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Resources

If/Then: Rapid Responses to Federal Policy Actions

The First 100 or So Days of a New Administration

Assessing policy shifts and consequences across energy, environment, and climate.

The Slippery Slope of Federal Land Sales

Considering legal risks, purported housing benefits, and irreversible losses to public lands.

Domestic Changes, Global Implications

Repealing the endangerment finding doesn't affect just domestic climate policy.

Cuts to Federal Oil and Gas Royalties

Shifting policies reduce public returns from oil and gas extraction nationwide.

Illustration by Nils-Petter Ekwall

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A Note from RFF's President

Embracing the Future Now

This past year leading Resources for the Future (RFF) has taught me a lot about the need to balance intentional, proactive strategy and responding to the moment. As we enter a new year, that balance will continue to be critical. The policy landscape remains uncertain; yet, we must plan ahead for future climate, environmental, and energy research and policymaking.

In 2025, a new administration took over the executive branch of the government, and a new Congress was sworn in; their policy changes have impacted almost everyone. For those of us reliant on the generous donations of individuals and institutions, we also have had to contend with funders reevaluating the direction and importance of different environmental, energy, and natural resource decisions. Many leaders are wondering, Is this the time to respond to these changes, or hold steady to existing priorities? I argue that the answer really is all of the above.

In this issue of *Resources*, you'll read reprints of some selected If/Then policy analysis pieces. Our If/Then project was meant to respond to the rapid changes coming out of the White House, Congress, and US states. We've done so by leaning on our expertise in providing policy-informed, rigorous economic analysis. Continuing RFF's long legacy as a research institution, this body of work responds to the moment in a timely and relevant manner, and the effort has paid off by informing stakeholders and policymakers about the consequences of key proposals and decisions in an objective and nonpartisan way.

Here, you'll read more about our analyses of federal land sales, changes to oil and gas royalty rates, the proposal to repeal the endangerment finding, and the deregulatory posture of the executive branch toward the US Environmental Protection Agency and the US Department of Energy. Given the number and continued pace of changes that we see, we understand the continued need for responsive, independent, nonpartisan economic analysis.

At the same time, we're planning important analysis in new areas. Our priorities in the year ahead include removing obstacles to permitting and siting new energy projects, finding solutions for affordable electricity alongside unprecedented load growth on the power grid, understanding new industrial policies associated with advanced technologies such as nuclear and geothermal energy, mitigating climate-related financial risk in the US economy, and analyzing policy solutions as weather becomes more volatile and more costly in terms of lives and dollars.

We are working every day to find the right partners, answer the key research questions, and inform the best policy solutions—and we have you to thank. We appreciate all of you who work alongside us to ensure a healthy environment and thriving economy for generations to come.

Sincerely,

Billy Pizer
President and CEO, Resources for the Future

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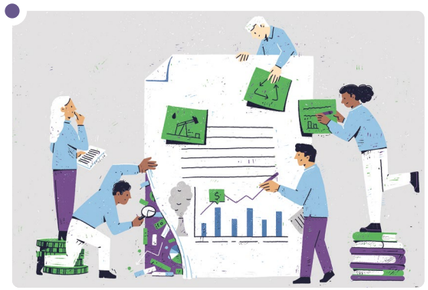


NO. 220 | WINTER 2026 | *"With any new federal administration comes an array of policy actions."*

Evidence in a Time of Policy Extremes: Launching the If/Then Series from Resources for the Future

If environmental policies are changing at breakneck speed, then understanding the economics of the change needs to be as fast—but also rigorous.

TEXT Carlos Martín

This article was originally published as a Common Resources *blog post on April 2, 2025.*

The core mission of Resources for the Future (RFF) is to improve environmental, energy, and climate policy through impartial economic research. Decisionmakers have come to rely on our research to understand the implementation and economic outcomes of environmental policy since RFF's founding over 70 years ago. Since then, RFF scholars have analyzed all manner of policy changes, including suggested regulations, potential rules, and the evaluation of enacted laws.

But the policy world is rapidly evolving in ways that counter the traditional research enterprise. The frequency of "policy actions"—our catchall phrase for any statement about proposed or implemented policy—has increased drastically, while the language and delivery of policy actions has become more variable. RFF is committed to its core function—and how do we do that in the current moment?

Into this context, RFF is launching its If/Then series, a multi-channel project that presents timely insights about substantive developments in environmental and energy policy, grounded in economics expertise and shared in ways that are easily accessible and user friendly.

The "If/Then" label for this effort is meant to evoke the use of evidence, models, experience, and causal inference based on logic and economic theory to link actions to consequences: *If* such an action is taken, *Then* consequences are likely to ensue. A select range of RFF products that include blog posts, explainers, issue briefs, short videos, and related materials will carry the If/Then brand and underlying logic.

This initiative builds on RFF's reputation and research expertise. We have proudly stood by our nonpartisan research under all regulatory and political scenarios. In fact, providing timely analysis is within our DNA. But providing timely and rigorous evidence for policymaking has proven challenging in recent days for three new reasons that have led us to embark on this effort:

1) The pace and reach of new policy actions is unprecedented, often leaving little bandwidth for deep analysis.

With any new federal administration comes an array of policy actions. But the quantity of late is far greater than anything we have witnessed before. RFF researchers have been following several key actions, starting with the executive orders issued since the first day of the current administration, regarding (as just a few examples):

- US energy conditions, energy sources (including resources in Alaska), and cabinet-level working groups addressing those ends
- revising international environmental agreements
- reforming the Federal Emergency Management Agency and the federal role in disaster management writ large, particularly in relation to recent events like the Los Angeles wildfires
- deregulatory requirements for new regulations
- the opening of federal lands for a number of uses, including mineral mining

The pace and scope of these orders have challenged the ability to provide rapid, deep analysis, but in many cases, RFF researchers have built an archive of research products that shed light on the developments. For example, in response to the Trump administration's repeal of the Biden administration's pause on liquefied natural gas exports, we turn to our original analysis of the pause that RFF researchers conducted in the waning days of the Biden administration. As details emerge about how these directives may change program rules or lead to new legislation, additional research needs will arise.

> "The policy world is rapidly evolving in ways that counter the traditional research enterprise. The frequency of "policy actions"—our catchall phrase for any statement about proposed or implemented policy—has increased drastically, while the language and delivery of policy actions has become more variable."

PHOTO Zakai / Getty Images

2) Policy actions are now less formalized.

In some cases, such as with many of the executive orders, policy changes have been articulated through traditional vehicles such as likely rule changes or federal litigation and, eventually, legislation. But less traditional channels for policy action can include public statements; media signals; grant freezes; and program and staff cuts that will shape the nature of environmental laws, program rules, and implementation. These latest versions of policy actions often are slim on the types of details that typically are needed for substantive research or analysis. Defining a policy change of interest can be elusive, so traditional methods of analyzing the effects or trade-offs of a change do not always apply.

In this wider pool of nontraditional actions, RFF is tracking the rollback of energy-efficiency rules at the US Department of Energy and the 31 deregulatory actions that have been proposed by the US Environmental Protection Agency, including the legal actions for striking down the 2009 endangerment finding that underpins much of the US framework for regulating greenhouse gas emissions. We also are monitoring wider efforts to repeal specific programs that had been authorized and appropriated during the previous administration—for example, what a repeal of the Clean Power Plan regulation (which is enabled by the endangerment finding) would mean for future emissions—as details of repeal come to light.

3) Different policies significantly interact with one another, including somewhat unrelated regulations and program statutes, in some cases due to the grouping of many policy actions into single legislative acts that preceded the current administration.

For example, the Inflation Reduction Act originally incentivized electric vehicle manufacturing, consumer purchases of electric vehicles, and related charging infrastructure. Actions that look to repeal policies wholesale, such as the Inflation Reduction Act, would have multiple effects across a wide range of categories. Even if the more likely scenario of changes to individual statutes or rules happens within these wide-reaching laws, economic consequences will affect the outcomes of the remaining provisions in the laws.

Consequently, a combination of actions from the executive, legislative, and judiciary branches of the federal government—as well as possible effects on US states in terms of environmental, energy, and economic outcomes—are likely to evolve, given the variability and pace of actions. Teasing out individual actions and their broader economic implications in areas of RFF expertise will be another focus of our If/Then effort.

More than ever, decisionmakers and stakeholders across the policy landscape are looking for independent, expert views on the economic implications of policy actions. Pulling out the necessary evidence as often from previous RFF research as from new analysis—and presenting that evidence through the full range of RFF communications and media tools—will help fill the gaps. We invite you to follow these pieces at **https://www.rff.org/if-then/**

If/Then Progress Report: The First 100 or So Days of a New Administration

If sound economic analysis gets considered in decisions, Then sound decisions can be made for environmental and energy policy. The team that's spearheading the If/Then policy series at Resources for the Future reflects on this idea and related analyses.

TEXT
Alan Krupnick, Carlos Martín, Kevin Rennert, and Anna Kramer

ILLUSTRATIONS
James Round

This year, Resources for the Future (RFF) has been attentive to environmental policies that are changing at a speed that makes tracking developments, and their policy impacts, difficult. To address that difficulty, RFF scholars have launched the If/Then policy analysis series, which presents timely and accessible insights grounded in RFF's nonpartisan research expertise. Since the spring, we've released more than a dozen analyses in the If/Then series.

The "If/Then" label for this effort is meant to evoke the use of evidence, models, expertise, and causal inference (i.e., data-driven analysis) to link policy actions to their consequences: **If** such an action is taken, **Then** these consequences are expected to occur. Analysis comes in various flavors, including blog posts about the prospect of public land sales and the cancellation of federally funded technology projects; reports and issue briefs about vehicle import tariffs and an executive order to increase timber sales while reducing wildfire risk; and events like the "If/Then Progress Report" that's reproduced here, in edited form.

The event took place as a webinar that was hosted by RFF with moderator Anna Kramer, an energy and environmental policy reporter at NOTUS, leading RFF researchers in a discussion about some of the topics that the If/Then series has covered, particularly in the context of the budget reconciliation bill that was deliberated in the US House of Representatives and the Senate earlier this year, with the House and Senate versions of the bill reconciled at the start of the summer, and the final bill signed into law on the Fourth of July by President Donald Trump. We held the event at around the 100-day mark of the new Trump administration.

If/Then

This event took place on June 24, 2025. The original transcript of the discussion at the event has been edited for length and clarity.

> **The policy support for electric vehicles coming out of the last administration involved not just getting people to buy electric vehicles, but also building out the full domestic supply chain.**

> **Consumers end up paying more over the lifetime of these vehicles, because they end up paying more for fuel, even though the initial purchase price is dropping by about 10 percent.**

Kramer discussed these topics with Alan Krupnick, an RFF senior fellow and director of RFF's Industry and Fuels Program; Carlos Martin, RFF's vice president for research and policy engagement; and Kevin Rennert, an RFF fellow and director of RFF's Federal Climate Policy Initiative and Comprehensive Climate Strategies Program. These RFF researchers helped put together the If/Then series and have been coordinating related RFF analysis to date.

