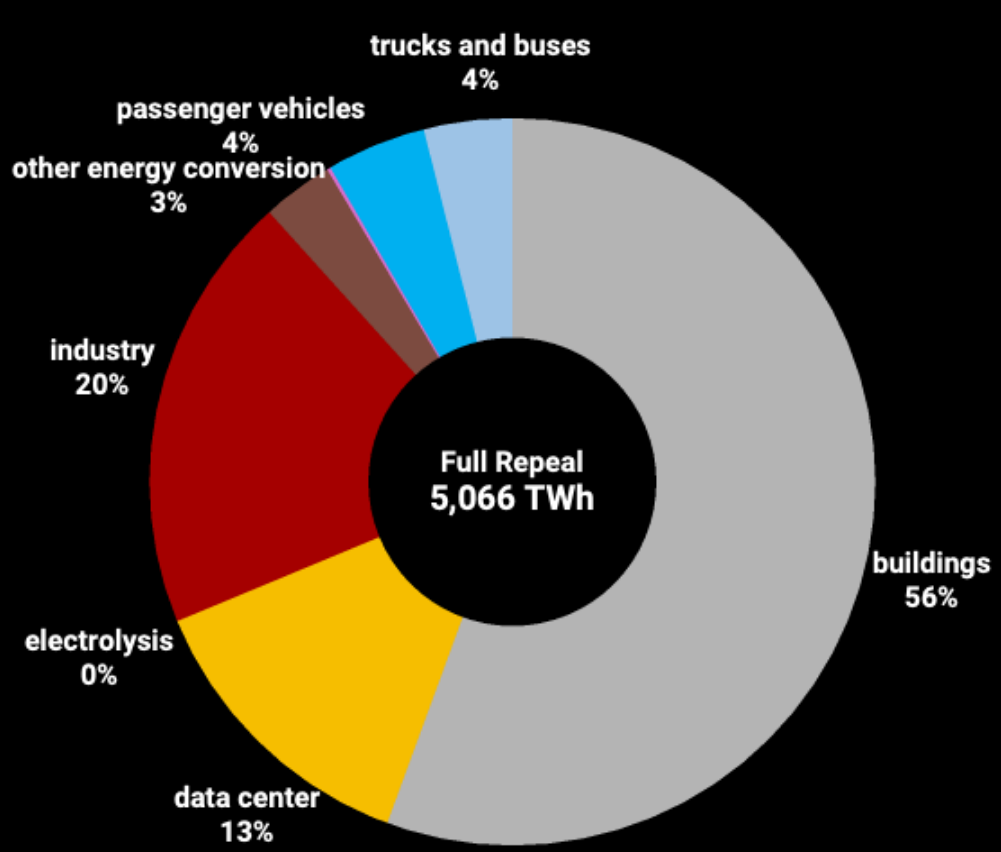
Drivers of demand: it's not just data centers

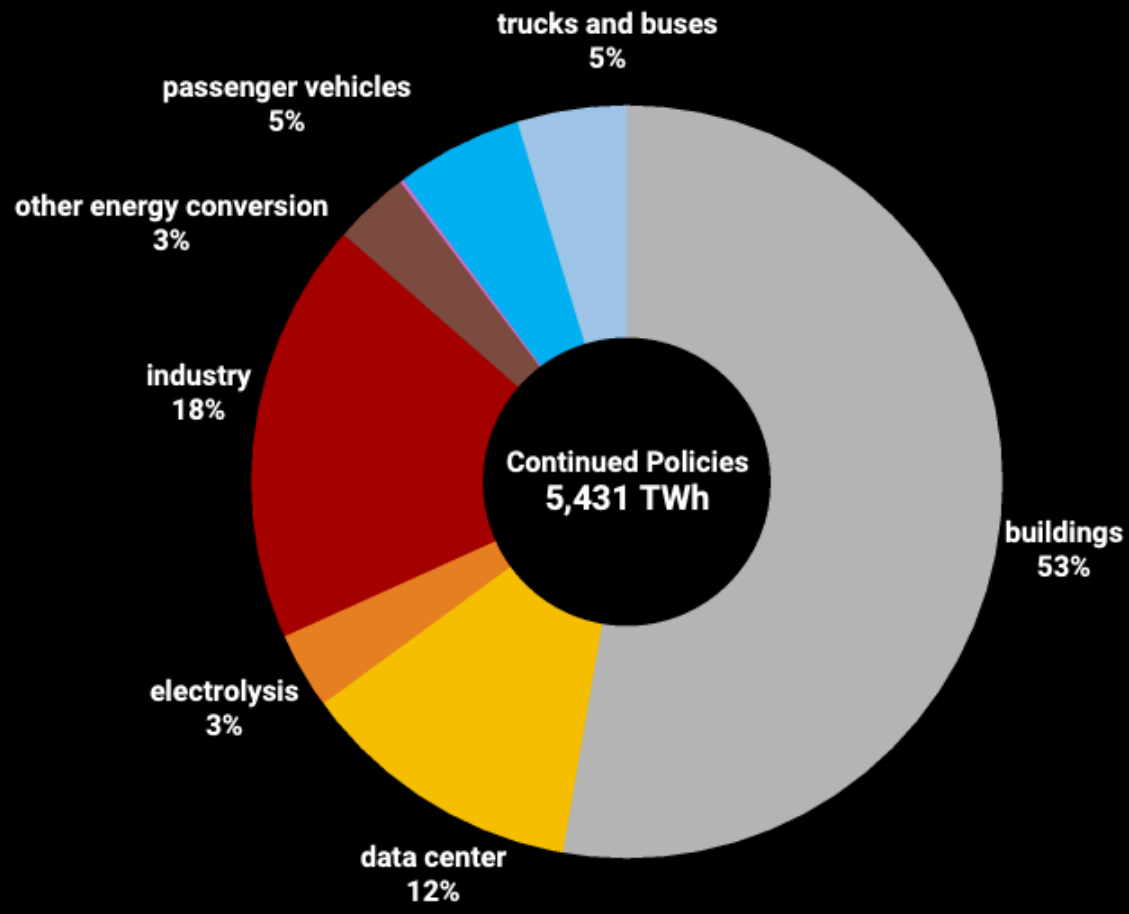
Increase in Annual U.S. Electricity Consumption By Use Vs 2024
Billion kilowatt-hours (or terawatt-hours)[1]