Electric Vehicle Policies

Anna Kramer: We're going to start by talking about what's top of mind this week here in Washington, DC, which is budget reconciliation. Let's start with electric vehicles (EVs), because one of the If/Then analyses has dived into this topic in great detail, looking at what happens if we undo a huge range of EV-support policies that came into play under the Biden administration, through tax credits and federal regulatory decisions. Now we're looking at a situation of removing EV subsidies from the reconciliation bill.

We've already seen the repeal of California's EV mandate, and the US Environmental Protection Agency (EPA) plans to repeal various vehicle emissions rules. RFF's If/Then analysis on this outlined the positive and negative effects we'd expect to see with these changes to EV policy, for consumers, businesses, and the federal government. Can you talk about that?

Kevin Rennert: The policy support for EVs coming out of the last administration involved not just getting people to buy EVs, but also building out the full domestic supply chain. That was a key part of the rationale: having incentives all along the supply chain, including sourcing critical minerals locally, building manufacturing capacity, building battery capacity, and designing and building the cars within the United States.

The Inflation Reduction Act has similar examples intended to build a whole system of support; for example, through vehicle purchase subsidies for passenger vehicles and commercial vehicles, both used and new, and the Advanced Manufacturing Production Credit for building the batteries.

You also mentioned two different kinds of regulatory standards that had been driving the transition to EVs: the tailpipe standards that came out of EPA, and fuel economy standards that came out of the National Highway Traffic Safety Administration.

And finally, we had state actions. We had the California Clean Cars program, which was allowed because the program had a federal waiver that made it okay to exceed EPA's stringencies, and then was adopted by 11 other states and the District of Columbia. As you mentioned, the California waiver is now gone. Regulation changes are coming not only from reconciliation, but also from the agencies themselves; and the tax credits may also be repealed through the budget reconciliation process.

So, with all that as the preface, our colleagues Beia Spiller and Joshua Linn used the RFF Vehicle Market Model to understand what the effects would be if you went ahead and took that series of combined actions and repealed the various tax credits and regulations all at once. The top-line results from their model are that, by the year 2030, about 800,000 more cars get purchased—a roughly 5 percent increase. That's because the prices of new vehicles will go down by about 10 percent in the model as a result of the combined repeals.

They also see a substantial shift from EVs to internal combustion engines (gas-powered vehicles), with EV sales dropping by about 1.7 million units, or about 30 percent, and gas vehicle sales going up by about 2.5 million vehicles, or 25 percent.

An approach like this is going to have costs and benefits, and the question that they dive into in their If/Then piece is, Who is bearing the cost, and who is collecting the benefits?

The big beneficiary of this approach is manufacturers and their shareholders. They find that manufacturer profits go up by about $15 billion in 2030. This is pretty straight forward to explain: because the manufacturers don't have to invest in additional fuel-saving technologies and EVs, their profits go up.

The cost is borne by consumers, though. Consumers end up paying more over the lifetime of these vehicles, because they end up paying more for fuel, even though the initial purchase price is dropping by about 10 percent.

One of the great things about these models is that you can put together all the costs and benefits and look at the *net* social cost or benefit. When you do that, Spiller and Linn's analysis shows a net social *cost* to repealing all these regulations, even taking into account the reduction in expenditures from the government of about $30 billion.

The follow-on question is, who benefits from the reduction in government expenditures? That, of course, depends on what Congress decides to do with the reduced expenditures through other parts of the legislation.

I'd also point you to another If/Then analysis from Spiller and Linn, which uses a similar modeling approach to explore the effects, and costs and benefits, of tariffs.

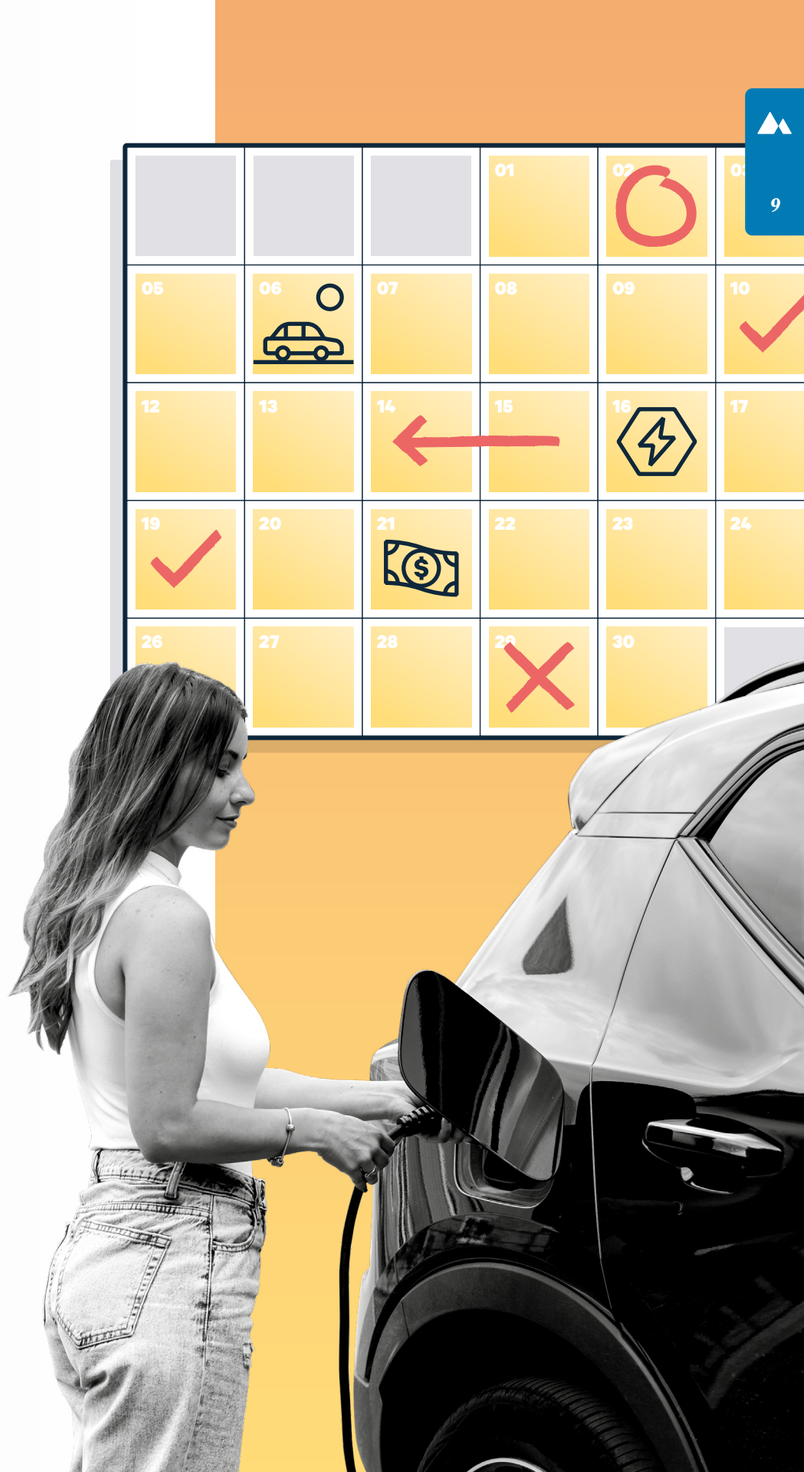
They find that the tariffs imposed by the Trump administration would benefit manufacturers, just like the repeals would, by protecting manufacturers from competition overseas. But that will drive up the cost of vehicles, which again puts consumers into vehicles they may not have bought as their first choice. So, a consumer cost comes from it.

Their analysis shows that the net social outcome of the tariffs is negative—a cost, as opposed to a net benefit, overall.

The Inflation Reduction Act Goes Poof

Anna Kramer: I'd like to talk a little bit more about wind and solar, which are the two areas that probably are getting the most extreme gutting, if you will, in the Senate bill. What we're seeing is a dramatic policy reversal from the state of play even a year ago for those industries, which have seen dramatic spikes in investment over the course of the past several years.

I'd like to dig into what we expect the effects to be. If we again look at the effects on manufacturing, financial choices for the



government, and effects on the consumer at the end of the day and in the longer term: What happens if we just pull all the wind and solar subsidies out from under everyone? What happens with the government, industry, and consumers?

Kevin Rennert: Just to take a quick step back on what's being addressed in the reconciliation bill: The Inflation Reduction Act tried to solve a bunch of different issues with clean electricity tax credits, which have been around in various forms for a long time.

One issue was that these sort of on-again, off-again incentives for producing renewable electricity, or investing in the materials to build them, would come for a year and a half and go away. And then there would be a scramble, and then they'd come back in place, and so on.

Two, the specific technologies are written into the law. So, if you wanted to make a new clean technology eligible, you actually had to get an act of Congress to add it in.

So, the Inflation Reduction Act looked to solve all these different issues in one fell swoop by making the incentives long-running—automatically sunsetting them over a period of time as the emissions in the power sector dropped—and technology neutral, with eligibility based on just the ability to produce electricity with zero emissions.

The Inflation Reduction Act also made it easier for developers to monetize those credits by making them transferable, and easier for tax-exempt entities to monetize the credits, as well, by allowing for direct pay by those entities.

So, these clean electricity provisions of the Inflation Reduction Act are what's being proposed to be repealed in both the House and the Senate bills. The Senate bill is less stringent, but it's still a rapid phasedown.

When we use our power-sector model to see what the effects of a repeal would look like, we find that repealing the Inflation Reduction Act would have a significant effect on the deployment of renewables over the course of the 10-year budget window. We find that renewables deployment would go down by almost 300 to 400 gigawatts of capacity. Our model shows that renewables would be replaced largely by an increased use and build-out of gas turbines, with a bit of coal on the periphery.

An effect of repealing the Inflation Reduction Act for consumers is that taking those credits away and changing the kinds of energy sources that are deployed makes average US electricity rates increase substantially. For the year 2030, the model predicts an increase of 5 to 7 percent in the average US electricity bill. For 2035, we see an increase on the order of 6 to 10 percent. These increases translate into something like a $100 increase on electricity bills for the average household five years from now.

At the same time, the federal government would reduce its expenditures. We find that government expenditures go down by about $200 billion over a 10-year window.

Is Hydrogen Fuel Ready for Liftoff?

Anna Kramer: I wanted to give everybody else a chance to talk about some of the other tax credits that are facing interesting changes in the budget reconciliation bill. We're seeing that the Senate bill is more in support of carbon capture and sequestration, and we're seeing continued support across the board for the Clean Fuel Production Credit.

What are the effects of the continued support for some of these remaining credits for industry, the government, and consumers?

Alan Krupnick: For carbon capture, the tax credit is called 45Q in the tax code. The big news for me is that enhanced oil recovery was given an added tax credit, going from $60 per ton of carbon dioxide that's captured and used in enhanced oil recovery to $85 per ton, which is what the capture and permanent storage of carbon dioxide would earn. This is called "parity" in the bill. But there's nothing "parity" about it.

Enhanced oil recovery is what oil companies use when they've got a well in which the pressure has played out, but oil is still down there. You can put carbon dioxide (or other substances) down the well, which pushes up the oil. You can get more oil out of the well than you otherwise would be able to. So, that carbon dioxide actually is valuable. That's why, in the Inflation Reduction Act, the enhanced oil recovery tax credits were less than the tax credits for carbon capture and permanent storage. To me, parity is a windfall for the oil industry.

Another part is curious to me, in an administration with many who are in climate denial. Part of 45Q involved a large tax credit for direct air capture, which is when you take carbon dioxide out of the atmosphere and do something with it—store it permanently or use it in some other way. I thought that credit would go away, but it hasn't. And in fact, if you take the captured carbon dioxide and use it for enhanced oil recovery, you now also have parity—but now, your credit has been raised from $135 per ton, captured with direct air capture techniques, to $180 a ton. So, a much larger tax benefit.

Anna Kramer: I'll just flag that all this shows that it's not that Republicans in the Senate want to get rid of all subsidies—it's that their own political priorities also are playing a role in shaping which tax credits get support and which don't.

Alan Krupnick: I have to say something about hydrogen, which has been on a rocket launcher over many decades, many times, ready to shoot off into space and be an important (but niche) fuel for the United States and the rest of the world. And particularly, recently, clean hydrogen.

When the Inflation Reduction Act passed what's called the 45V tax credit, hydrogen that's produced by electrolysis was going to get a big subsidy. But exactly how you figure out what's eligible for how much subsidy has been the subject of debate since the act was passed.

Finally, after much back and forth between various agencies, the Biden administration, and stakeholders, the rules were set in late 2024. So, it looked like the steam was coming out of the rocket. You know: it's hissing, and everything's go for liftoff. And now, that's pretty much over.

> **"Our model shows that renewables would be replaced largely by an increased use and build-out of gas turbines, with a bit of coal on the periphery."**

> **"When the Inflation Reduction Act passed what's called the 45V tax credit, hydrogen that's produced by electrolysis was going to get a big subsidy."**

> **Thus, even if we don't count the carbon dioxide emissions benefits, the lost benefits to health far outweigh the cost savings to the electric utility industry and ratepayers.**

> **My argument to the administration would be to treat the process of regulatory impact analysis with respect and provide the true estimated costs and benefits.**

Both the House and the Senate are terminating the hydrogen subsidy—unless construction of a project begins this year.

Two things are still going on with clean hydrogen, though, that are worth mentioning. One concerns blue hydrogen. If you apply carbon capture and storage to a steam reforming system that creates "gray" hydrogen from natural gas, you can take 45Q tax credits, with the resulting hydrogen termed "blue" hydrogen. So, that smaller rocket is still, I think, ready for liftoff—and a lot of carbon capture and sequestration and blue hydrogen projects are around.

And then there are the hydrogen hubs, which was a major $7-billion initiative of the Biden administration. The hammer hasn't come down on those yet, as far as I know. The hubs got the first tranche of funding under Biden, but most of that funding is probably going to be gone. That's particularly unfortunate, because these hydrogen hubs went through an incredibly competitive process to be chosen. They spent millions of dollars in building up their proposals, and they went through a lot of academic and in-house review.

Clean Power Plan Disappears in a Cloud of Pollutants

Anna Kramer: I'd like to move on and talk about deregulatory actions from EPA, particularly the deregulatory actions around the Clean Air Act.

EPA has taken an abundant number of initial deregulatory actions involving different pollutants, including greenhouse gases and environmental pollutants that have health effects, such as mercury, sulfur dioxide, and particulate matter. What do we expect to be the economic and health effects for rollbacks on regulations that cover air pollutants?

Alan Krupnick: I want to focus on a major proposed repeal of Section 111 of the Clean Air Act, which is the Clean Power Plan.

A lot of the If/Then pieces that I've written have been about methodology—about cost-benefit analysis and how to assess whether to repeal versus create a new regulation. These types of assessments are called regulatory impact analyses, and they must accompany new major regulations or the repeal of major regulations.

In this case, the regulatory impact analysis that accompanied the proposed repeal of the Clean Power Plan is particularly egregious and needs some discussion. In the executive summary of the regulatory impact analysis, what you see is that the cost savings to the American public from this repeal—in other words, the money that's *not* spent in trying to meet tighter carbon dioxide standards—are $19 billion over the program lifetime considered in the analysis.

The executive summary says something like, "We're not going to count the lost benefits of reducing carbon dioxide, because we have an executive order from the Trump administration that says we can't value such climate change benefits." It also implies that we're not going to count the forgone ambient air-quality impacts that come along with forgone climate impacts—the impacts that result from forgone reductions in fine particles, sulfur dioxide, and nitrogen oxides—because the regulation was meant to control carbon dioxide, so those ancillary benefits don't count. So, all that's left for the net benefits of repeal are the cost savings. Of course, this approach is completely illogical and misleading, as the forgone benefits are purposefully left out.

Indeed, if you go back to the original regulatory impact analyses, the carbon dioxide benefits of that original rule were $270 billion—versus $19 billion in cost savings. So, that $270 billion is what we lose if we repeal the Clean Power Plan.

And the air-quality benefits that were estimated for the original bill amounted to $130 billion. These benefits include all kinds of health effects, including reduced mortality risks.

To meet the Clean Power Plan rules, coal plants had to retire early. Coal plants are particularly dirty, and they release nitrogen dioxide and sulfur dioxide. Both of these pollutants are controlled, but not 100 percent; some of these pollutants and fine particles escape. And in the atmosphere, the sulfur dioxide and nitrogen oxides convert into fine particles and ozone. The changes in pollutant concentrations across the country are what results in $130 billion of health benefits—that's what we lose if we repeal the Clean Power Plan.

Thus, even if we don't count the carbon dioxide emissions benefits, the lost benefits to health far outweigh the cost savings to the electric utility industry and ratepayers. Deliberate omission of either benefit leads to egregiously incorrect conclusions.

My argument to the administration would be to treat the process of regulatory impact analysis with respect and provide the true estimated costs and benefits. After doing so, they'd be free to say they're going to repeal, anyway—there's no restriction that says you can't pass a rule unless the benefits exceed the cost; you only have to justify the decision. That way, they'd be aboveboard and transparent. And then we could debate the administration's reasons for the repeal.

But the administration isn't doing that. And that's unfortunate.

Anna Kramer: I'll just say that one thing we can expect is quite a bit of litigation over these regulatory rollbacks, and I imagine that what Alan is speaking about will be noted in the litigation and arguments about the deregulatory process.

Canceled Grants and Compromised US Competitiveness

Anna Kramer: I want to move from EPA to the US Department of Energy (DOE), to talk about the cancellation of grants. Earlier this year, I reported on DOE's decision to cancel funding for about 24 grants, worth billions of dollars, for heavy-industry decarbonization and carbon capture. Many of these grants had been awarded to fairly well-established companies—ExxonMobil, Kraft Heinz—but a few grants also went to smaller start-up companies. Many of these companies were committed to pursuing innovative new technologies to transform their industrial processes.

A lot of these companies have quietly protested DOE's reasoning for canceling the grants. They've been saying things like, "We think our projects were economical and had a high chance of success." DOE said in its justification for canceling the grant funding that it didn't believe these projects were viable or economical. Clearly, a dispute is going on about the reasoning behind the justification. And these grant cancellations are just one example of similar things that are happening across the federal government.

I'd like to talk about the consequences of canceling grants like this. What does it mean for businesses to face uncertainty, when it's clear that the government doesn't always intend to honor commitments that it's already made?

And if we have time, perhaps we can dig into the pros and cons of programs like these that are intended to drive innovation in industry.

Alan Krupnick: It'd be great to see the analyses that the administration actually did to investigate whether these 24 projects should be canceled.

And what were the analyses on projects that *weren't* canceled? How many projects *haven't* been canceled? And how many more cancellations will there be? Because once these projects start getting canceled, everybody gets nervous. And when you talk about the effects on innovation, this uncertainty and its implications can affect multiple grant programs throughout DOE.

What we want to see is a lot more transparency from the administration on how it's making these decisions—why some projects are going forward and some are not—and following a set of clear criteria.

My colleague Katarina Nehrkorn and I published an If/Then blog post of our analysis in which we reviewed the 24 DOE projects that were canceled. Note that to get DOE money in the first place required a cost share of 50-50. So, a company is putting skin in the game to get another 50 percent of the cost of its project from the federal government, because the company believes it can make money in the future.

Most of these projects—10 of the 24 canceled projects—involved carbon capture and sequestration. So, on the one hand, Congress is keeping those tax credits intact; and on the other hand, DOE is trashing these projects. So, it's hard to figure out what's going on.

To summarize the pros and cons of these projects: For the pros, the government helps companies get over the private-funding hurdles of these first-of-a-kind (or second- or third-of-a-kind) projects. Second, DOE picked the best projects in the competition, so these companies have withstood some internal reviews. Third, these projects help keep the United States as a major player in a future market for clean technologies. And fourth, the success of these projects contributes decarbonization benefits.

And other countries, like the European countries, are putting together policies called carbon border adjustment mechanisms. They're demanding that imports to the European Union (for instance, exports from the United States) have a low carbon footprint. So, to the extent the United States doesn't make innovations to reduce its carbon footprint, then the United States may become uncompetitive in world markets.

And then the cons: possible elimination of waste. Again, though, consider that the companies have skin in the game, so they have an incentive to not waste money. There is also a risk of failure. But you can learn, in risky situations, from failures. You don't want colossal failures; but ordinary, everyday failures in which things don't come out exactly as intended—you learn a lot from. The administration, I think, is ignoring those benefits.

Carlos Martín: I want to pick up on one note that Alan said—the core issue with competitiveness, not just in terms of potential immediate economic effects for some technologies, and the loss of US competitiveness in the short term, but also what that lack of long-term innovation capacity means for American competitiveness.

When we see industries outside the United States being able to take advantage of research and development, and particularly development, that poses a real challenge to American competitiveness.

Anna Kramer: I keep having conversations with folks who are involved in lobbying on the start-up side who say repeatedly how extraordinarily concerned they are—how existential things have become when it comes to American competitiveness with some of these technologies, and that we appear to be ceding any chance that we had to keep up with China on some of these renewables technologies.

And things like abruptly pulling grant funding for deep industrial decarbonization and carbon capture—those are the kinds of things that cause business uncertainty and in turn have these ripple effects that make it extremely hard for companies to invest in the United States and in this kind of work.