Consumption from EVs may rival data centers

Composition of Annual U.S. Electricity Consumption in 2035
Percent total consumption





Growing clean electricity supply

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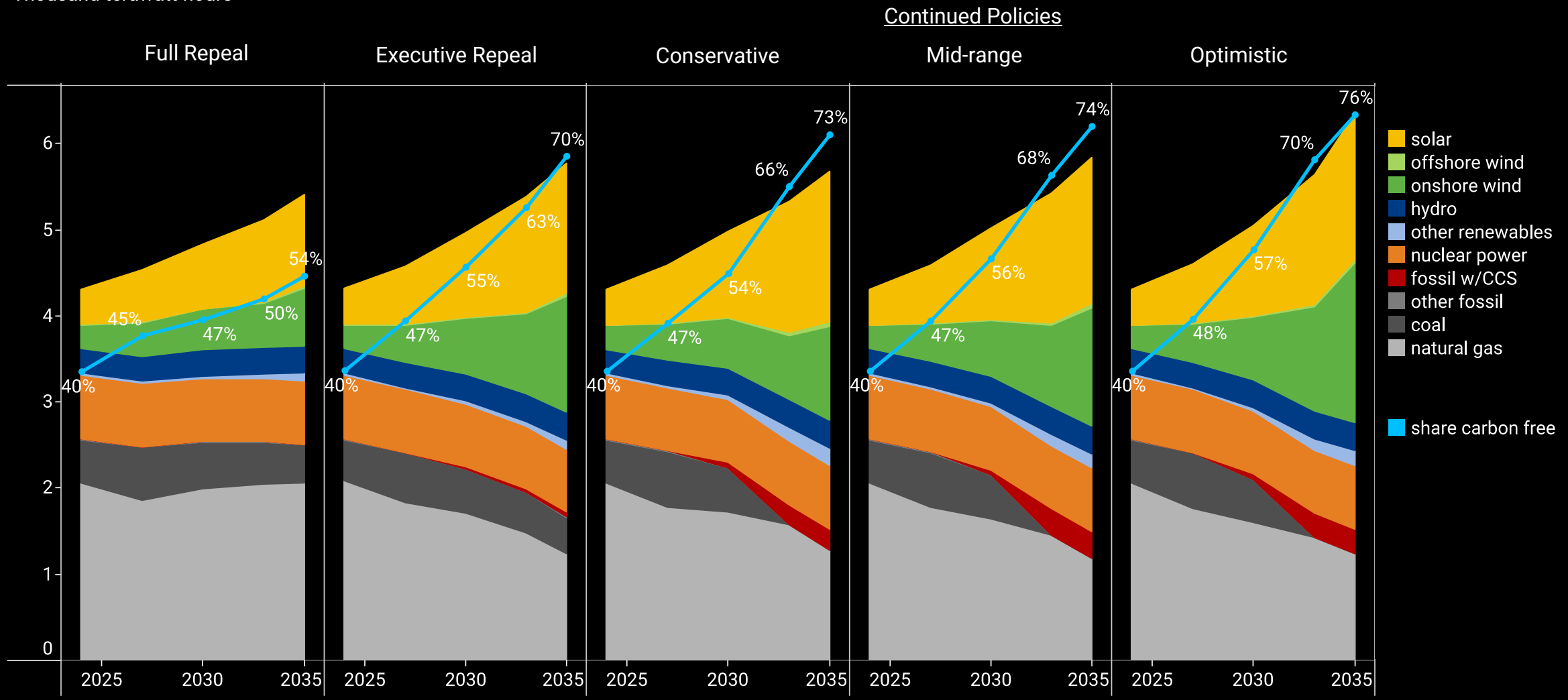
Electricity Generation by Resource

Thousand terawatt-hours



An evolving electricity mix

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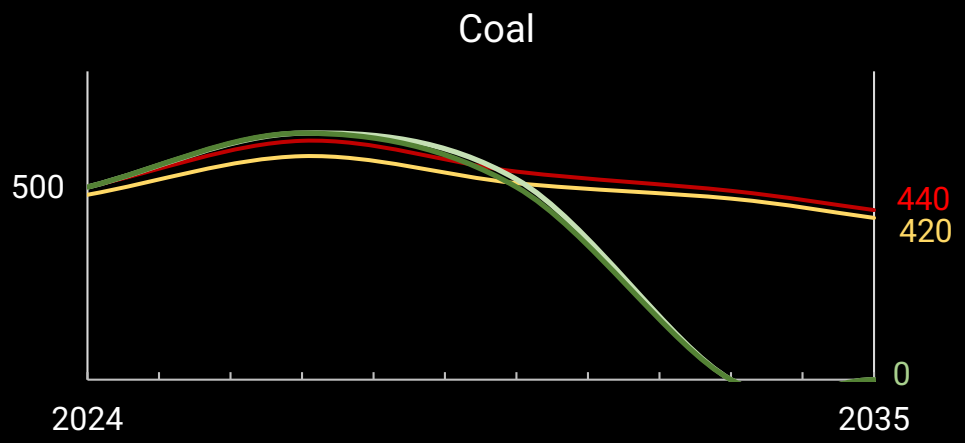
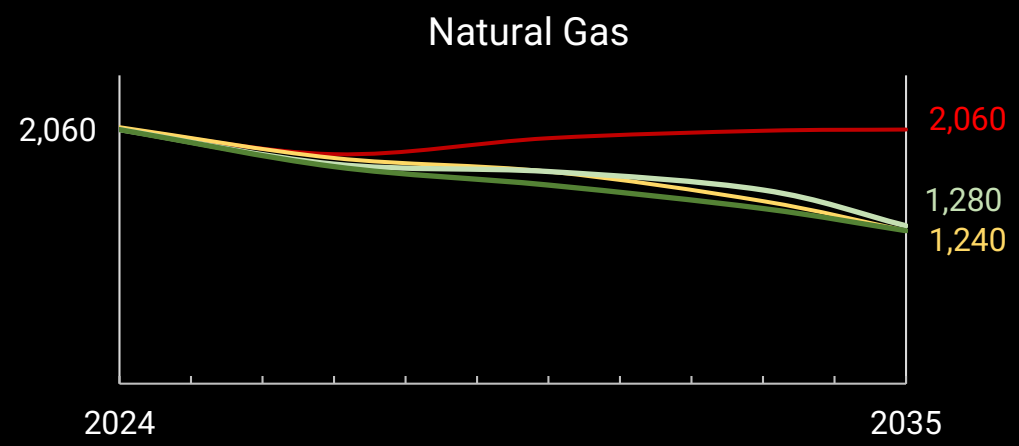
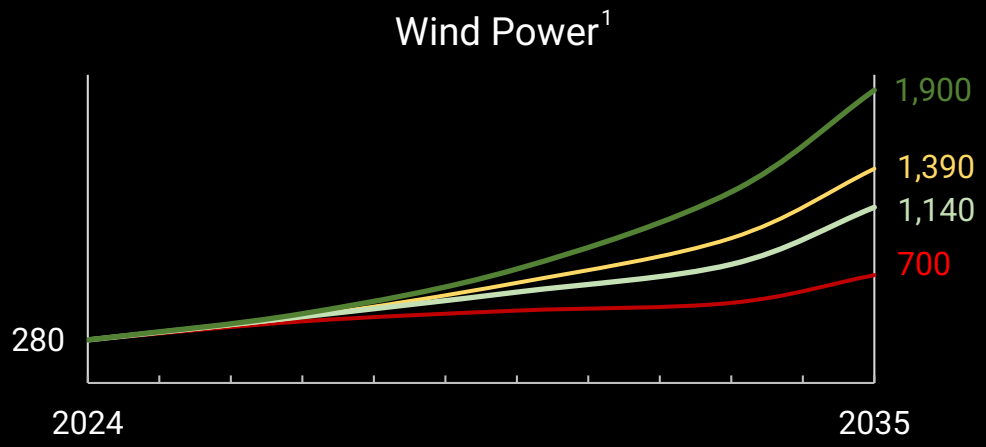
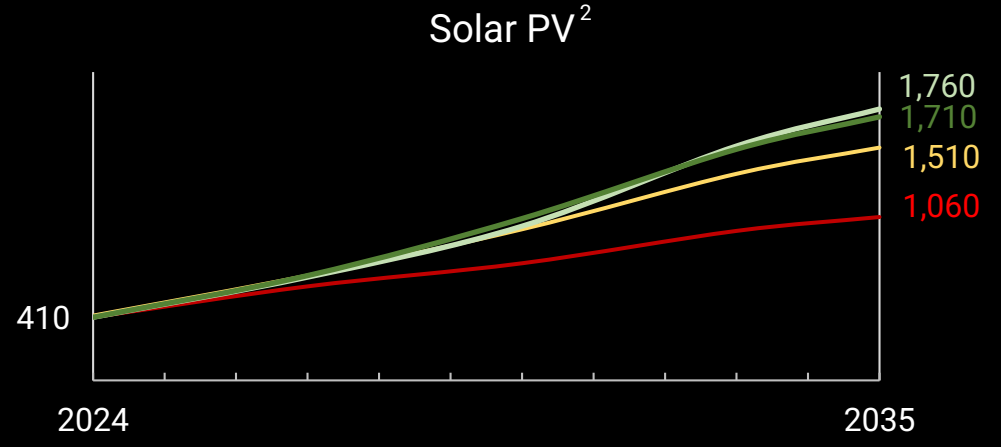
Electricity Generation by Resource
Billion kilowatt-hours (or terawatt-hours)