Carlos Martín: We haven't talked about that in terms of the reconciliation bill and its "foreign entities of concern"—but certainly that poses a lot of challenges for renewable energy and EV innovations that had been occurring in the United States. And China has advanced so much further along.

Responding to Natural Hazards

Anna Kramer: The Trump administration has begun a dramatic transformation about the way that the federal government approaches disaster funding. We're going to get into the bigger philosophy that the administration is pushing, but I wanted to start with a link to the DOE conversation, which is cuts to grant funding.

One of the things that has happened at the Federal Emergency Management Agency (FEMA) is that the administration has pulled funding for the Building Resilient Infrastructure and Communities (BRIC) program, which gives grant funding to communities for mitigation and pre-disaster preparation. Some examples of BRIC projects are undergrounding power lines, or shoring up the edge of a river that's flooded in the past, or protecting emergency power sources—all kinds of investments that are expensive, out-of-the-ordinary costs for a

"What we want to see is a lot more transparency from the administration on how it's making these decisions—why some projects are going forward and some are not—and following a set of clear criteria."

"The Trump administration has begun a dramatic transformation about the way that the federal government approaches disaster funding."

community that can prevent much bigger costs during a disaster.

The administration basically has said that this program is no longer necessary. They think it's a waste of money, and not only are they canceling it, but they're going to pull funding for some of the approved projects.

Carlos, you've been looking at disaster response in great detail. Could you speak to why that funding support is important, what value it provides, and what problems might be posed for states, now that the administration is killing this type of government support?

Carlos Martín: The rescission of the BRIC funds was a particularly hard pill to swallow for a lot of states and local governments, because it comes at a time when most states are finally coming to terms with their increased exposure to hazard events. They're coming to terms with the costs and repercussions of *not* acting.

The BRIC program replaced much of the previous pre-disaster mitigation programming funds. A lot of the money from the federal government that's intended to prepare for the next disaster actually comes out when the disaster already happens. So, the pre-disaster mitigation funds getting replaced by BRIC meant that we were actually investing in the long term and thinking about what the future exposures for a lot of these communities are going to be.

And BRIC was established in 2020—it's not that old of a program. It was oversubscribed. A massively competitive program. The first round of BRIC funding was allocated in 2020 during the first Trump administration.

So, BRIC provided money and critical resources to kick-start hazard-mitigation projects before disaster strikes. Study after study has shown that mitigation activities more than pay for themselves, and not just in reduced damages, but in terms of reduced draws on public relief, response, and recovery funding—on all the losses of local economic activity. Not to mention that you're reducing the cost to lives, property, and suffering. So, disaster mitigation is one of the wisest investments that governments, at any level, can make.

So, BRIC was critical in providing money. It was about a 75 percent federal share, with, in many cases, a local government share up to 25 percent. There were some exceptions for particularly smaller, rural, and impoverished communities, where the federal share could be extended to about 90 percent. But in all cases, that federal funding was absolutely critical.

The money was important, but the BRIC program also was a way to better strategize. The BRIC program had evolved significantly over those four years in which funding was offered. That was the real value add in my mind: it led states to think more comprehensively in their approaches.

You mentioned some examples of BRIC projects, like grid resilience, shoreline erosion, and flood mitigation. I'd add to that list projects that incentivized people to make mitigation changes more comprehensively: regional infrastructure, property infrastructure, household education programs, and risk awareness. So, BRIC helped states to be more creative and establish priorities more succinctly.

Anna Kramer: Not only has the administration pulled BRIC, but the Trump administration also has been talking about FEMA's responsibilities returning to the states. So, while they're pulling away funding for these creative state-mitigation projects that reduce costs in the long run, they're saying at the same time that they want states to be more responsible than they already are, and to carry more of the funding burden than they already do.

You went into this in detail with one of your If/Then pieces about shifts in funding for disaster response. Can you talk about the current state of play? Why does the federal government have a critical role? What are the responsibilities of states for disaster response, both in terms of funding and operational capacity?

And then we can dig into what happens when you take that federal support away.

Carlos Martín: Historically, a lot of state and local governments have been paying their share of many of these mitigation activities, typically through bond financing. We saw this happen in Houston and Harris County after Hurricane Harvey. We've seen it play out in different parts of the country.

In some cases, like levees and coastal protections, the stated responsibility is by statute, with federal intervention. We're not just talking about FEMA—we're talking about the Army Corps of Engineers having specific statutory obligation to develop certain kinds of flood infrastructure projects. In some cases, it's federal land that we're mitigating, and in other cases, it's direct federal financial interests, such as the National Flood Insurance Program. We want to incentivize mitigation that supports existing federal returns down the road on that investment.

I mentioned the money and the quality. Some states simply can't afford the comprehensive planning and project work on their own. So, a lot of those states are going to have real hardship. Some of them just don't have the technical know-how.

The use of their own resources is a shift, and in some ways, it's a positive movement. We've been talking for about a decade, at least, about the fact that there's a great and important need to encourage broader mitigation activities at the state and local levels. Remember: state and local governments are the ones that maintain zoning, allow development to occur in certain exposed lands, have certain building codes—so, there's a real opportunity to push state and local governments to think more about that.

I always think about two challenges, or two twists, to that question: What could states do if all this gets terminated—not just BRIC, but the whole of FEMA? We need to understand when they are expected to take this role on. So, a lot of capacity building has to occur. One of the other interesting things about BRIC is that a technical assistance program was associated with it, for the lower-capacity, lower-revenue jurisdictions to be able to build up to that.

And then, what's the timing? When should we expect to be doing these transitions? The FEMA Review Council is still in conversation. There have been legislative proposals; the Fixing Emergency Management for Americans Act is a bill that's been introduced in the House of Representatives. That does move the bar, but does so with a timeline and certain requirements.

> **"Government has unique abilities and resources to do major data collection through surveys. Many nonprofit groups and academics do surveys, so if some of that effort could be organized, it might be a way of filling in some of the gaps."**

Alan Krupnick is a senior fellow, **Carlos Martín** is vice president for research and policy engagement, and **Kevin Rennert** is a fellow at Resources for the Future. **Anna Kramer** is a reporter at NOTUS.

Aside from the timing, which parts are we moving? Is it the mitigation; the relief and response, which is a very important backstop; or the long-term recovery? That conversation, I think, needs to happen.

States are worrying right now, not just about the loss of their current BRIC funding, but also about their long-term social and economic viability. When they restrict development, they lose that state revenue, they lose population, or they have a wide range of other concerns at the property level. So, there's a bigger conversation that has to account for how that transition's going to hurt a lot of these states.

Anna Kramer: This administration tends to do things unilaterally, not necessarily in consultation with large numbers of groups. The way you're talking about all this sounds like an ideal way of transforming FEMA, if you're going to do it—a way that not only gives states a significant timeline, but ideally has them involved in shaping how you go about doing it.

Carlos Martín: We'll wait to see what the FEMA Review Council puts out. Local representatives are on the Review Council, so in theory, there will be some local input. There was a public comment period through FEMA. Most of the comments praised FEMA for its assistance in the past.

Disappearing Data

Anna Kramer: A question we got from the audience is about the amount of public data that seems to have disappeared over the course of the last several months, from government-run websites, or the data-collection programs that are no longer being run or may no longer run in the future. For any specific data that you all rely on for your research, have you seen it changing in quality, or has it disappeared? And what happens when you degrade the quality and amount of government-produced data that's available to the public?

I'll flag a couple things for everyone, in case this isn't something that you follow closely. I've spent a lot of time writing about the cuts to weather balloon launches that have happened across the country. The National Weather Service no longer has the staffing to do its twice-daily weather balloon launches at all the weather stations across the country. These launches feed weather models with recent data, and now we have a lot less of that data than we had before. Experts tell me that, over time, this loss of data may degrade the quality of our weather forecasting.

EPA also has been talking about no longer collecting information for the Greenhouse Gas Reporting Program, which would mean no longer collecting information about greenhouse gas emissions from power producers and whoever else is required to report emissions.

Alan Krupnick: During the first Trump administration, the National Academies of Sciences, Engineering, and Medicine met to decide how to best estimate the social cost of carbon, which is used to value reductions in carbon dioxide emissions. This work was not going to happen in the Trump administration, so Kevin Rennert led a particularly important effort to estimate the social cost of carbon, so that when a more friendly administration to climate change would come around, that work already would be done. We're thinking about doing that again this time.

Also, data *collection* is another story than data *analysis*. Government has unique abilities and resources to do major data collection through surveys. Many nonprofit groups and academics do surveys, so if some of that effort could be organized, it might be a way of filling in some of the gaps.

Plus, any data that you collect, including data the government collects, has problems. The Greenhouse Gas Reporting Program is no exception. This may be a period, a hiatus, when we can think carefully about how to improve that system, so when we're ready to go with a new administration, we can do a better job. ■

If/Then: The Slippery Slope of Federal Land Sales

If the US Congress authorizes the sale of federal public lands in the upcoming budget reconciliation bill, then the decision could irreversibly affect the US public land estate—and not solve housing affordability problems as some advocates claim.

TEXT Margaret Walls and Alexandra Thompson

PHOTO kellyvandellen / Getty Images (with edits by James Round)

The US House of Representatives passed a budget resolution on April 10 by the narrow margin of 216–214 and along party lines. With passage of the Senate bill in the prior week, Congress now officially can work on budget reconciliation legislation. Some news accounts have reported that sales of federal public lands will be included in such a bill to generate revenues that will allow for an extension of the tax cuts in the 2017 Tax Cuts and Jobs Act, which were set to expire at the end of last year. Federal land sales also have been proposed as a way to address housing affordability challenges in the western United States. The legality of federal land sales as part of budget reconciliation is in question, and the long-term implications of including such a clause could be wide ranging and irreversible.

Sell-offs of federal lands, and transfers of federal lands to states, have been on the wish list of some Republican members of Congress and state and local officials in some Western states for years. The state of Utah is often front and center. It filed a lawsuit in 2024 requesting to transfer 18.5 million acres of federal land within its borders to the state. In January 2025, the Supreme Court refused to hear the case. Senator Mike Lee (R-UT), who now is chair of the Senate Committee on Energy and Natural Resources, has long been one of the most ardent proponents of federal land sales and transfers. In the previous Congress, Senator Lee introduced the Helping Open Underutilized Space to Ensure Shelter (HOUSES) Act of 2022, which would have allowed state or local governments to nominate federal public lands for sale (except those in certain protected categories) for residential development. This latest effort by Senator Lee to leverage the housing affordability crisis as a motivating factor for federal land sales also was espoused by Secretary of Housing and Urban Development Scott Turner and Interior Secretary Doug Burgum in a recent *Wall Street Journal* op-ed. The two agencies have established a task force on the issue.

In this If/Then article, we address two questions related to federal land sales. First, can Congress include federal land sales in the budget reconciliation bill? Would such an inclusion be legal under the budget reconciliation process, and how does it square with other laws? Second, would selling federal lands alleviate problems with housing affordability in Western cities and towns? We conclude with our concerns about the slippery slope of large-scale federal land sales, which would be a departure from current policy that could bring about irreversible changes to the US public land estate.

Before Reconciliation: Understanding Current Laws for Managing Public Lands

The federal government owns and manages 640 million acres of land, which represents 28 percent of the country's land area and more than 50 percent of the land in the 13 Western states. The Bureau of Land Management (BLM) has the largest holdings, at 244 million acres. BLM lands often are described as the "leftover lands" after settlement of the United States led to most lands being given away to homesteaders, railroads, timber companies, and states.

We focus our attention here on BLM lands, as these are the only federal lands likely to be offered for sale. Other agencies, such as the National Park Service and the US Fish and Wildlife Service, have missions of conservation and preservation; land sales would require major changes to existing legislation (and would spark significant public opposition). The US Forest Service, like the BLM, has a multiple-use mandate (laid out in the Multiple-Use Sustained-Yield Act of 1960) but less broad authority to sell land compared to the BLM and has sold or transferred very little acreage over the years.

The Federal Land Policy and Management Act of 1976 (FLPMA) established the multiple-use management policy for BLM lands, which still is followed today. The law also repealed homesteading and essentially ended the practice of the widespread and large transfer of federal lands, stating that BLM lands are to be retained in federal ownership except under special circumstances. The law allows federal land to be sold if (a) the tract is difficult and uneconomic for the BLM to manage; (b) the tract is no longer needed for the purpose under which it was acquired, or for any other federal purpose; or (c) disposal of the tract will serve important national interests. FLPMA also authorizes the BLM to exchange federal lands for nonfederal lands under certain conditions.

Since 1976, the disposal of federal land (i.e., sales and transfers) has been limited, and those instances have been targeted and carried out under carefully designed resource-management plans, which the BLM is required to do under FLPMA. Furthermore, land disposals typically have been offset by land additions, often in exchanges with states and other entities. In the 10-year period between 2014 and 2023, 1.08 million acres of land were sold or transferred and 291,400 acres acquired for a net decline of about 800,000 acres in BLM land holdings, a mere 0.3 percent of total BLM land. (The HOUSES Act would have amended FLPMA, adding language to allow state and local government nominations of tracts for sale.)

The Federal Land Transaction Facilitation Act, which was signed into law in 2000 (and reauthorized in 2018) also is relevant. It requires revenues from the sale or exchange of BLM lands to be deposited into a Federal Land Disposal Account rather than a general Treasury account and used only for purchasing other lands (or easements) with high conservation or recreation value.

Our expertise lies in the economics (and not the legal side) of public lands, but our understanding is that strategies are possible for the reconciliation bill to include public land sales if the provision focuses only on raising revenue. Provisions in reconciliation bills that are considered "extraneous" are not allowed and can be blocked under the so-called Byrd Rule. What counts as extraneous is open to interpretation, but if the change in spending or revenue from the provision is incidental to its non-budgetary effects, then the Byrd Rule could be invoked. Thus, any requirements about housing affordability

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This article was originally published as a Common Resources *blog post on April 24, 2025. We've made some minor edits in the text to reflect updates that happened since its original publication.*

The sale of federal lands ultimately garnered strong bipartisan opposition, and the final version of the budget reconciliation bill (Public Law 119-21, which the administration calls the One Big Beautiful Bill Act) was signed into law on July 4, 2025, without any land sale provisions. The issue remains an active topic of discussion, however, especially in the broader context of federal land management.

> **"The federal government owns and manages 640 million acres of land, which represents 28 percent of the country's land area and more than 50 percent of the land in the 13 Western states."**

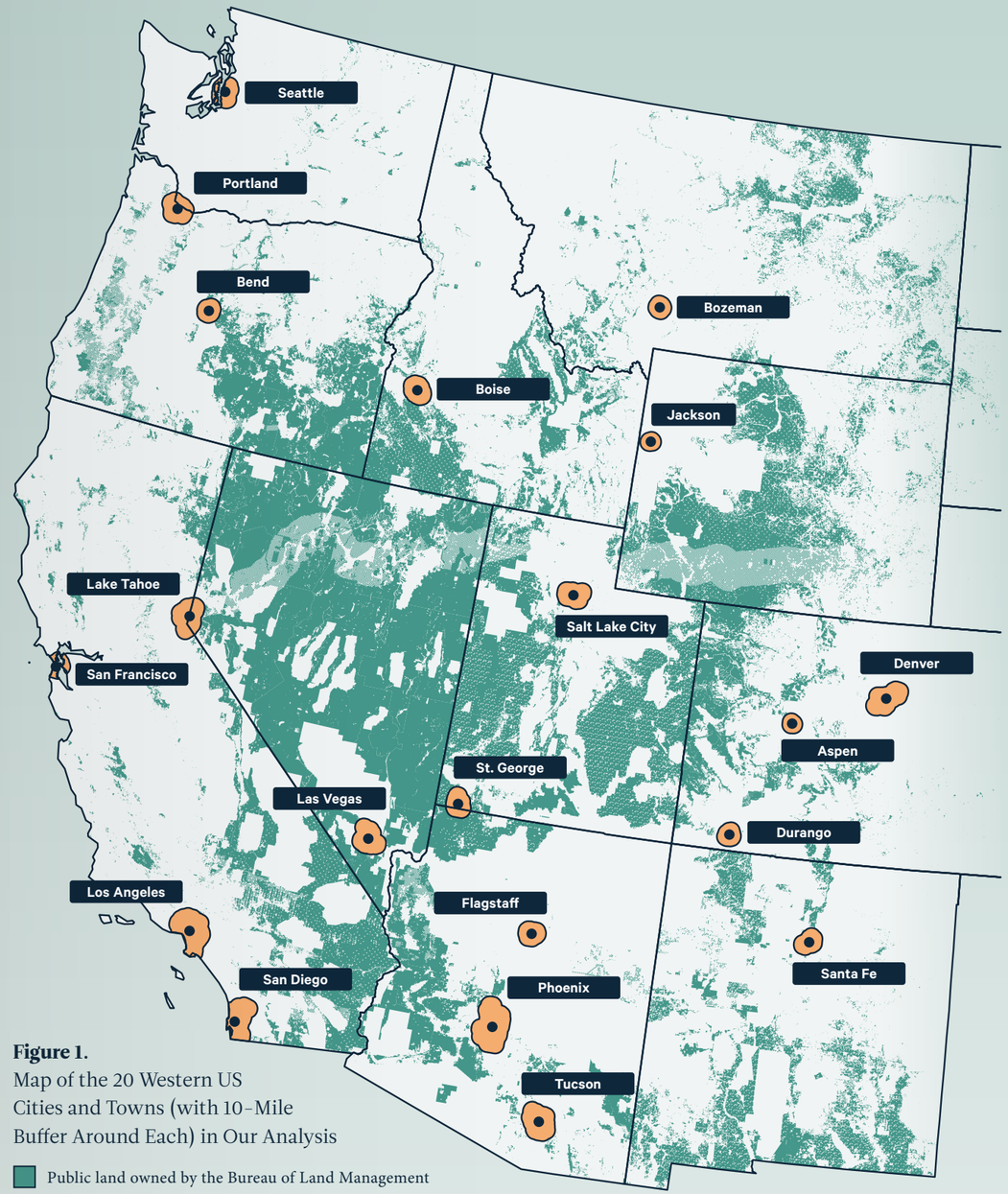


Figure 1.
Map of the 20 Western US Cities and Towns (with 10-Mile Buffer Around Each) in Our Analysis

Public land owned by the Bureau of Land Management

City buffers

Figure 2.
Percent of Land Held by the Bureau of Land Management in 10-Mile Buffer Around City or Town

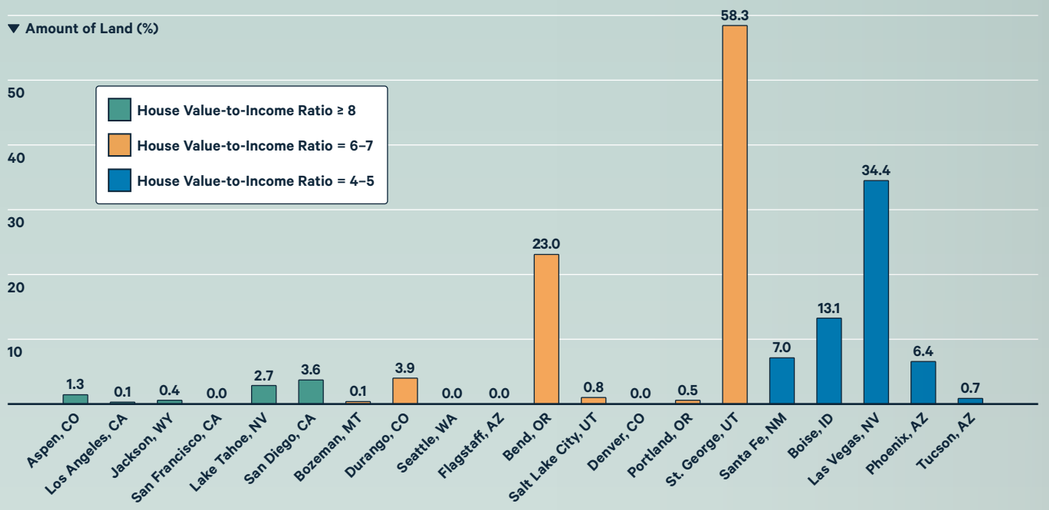
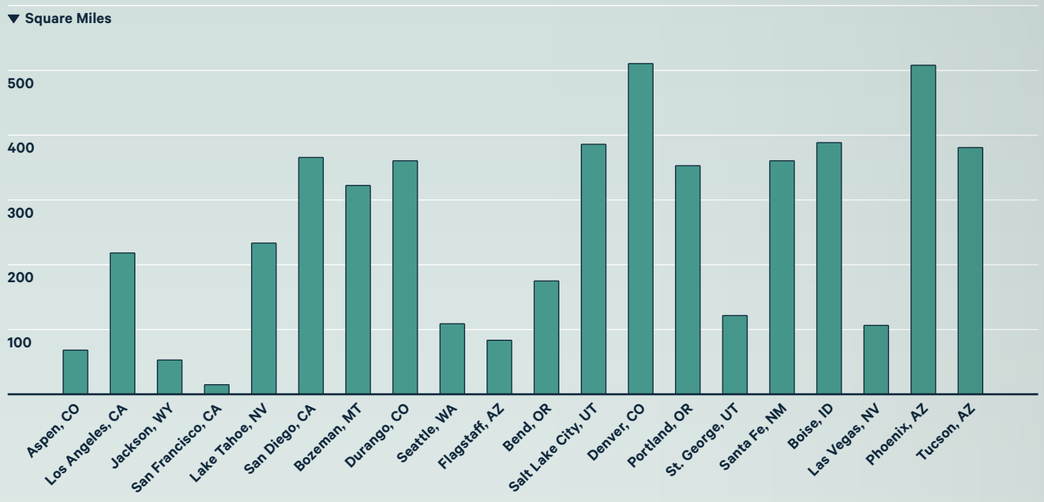


Figure 3.
Area of Developable Land (Unprotected, Open Space) in 10-Mile Buffer



that may be included in a provision for selling federal lands could be interpreted as a violation of the Byrd Rule. But if the language focuses only on revenue raising, a provision may be allowed. The Federal Land Transaction Facilitation Act likely wouldn't be a hurdle, as Congress simply could state in the reconciliation language how to handle proceeds from federal land sales.