Full Repeal | Executive Repeal | Continued Policies







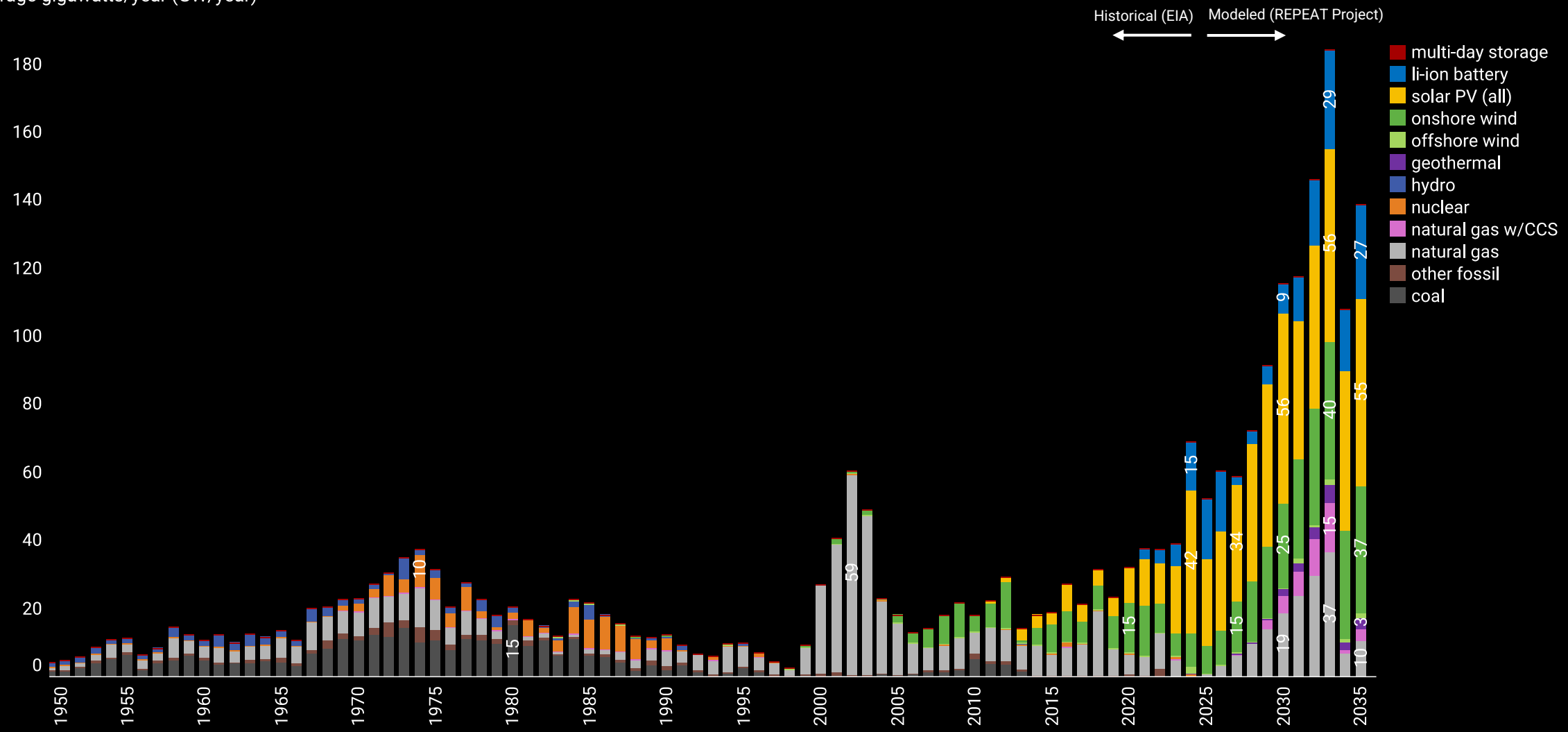


Labels rounded to nearest 10 terawatt-hours
1 - Includes onshore and offshore wind
2 - Includes distributed and utility-scale solar

Current policies accelerate capacity additions

Historical and Modeled Capacity Additions for Continued Policies Mid-range

average gigawatts/year (GW/year)



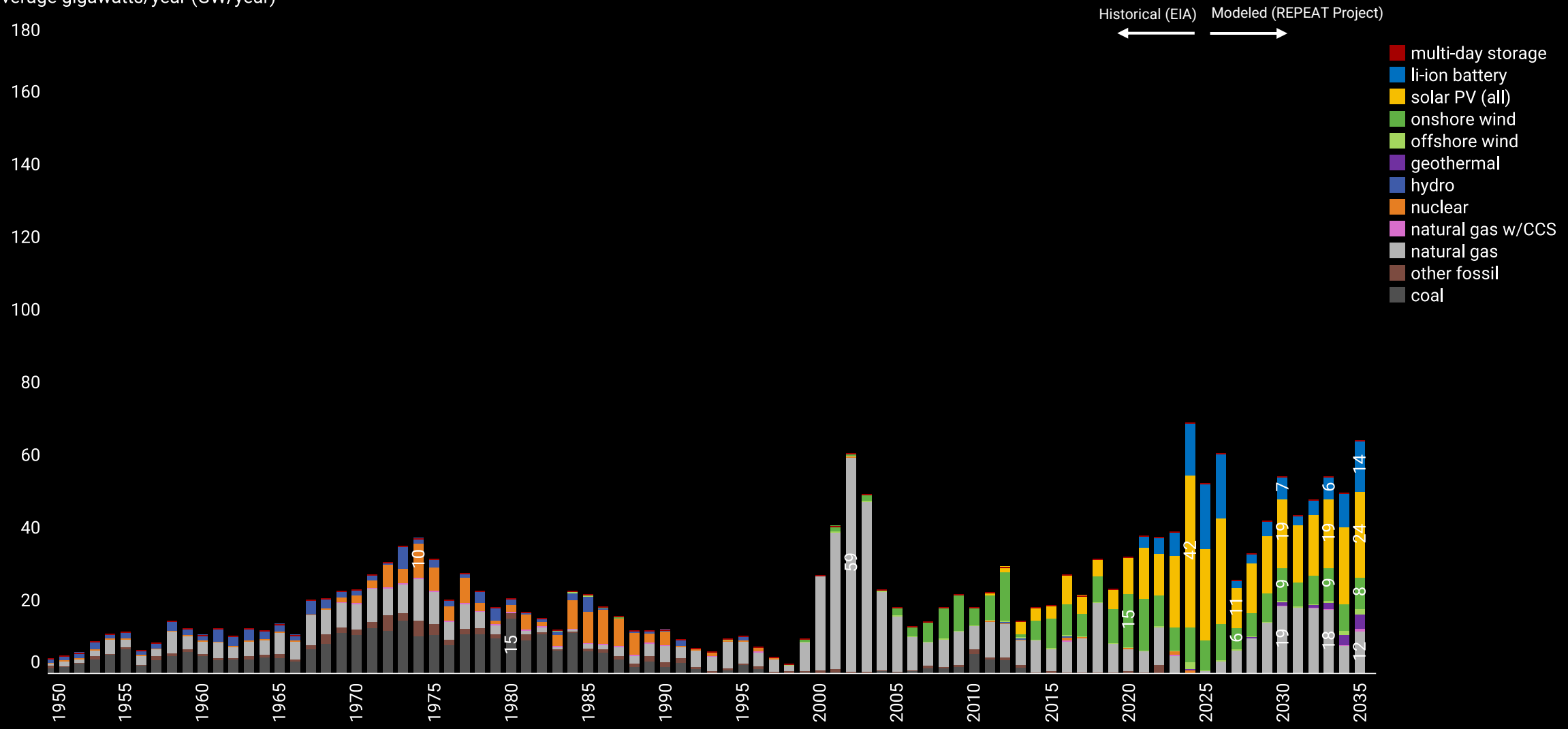
REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

Peak annual historical capacity additions labeled for each technology category

New capacity additions slow under repeal

Historical and Modeled Capacity Additions for Full Repeal

average gigawatts/year (GW/year)