Would Federal Land Sales Improve Housing Affordability?

To address the question of whether BLM lands could offer an opportunity to address housing affordability in the West, we selected 20 cities and towns and pulled together the following statistics: The amount of land area that's owned by the BLM within a 10-mile buffer of the boundaries of the city/town (we used Census place to define our boundaries) and the amount of currently undeveloped land that could be developed (i.e., is not under protected status) within the same 10-mile buffer. We also used Census data to calculate the ratio of assessed property values to median household incomes, which enabled us to measure housing affordability for each of these 20 places. The 20 places we selected (Figure 1, which also shows the buffers) include most of the major cities in Western states in the continental United States and a handful of midsize cities and towns that have high house prices.

What did we find? First, in 15 of the 20 places we analyzed, less than 5 percent of the land area in the 10-mile buffers comprised BLM lands. In 9 places, the buffer had less than 1 percent BLM land, and 4 cities—San Francisco, Denver, Seattle, and Flagstaff—had no BLM land at all (Figure 2). An outlier is St. George, Utah, with 58 percent of its 10-mile buffer comprising BLM lands.

Second, the places with the most expensive housing generally have the least amount of BLM land nearby. This finding is shown clearly in Figure 2, which orders the cities/towns from least to most affordable and groups them into three categories: least affordable, which have ratios of house value to income that are greater than 8; a middle category, with house value-to-income ratios of 6 to 7; and most affordable, which have ratios that range from 4 to 5. Almost all these cities and towns have relatively high house value-to-income ratios. Historically in the United States, ratios have been on the order of 2.5 to 4, and most of these places have ratios above that range (many dramatically above).

Third, many areas have substantial amounts of unprotected, open land in the 10-mile buffer that could be developed for residential use. Unprotected, open lands are lands that, as of 2023, were not legally protected from development; not already developed; and not wetland, open water, or perennial ice/snow (Figure 3, which shows the cities/towns in the same order as Figure 2, from least to most affordable housing).

Many of these 20 places have hundreds of square miles of unprotected, open land nearby, with more than 500 square miles in the Denver and Phoenix areas. The Los Angeles metropolitan area, which has some of the worst housing affordability problems in the West, has more than 140 times more unprotected, open land within 10 miles than BLM land. One square mile is equivalent to 640 acres; even if houses were built on one-acre lots, most of these places already have enough land available to build tens of thousands of houses—even hundreds of thousands in some cases. Los Angeles has enough unprotected land to build 140,000 single-family homes, compared to less than 1,000 homes that could be built on BLM land. We are not suggesting that construction of single-family homes on nonfederal, unprotected, open land in outlying buffers of cities and towns is the right solution to the housing affordability problem; that's up to local planning and zoning officials and market forces. Our point is that using federal land for this purpose is unnecessary given the vast swaths of currently available land.

Plus, making federal lands available for development would not necessarily lead to increased housing stock. Most federal land would lack infrastructure such as roads and water and sewer lines, making development less feasible than on many other lands.

In addition, many of these BLM areas are rangelands, which have high wildfire risk.

> **"The places with the most expensive housing generally have the least amount of Bureau of Land Management land nearby."**

> **"Most federal land would lack infrastructure such as roads and water and sewer lines, making development less feasible than on many other lands.**

According to the BLM, 54 percent of wildfire acres burned in the continental United States have occurred on rangelands. And for the cities with the most federal land, such as Las Vegas, the land is arid and lacks water resources.

What's more, land availability is not the driving factor in high housing costs. Many researchers have concluded that an array of regulations that restrict housing supply are at play. These factors include bans on multifamily dwellings, rules for minimum lot sizes, height restrictions, urban growth boundaries, restrictions on infill development, and much more. Most empirical studies have found a positive correlation between housing regulation and median house values.

A Slippery Slope for Public Lands?

It is unclear at this point exactly how federal lands would be sold if this option is included in the budget reconciliation bill. Whether nominations of land would be made by states and localities, as in the HOUSES Act, or tracts selected by Congress or the BLM, is still to be determined. But one thing is clear: selling public lands to raise revenue for deficit-reduction purposes would represent a major change in modern public land policy.

The days of homesteading are well behind us in the United States. Although 270 million acres of land were transferred to private landowners and states under the Homestead Act of 1862, that practice ended by the mid-twentieth century, when most of the remaining lands were considered undesirable for human settlement. The passage of FLPMA in 1976 reflected both this shift away from homesteading and a growing recognition of the value of public lands for conservation and recreation. Any BLM land sales under FLPMA take place under carefully considered resource-management plans that balance competing objectives and include engagement with local communities.

Over time, through this resource-management process, presidential orders, and congressional action, many BLM lands have been withdrawn from transfer or sale and protected as national monuments, national conservation areas, wilderness areas, and other conservation lands. In some cases, these sites eventually turn into national parks. Even unprotected BLM lands often have high value for recreation, serving as sites for off-highway vehicle use, dispersed camping, hunting, horseback riding, and more. These activities, in turn, drive the local outdoor-recreation economy and contribute to economic growth in Western rural communities. If federal lands are sold for private development, the lands become lost to those recreational uses, and options for protecting that value in the future are gone.

If federal lands are sold through a state and local nomination process, nominated lands almost certainly will be those with the highest value for housing, which likely would be areas near protected sites. Studies have shown that homes near national parks, national wildlife refuges, and other conservation lands sell for higher prices than similar homes in other areas. If newly sold federal lands end up serving the high-end, second-home market, the sales won't meet the goals of improving housing affordability, of course. A natural tension exists between raising federal revenues from land sales and addressing housing affordability.

At this point—early on in this conversation about the sale of public lands—the outcomes we predict remain speculative, of course. The long-run impacts of public land sales aren't yet clear. But public lands will not address problems of housing affordability in the West. And using land sales to pay for the 2017 tax cuts is a slippery slope, in our view, raising the possibility of future irreversible changes to our public land estate. ■

Margaret Walls is a senior fellow and **Alexandra Thompson** is a senior research associate at Resources for the Future.

PHOTO
Jeremy Christensen / Getty Images

NO. 220 | WINTER 2026

If/Then: New Cuts to Oil and Gas Royalty Rates in Budget Reconciliation Will Reduce Federal Revenues

TEXT
Brian C. Prest

PHOTOS
Getty Images

A proposal from the House Committee on Natural Resources, which will reduce the royalty rates paid by companies on publicly owned oil and gas, will result in a loss of nearly $5 billion in federal revenues over the next decade and tens of billions of dollars thereafter. Oil- and gas-producing states, which share in the royalty revenues produced on federal lands, will suffer similar amounts of lost royalties.

The House Committee on Natural Resources recently marked up its language for the budget reconciliation bill that's currently making its way through Congress. The bill makes major changes to the process by which the federal government leases out the right to extract publicly owned oil and gas. The bill goes beyond simply undoing Biden-era increases in royalty rates paid by oil and gas companies that operate on federal lands; for instance, the bill expands noncompetitive approaches to leasing and adds new mandates for the US Department of the Interior to offer certain minimum lease sales. But because royalties represent over 90 percent of the federal government's share of the revenues from the sale of its oil and gas, the lower proposed royalty rates are expected to be a key driver of the bill's overall impacts on the federal deficit.

The proposed bill cuts the royalty rates that oil and gas companies need to pay on new federal leases by about 25 to 33 percent. I estimate that these cuts will lead to nearly $5 billion in losses to the federal government between 2026 and 2035, with growing annual losses averaging nearly $2 billion per year in 2036 to 2050. But these values represent only the portion of royalties that will be retained by the federal government, which amounts to about 50 percent of the total. The other half goes to states where the oil and gas production occurs, to support water projects in the American West and to the Land and Water Conservation Fund, among other recipients. This use of the other half of the royalties implies that the royalty cuts will lead to revenue losses for oil- and gas-producing states, as well, of a similar amount.

By way of comparison, a memo circulated by policymakers in January hypothesized that other provisions related to oil and gas leasing could produce savings of a similar magnitude of about $4 billion–$5 billion. However, that document does not mention reductions in royalty rates, implying that the hypothesized savings may be overstated in a world of lower royalties.

Together, these findings suggest that these oil and gas leasing provisions are unlikely, on their own, to raise enough revenues to meet the $1 billion in savings required by the House budget resolution.

The Details

Today, when the federal government issues a lease to a company conveying the right to extract publicly owned oil or gas, the government typically receives a royalty rate equal to 16.67 percent of the revenue from the oil and gas production for wells drilled onshore and 18.75 percent of the revenue from production offshore. These rates are in line with or slightly below current market rates. Prior to the Inflation Reduction Act of 2022, the rate paid onshore was a relatively low 12.5 percent. (The government also receives other sources of revenue, including up-front "bonus bids" and annual rental payments, but royalties make up the lion's share of the federal government's cut.)

The bill from the House Committee on Natural Resources would reduce both the onshore and offshore royalty rates to as low as 12.5 percent on all newly issued leases. While the change to royalties for offshore leases would be permanent, the change would be applicable only to new onshore leases that are issued during the next 10 years. Notwithstanding this 10-year sunset for onshore royalty rates, oil and gas production often continues on a lease for decades after production begins, meaning that the lower royalty rates on leases issued during the 10-year budget window will create persistent revenue losses even after that window closes.

I modeled the impacts of lower royalty rates using the Resources for the Future Dynamic Oil and Gas Market Analysis (DOGMA) Model, which I have developed across several peer-reviewed papers that have been published in economics journals. This model has formed the basis for past testimony in front of the House Committee on Natural Resources. DOGMA is a spatially granular model that represents oil and gas production at the county level, distinguishes between federal and nonfederal sources of production, and projects how oil and gas production will respond to changes in energy prices and royalty rates. I used the central version of DOGMA that underlies a recent paper to model the proposed changes to the royalty rates on federally leased land.

The results are shown in Figure 1, which charts the projected federal royalty revenues from leases issued during the relevant onshore

If / Then

This article was originally published as a Common Resources *blog post on May 9, 2025.*

> **"Royalties make up the lion's share of the federal government's cut."**

FIGURE 1

Federal Share of Royalty Revenue from Leases Subject to Royalty Changes

Vertical lines delineate the time windows that correspond to the respective revenue losses.

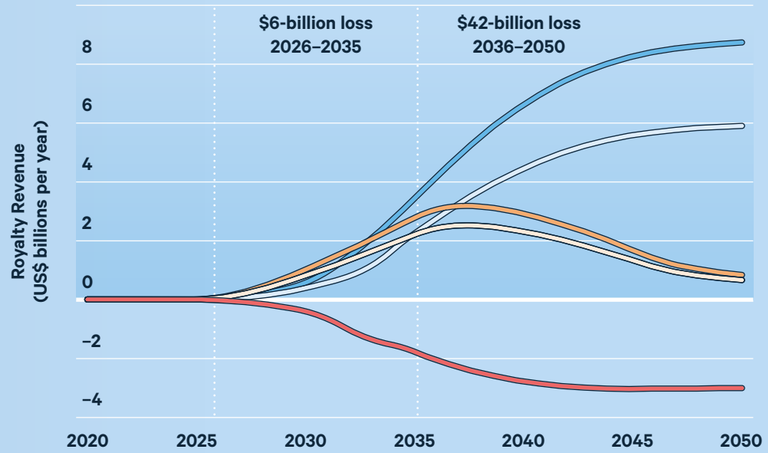
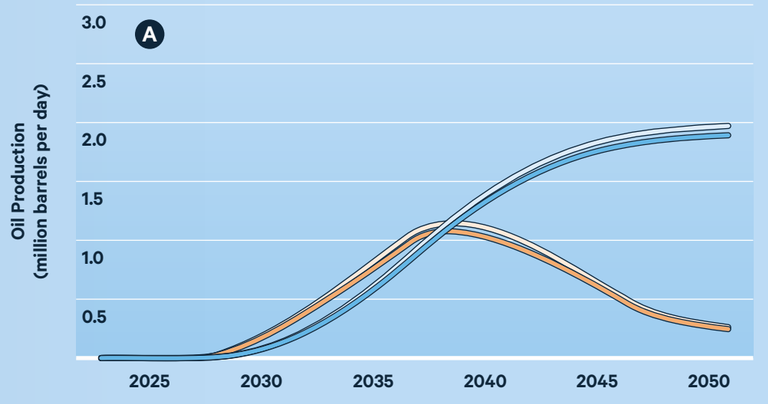


FIGURE 2

Oil and Gas Production from Leases Subject to Royalty Change

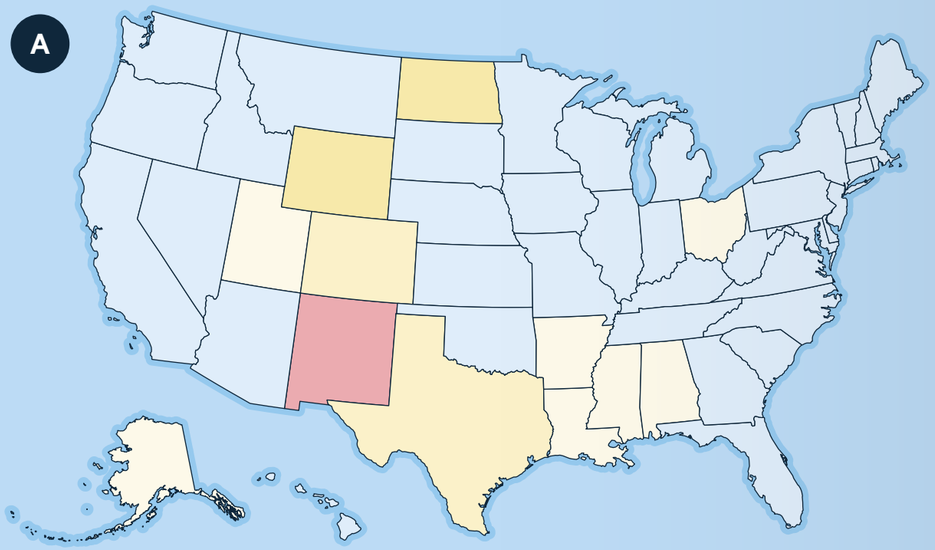
- **A** Oil production
- **B** Gas production



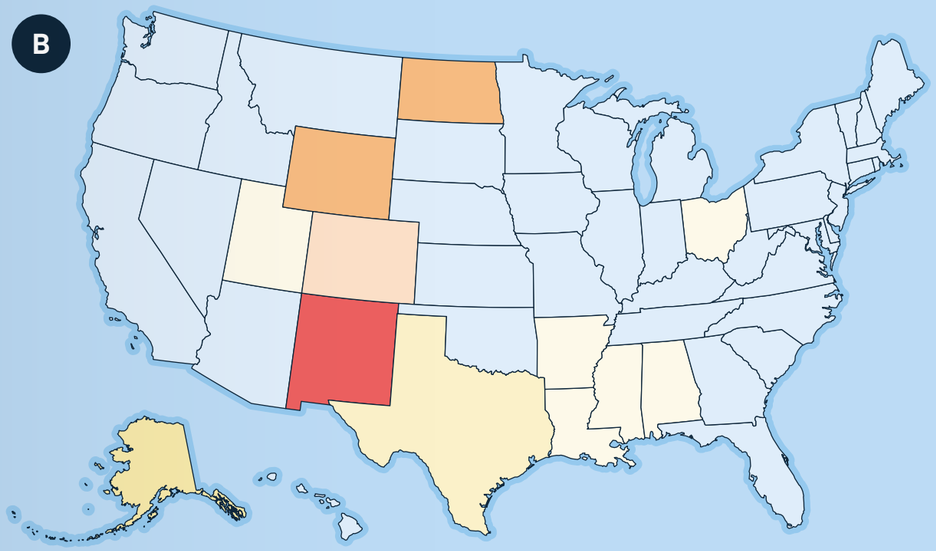
Key for Figures 1 and 2

- 16.67% Onshore (Business as Usual)
- 12.5% Onshore
- 18.75% Offshore (Business as Usual)
- 12.5% Offshore
- Change in Revenue

FIGURE 3 Change in State Royalty Revenues Ⓐ State Losses 2026–2035 Ⓑ State Losses 2036–2050



US$ billions: Less than –$0.05 –$0.1 –$0.2 –$0.3 –$0.5 –$1.7 –$5.1



and offshore leasing periods (2026–2035 for onshore, 2026–2050 for offshore). The solid blue and green curves show federal royalty revenues from new leases under current law (16.67 percent royalties for onshore leases, 18.75 percent for offshore), while the dashed lines show those projected revenues under the proposed lower 12.5 percent royalty rate. The royalty rates on existing leases are unchanged, so the curves begin at close to zero in 2026 (when little to no production is subject to the change in royalty rates) and rise gradually over time as more leases are subject to the new royalty regime. The 2035 sunset for the changes to onshore royalty rates reduces the amount of revenues subject to the royalty change beyond 2035, but the sunset does not eliminate revenue losses after that point because leases issued prior to the sunset will continue to produce at their contracted lower royalty rates.

The dotted red line shows the change in revenue, equivalent to the combined difference between the solid and dashed lines. The cumulative loss during the 10-year budget window is nearly $5 billion, followed by another $28 billion in losses over the 2036–2050 period. About half of the near-term losses—$2.5 billion over 10 years—are due to the onshore royalty cuts, but since those reduced royalties sunset for onshore leases issued after 2035, the royalties lost from offshore leases dominate the total in the long run.

The revenue estimates from the model account for the fact that lower royalty rates would encourage more oil and gas development due to improved profitability (Figure 2). However, the increase in oil and gas production on federal lands would be much smaller than the direct effect of a large reduction in the share of the resulting revenues. Indeed, basic economic theory shows that for lower royalty rates to increase revenues through the indirect effect of increased oil and gas production, the price elasticity of supply would need to exceed $(1 - r) / r$, where r is the current royalty rate. An r of 18.75 percent would require an elasticity of at least 4.33, while an r of 16.67 percent would require an elasticity of at least 5. Both values are implausibly large: by comparison, my model's central estimate for the long-run elasticities of supply for US oil and gas are 0.68 and 0.28, respectively.

These results come with two caveats. First, I do not estimate any changes in the up-front payments from oil and gas companies for the right to lease federal lands, called bonus bids, which might be induced by lower royalty rates. Theoretically, lower royalty rates may increase the size of bonus bids. However, bonus bids typically represent a mere 5 percent on average of the revenues generated by federal oil and gas leases, suggesting that any increases in the bonus bids that are driven by changes in the royalty rates will be small, relative to the large losses from reduced royalties themselves. Further, the bill's reintroduction of noncompetitive leasing could be expected to reduce the revenues from bonus bids.

Second, I do not estimate the impacts of the bill's other provisions, such as required lease sales and minimum offered acreage, because the impacts of those provisions are very unclear. Projecting the impacts of these provisions on acres offered, acres sold, acres developed, oil and gas produced, and the timing of all the above presents myriad difficulties. Still unclear is whether these provisions would in fact induce the Trump administration to conduct any more oil and gas leasing than it already plans to do under existing authorities, suggesting little practical impact of those provisions, at least over the next few years.

Overall, my findings suggest that the royalty provisions in the reconciliation bill will entail substantial amounts of forgone revenues. These lost revenues will increase the federal deficit and reduce the funding that otherwise would flow to oil- and gas-producing states, water projects in the American West, and national parks.

Impacts on the States

States also will lose revenue from reduced royalty rates. Figure 3 below shows the revenue losses to the states from lower royalty rates charged on both onshore and offshore production. New Mexico bears the brunt of lower royalty rates in both the near and long terms, because this region is the locus of most of the new development that would be affected by federal leasing changes. These estimates account for revenue sharing of royalties from production in the Gulf of Mexico distributed to the four Gulf states (Texas, Louisiana, Mississippi, and Alabama) under the Gulf of Mexico Energy Security Act, including the proposed increase in the cap on state revenue sharing in the Senate bill. ■

MAPS (ABOVE)
Data for the Gulf states (Texas, Louisiana, Mississippi, and Alabama) include revenues from onshore oil production, and revenue sharing from oil production in the Gulf of Mexico distributed to the Gulf states under the Gulf of Mexico Energy Security Act.

Brian C. Prest is a fellow at Resources for the Future.

If/Then: Repealing the Endangerment Finding Doesn't Just Affect Domestic Climate Policy

If **the endangerment finding structurally hampers US climate policy,** ***Then*** **the impacts will reverberate through global climate policy.**

TEXT Milan Elkerbout

ILLUSTRATIONS James Round

The second Trump administration announced the United States' second withdrawal from the Paris Agreement on January 20, 2025, the first day of the new administration. Six months later, the US Environmental Protection Agency (EPA) issued a recommendation to rescind the "endangerment finding"—a result of a 2007 Supreme Court case—which argued that greenhouse gases pose a threat to public health and welfare in the United States and therefore are subject to direct regulation by EPA under the Clean Air Act.