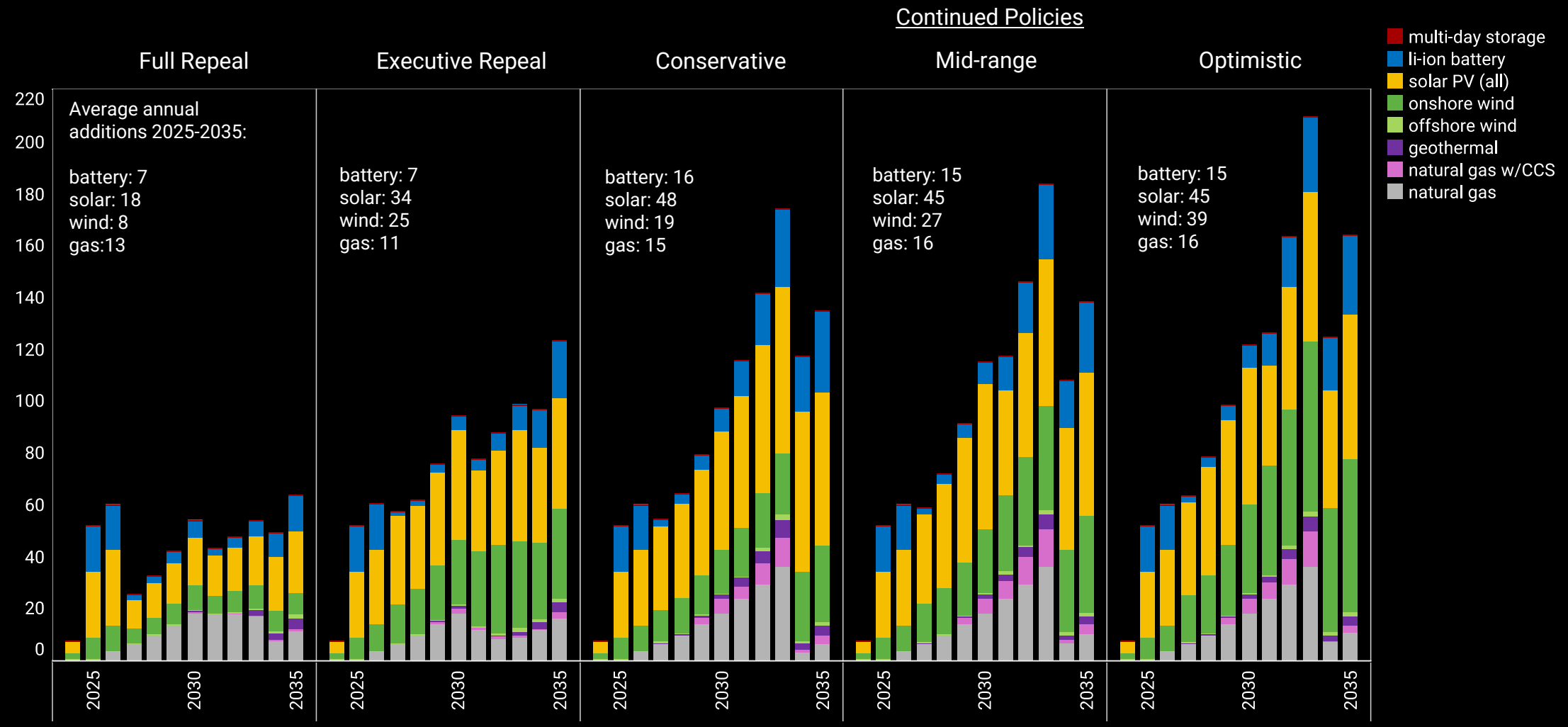


REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

Peak annual historical capacity additions labeled for each technology category

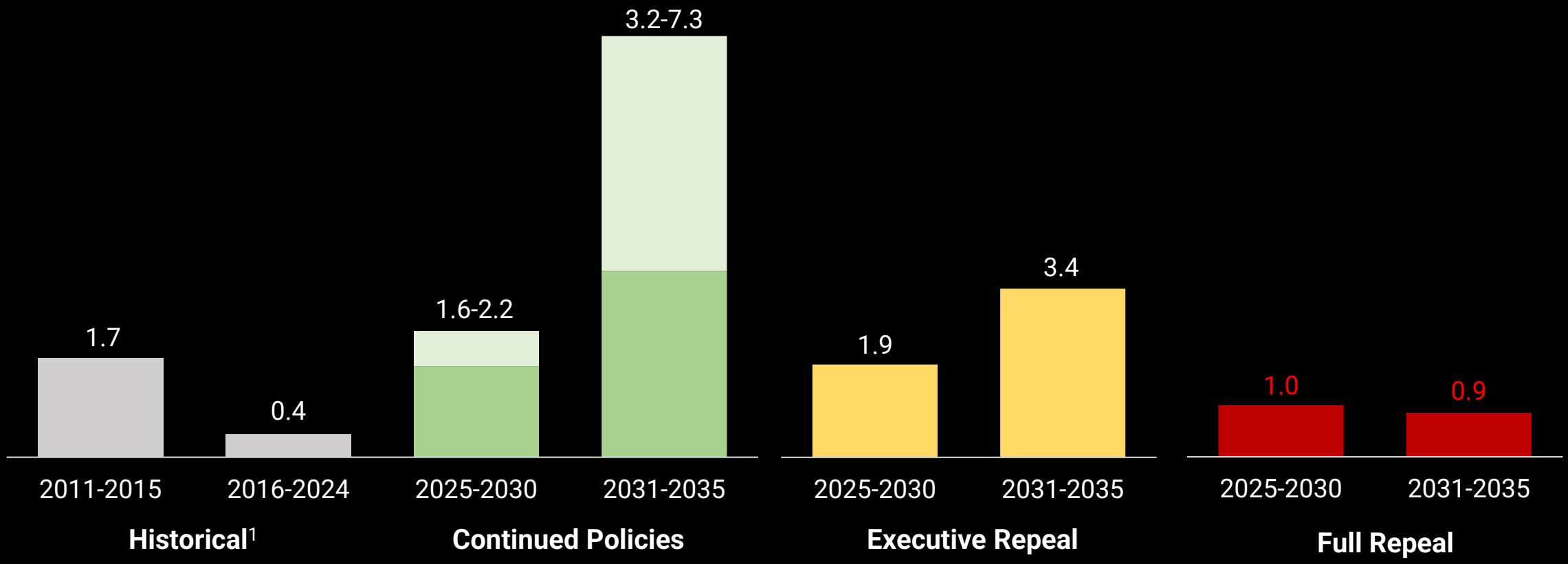
Annual electricity capacity additions

Comparison of Modeled Annual Average Capacity Additions
average gigawatts/year (GW/year)



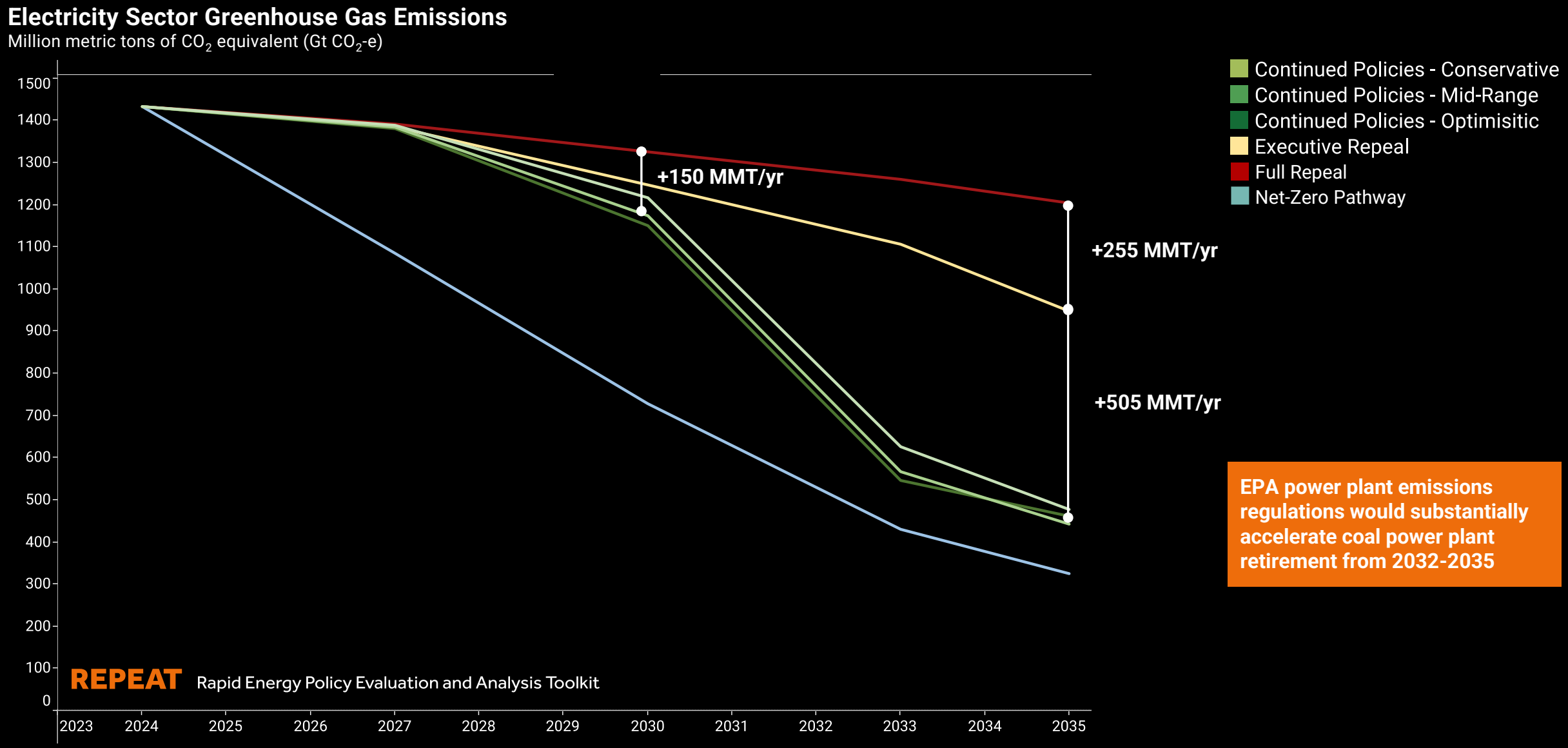
Accelerating transmission build-out

Average annual pace of high voltage transmission expansion
Thousand circuit miles per year



1 – Source: Orennia via Nat Bullard

Repeal substantially increases electricity emissions



EPA power plant emissions regulations would substantially accelerate coal power plant retirement from 2032-2035

Hydrogen and CO_2 Management

Repealing 45V credit kills clean hydrogen sector

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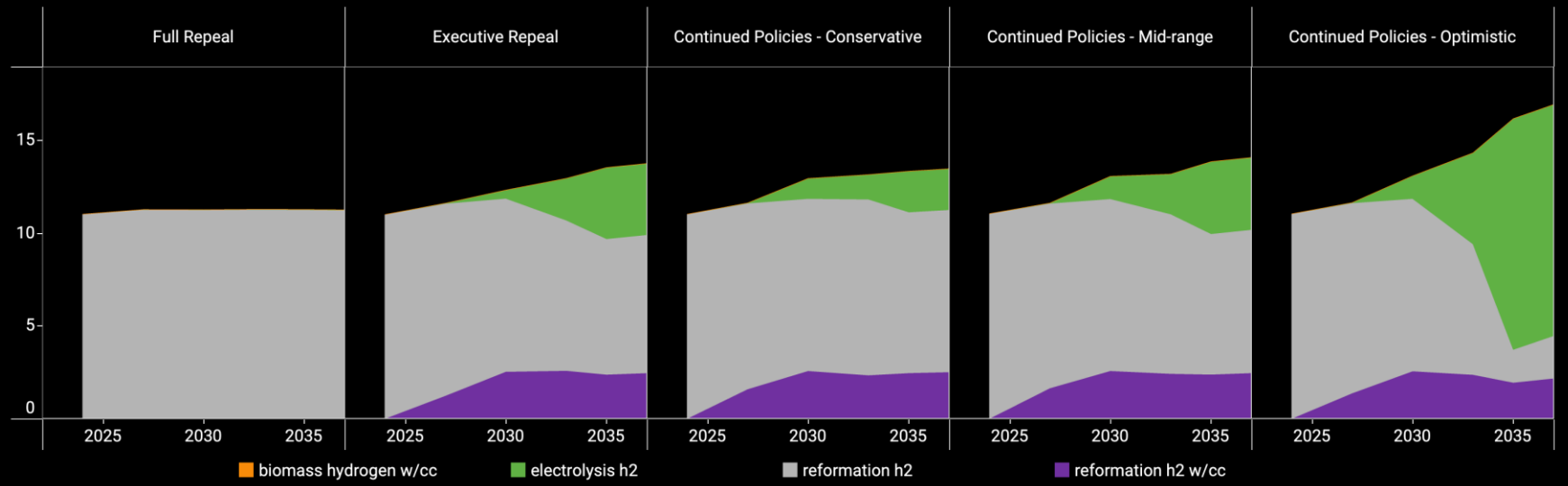
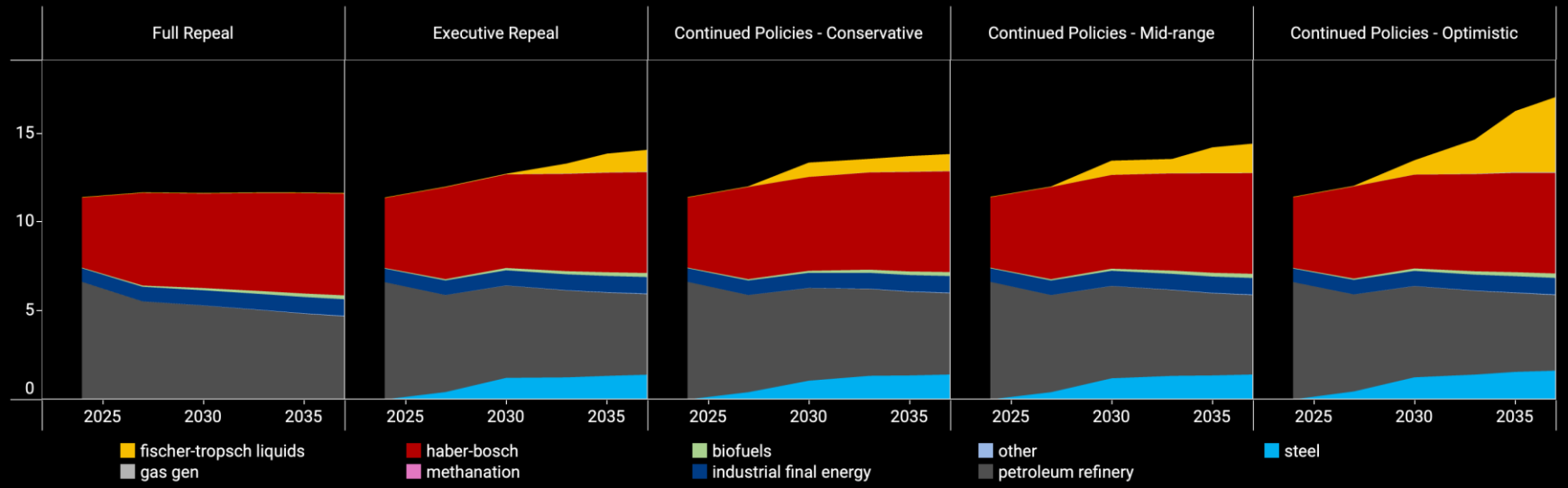
Hydrogen production sources
Millions of tonnes of hydrogen



Hydrogen disposition
Millions of tonnes of hydrogen



Without 45Q, CO_2 management sector won't scale

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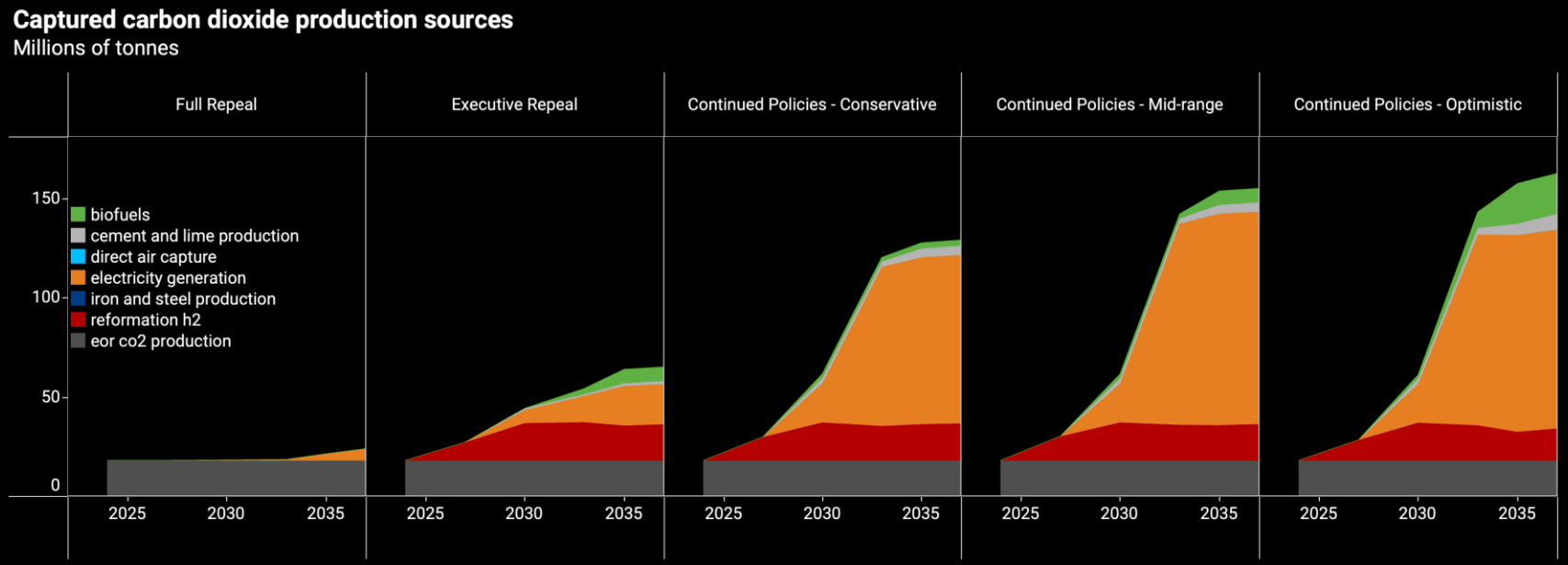

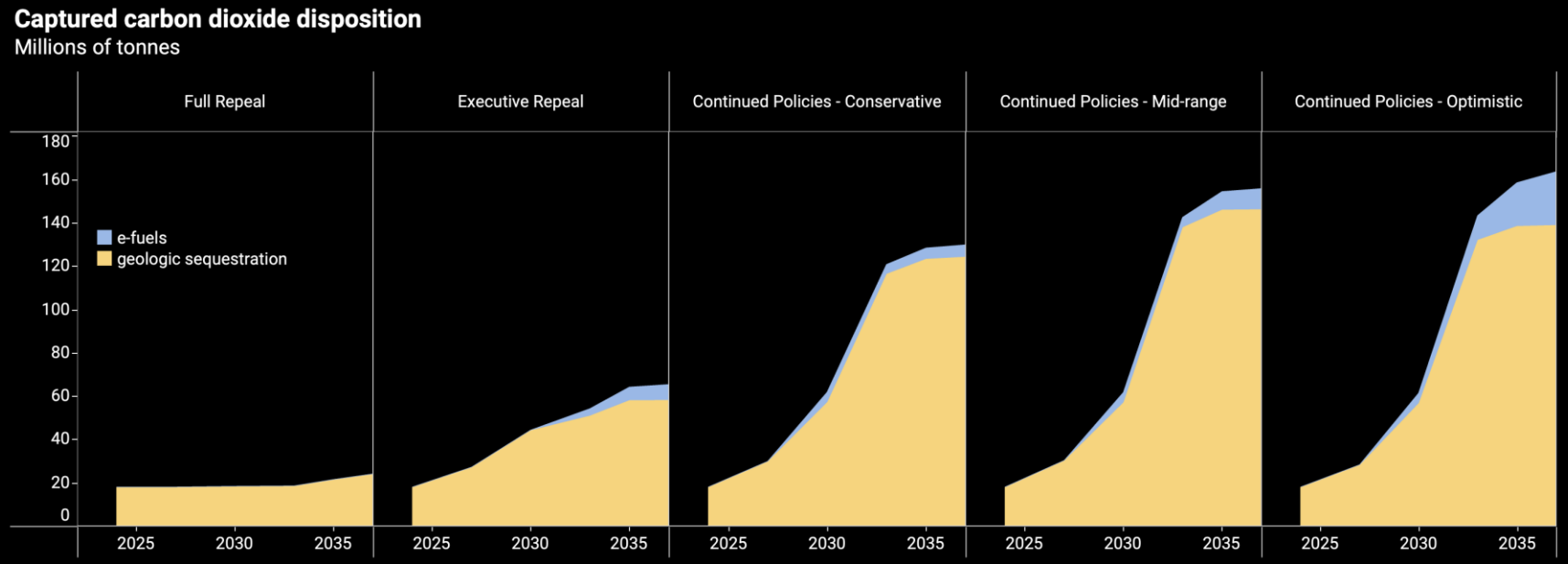

About REPEAT Project

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REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

REPEAT Project provides regular, timely and independent environmental and economic evaluation of changes in federal energy and climate policies as they're proposed and enacted, offering a detailed look at the United States' evolving energy and climate policy environment and the country's progress on the path to net-zero greenhouse gas emissions.

Approach: we employ geospatial planning and analysis tools coupled with detailed macro-energy system optimization models to **rapidly evaluate federal policy and regulatory proposals at politically-relevant spatial resolutions** (e.g., state, county, and finer resolutions). This is a refinement of methods used in the Princeton *Net-Zero America* study.

Goal: provide independent, timely, and credible information and analysis for broad educational purposes, including as a resource available publicly for stakeholders, decision-makers, and the media.

Funding: funding for the REPEAT Project was provided by a grant from the Hewlett Foundation.

Impact: since 2021, REPEAT Project has played a central role in informing debate, media coverage, and public understanding of the impacts of proposed and enacted legislation and regulatory changes. The project continues to provide regular analysis of pending and finalized changes in federal energy and climate policy, updates on progress towards climate goals, and other analysis at **repeatproject.org**

REPEAT Project is a joint project of the **Princeton University ZERO Lab** (Zero-carbon Energy Systems Research & Optimization Laboratory) and **Evolved Energy Research**.

PRINCETON UNIVERSITY
ZERO LAB
Zero-carbon Energy Systems Research and Optimization Laboratory

EVOLVED ENERGY RESEARCH

The REPEAT Project Team

REPEAT Rapid Energy Policy Evaluation and Analysis Toolkit

Princeton ZERO Lab: Prof. Jesse D. Jenkins (Principal Investigator), Abigail Cheng, Dr. Qian Luo, Dr. Greg Schivley;

Evolved Energy Research: Jamil Farbes, Ryan Jones, Ben Haley;

Former contributors:

Princeton University: Dr. Qingyu Xu; Annie Jacobson, Claire Wayner, Aneesha Manocha, Riti Bhandakar, Cady Feng;
Montara Mountain Energy: Emily Leslie, Dr. Andrew Pascale;
Darmouth College: Prof. Erin Mayfield;
Binghamton University: Prof. Neha Patankar.

Website development by **Hyperobjekt**

For more, see **repeatproject.org/about**

Statement of interests: Jesse D. Jenkins is part owner of DeSolve, LLC, which provides techno-economic analysis and decision support for clean energy technology ventures and investors. A list of clients can be found at https://www.linkedin.com/in/jessedjenkins. He serves on the advisory boards of Eavor Technologies Inc., a closed-loop geothermal technology company, Rondo Energy, a provider of high-temperature thermal energy storage and industrial decarbonization solutions, and Dig Energy, a developer of low-cost drilling solutions for geothermal heating and cooling, and he has an equity interest in both companies. He also serves as a technical advisor to MUUS Climate Partners and Energy Impact Partners, both investors in early-stage climate technology companies.

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