These two actions, though playing out on different political stages, are connected in more ways than meet the eye.

For international climate policy—where the Paris Agreement remains the primary framework to structure international cooperation—actions taken in one country can send a signal to other countries and thereby affect global climate policy momentum. This is the underlying logic of the process in which all parties to the Paris Agreement submit pledges, called nationally determined contributions, or NDCs, to the United Nations Framework Convention on Climate Change (UNFCCC) every five years. The pledges are then collectively assessed by all parties to the Paris Agreement and updated every five years.

The magnitude of the US withdrawal from the Paris Agreement (which formally takes effect in January 2026) can be measured by the country's substantial share of global emissions. But even US domestic policy is more influential globally than its proportional contributions to emissions. The endangerment finding underpins several US federal regulations targeting greenhouse gas emissions; for example, EPA standards regulating power plant carbon pollution and the fuel economy of passenger cars. Without the endangerment finding, the legal basis for these climate policies disappears.

By eliminating a legal foundation for US domestic policy, the United States is inviting other nations to revisit their own internal policies. Indeed, Energy Secretary Chris Wright, in an editorial for the *Economist*, referred to the previous administration's climate policies as "a regulatory assault aimed at eliminating hydrocarbons" while inviting other countries to mirror the United States and prioritize "energy addition, not subtraction."

The United States is therefore no longer just critical of international climate policy agreements, but also increasingly of climate action more broadly. These changing attitudes may be influencing other countries to reconsider their Paris commitments, too.

All greenhouse gas emissions matter, but large countries' emissions matter most.

The potential impact on global climate policy momentum leads to questions about the federal government's assertion that US greenhouse gas emissions have limited influence on the global climate.

In the documentation supporting the endangerment finding rescission, EPA states that "reducing greenhouse gas emissions from all vehicles and engines in the United States to zero would not have a scientifically measurable impact on greenhouse gas emission concentrations or global warming potential." This statement is dubious on its face: according to EPA, 29 percent of total US greenhouse gas emissions are from transportation, of which more than three quarters are from road vehicles. These road vehicles alone emit over a billion metric tons of carbon dioxide equivalent, exceeding the total annual greenhouse gases of all but a handful of countries, each with their own obligations under the Paris Agreement.

EPA's statement ignores the political dynamics inherent to global climate policy, which requires all emitters to cooperate for the greater good. Individual countries can contribute only a minor share toward the stabilization of greenhouse gases in the atmosphere. The United States emits 11 percent of greenhouse gases today, second only to China with 30

percent of global emissions, and followed by India and the European Union with 8 percent and 6 percent of global emissions each. The other 45 percent of global emissions are shared among the more than 160 other countries of the world.

Thus, a free-rider issue extends through global climate policy. Countries bear high costs to decarbonize, but the benefits are shared by all countries. At the same time, individual climate action without buy-in from the rest of the world not only limits benefits to the mitigating country, but potentially puts the proactive country at a competitive disadvantage if the costs of mitigation increase the prices of export goods.

Breaking the free-rider problem has driven decades of multilateral climate policy cooperation—culminating in the Paris Agreement.

The United States influences climate policy momentum.

Countries with large emissions profiles are especially capable of influencing the momentum of global climate policy. These nations can create multiplier effects in both positive and negative directions. Ahead of the twenty-first Conference of the Parties (COP21) in Paris that led to the eponymous agreement, the United States and China—as the world's largest economies and emitters—engaged in some careful bilateral diplomacy that resulted in a "G2 agreement." This agreement contained new climate pledges and signaled to the world the importance of agreeing on a new international climate policy framework, while also committing to concrete policy actions such as the United States' Clean Power Plan and China's target to reduce its carbon intensity per unit of GDP.

Even in the early stages of international climate policy, the convening power of the United States was used to great effect in establishing an international framework in the first place. It was the H. W. Bush administration that agreed to the UNFCCC in 1992, and submitted it to Congress, which ratified it the same year. A Senate resolution endorses the UNFCCC to this day.

While the United States leaving the Paris Agreement once more is a blow for global climate policy, the "Paris structure" can in principle withstand countries abandoning or downscaling their climate policy pledges; it was never likely that 200 countries would always be on the same page. But in the pledge-and-review process of the Paris Agreement, the NDCs of large economies are particularly important: an NDC perceived as ambitious might spur other countries to strengthen their own pledges, while pledges perceived as being comparatively modest would see such peer pressure diminished. On top of that, the actual commitments of NDCs, and especially their implementation, could support climate action abroad in terms of financing, clean technology costs, and other spillovers.

Even though the rest of the world continued to implement climate policy after the first US withdrawal under the first Trump administration, more severe spillovers may ensue this time. The United States elected President Donald J. Trump again, when his stance toward climate change was more well known and strident. This repeated US reticence on climate policy leads to a persistent credible commitment problem.

Other countries will be asking if the regulatory repeals can withstand court challenges and how easily a more pro-climate administration could reinstate both the endangerment finding and related regulations. Such uncertainty could affect the ambition of other governments.

In the past, US actions could be interpreted as disagreement with the legal form of an international agreement (concerns sometimes shared by other countries). But now, the United States appears to have shifted toward hostility, exacerbating the free-rider problem inherent to climate policy. The United States' actions could move countries to believe that their domestic actions are in vain if the rest of the world does not follow. A self-fulfilling prophecy might ensue.

Other countries' Paris pledges may be weaker without US commitment.

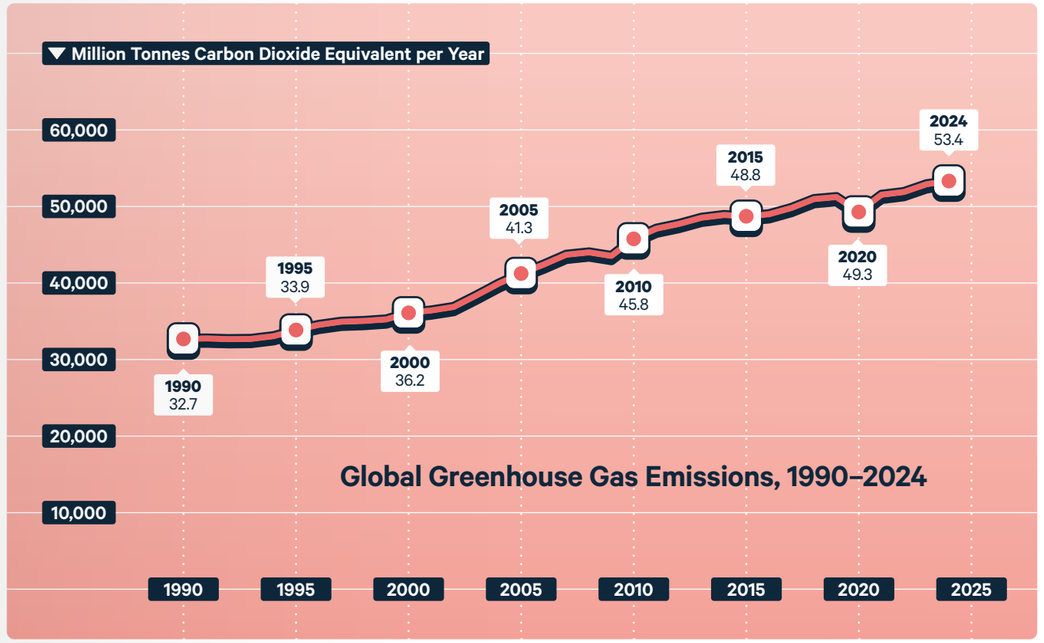
It is against this background that the repeal of the endangerment finding,

If / Then

This article was originally published as a Common Resources *blog post on September 11, 2025*

CHART (RIGHT)
Source: The European Commission's Emissions Database for Global Atmospheric Research, 2024. The 2024 value is our own estimate based on the reported growth rate in global carbon dioxide emissions of 0.8 percent.

> **"While the United States leaving the Paris Agreement once more is a blow for global climate policy, the 'Paris structure' can in principle withstand countries abandoning or downscaling their climate policy pledges."**



and especially the repeal of associated federal climate policy regulations, could reverberate through the international community. The Paris architecture can deal with any country—even the world's largest historical emitter—stepping in and out of the agreement. But actions that make it harder for future US governments to enact climate policies would not go unnoticed and may over time lead to a negative multiplier effect.

Some anecdotal signs already indicate that other countries are reacting to the United States' climate negativity with negativity of their own. Indonesia's special envoy for climate stated in January that his own country might consider leaving the Paris Agreement, saying that it is unfair for Indonesia to commit to climate action if a large country like the United States abandons the agreement. Argentinian President Javier Milei likewise expressed his desire for Argentina to leave the Paris Agreement. In New Zealand, one of the government coalition partners raised the possibility of leaving the Paris Agreement after the next national election in 2026. In the European Union, a former climate commissioner warns against "green backsliding."

Another impact of the US withdrawal from the international climate stage is felt in its foreign assistance. South Africa was counting on financial support from the United States to gradually decommission coal-fired power plants, which will no longer happen due to the United States also withdrawing from the Just Energy Transition Partnership that supports the energy transition in emerging economies. Stakeholders in India expressed concerns about ripple effects for green hydrogen development and capital to finance clean technology investments.

But evidence for any multiplier effect, positive and negative, will be found in future NDCs. As it happens, the 2025 COP30, hosted by Brazil, will be the first annual climate conference after the new round of NDC submissions are due. The deadline to submit the new NDCs was initially set for February 2025 but later extended to September 2025. So far, only about 20 parties have submitted NDCs. Missed deadlines in multilateral forums are not necessarily unusual, given that each party will be constrained by its own domestic political circumstances. But it remains to be seen how many NDCs will be submitted and how ambitious the pledges contained therein will be.

In contrast, for the COP26 in Glasgow, which took stock of the first set of NDCs, well over 100 parties submitted NDCs, with most having done so well in advance of the conference. This included the United States, as President Joe Biden reversed the decision to leave the Paris Agreement only a few months after the US withdrawal had taken effect but before COP26, which was delayed by a year due to the COVID-19 pandemic.

Even after the 2024 US election, the Biden administration still submitted a revised NDC for 2035, committing to 61–66 percent emissions reductions by 2035, compared to 2005. This revised NDC could be seen as a signal of what

a future administration committed to climate policy might want to achieve.

But if actions are now undertaken to constrain the future regulatory capabilities of the federal government, other countries might adjust their expectations of what the United States can achieve over the next decade. Expectations about the relative supply and costs of fossil fuels versus clean technologies could lead to other countries moderating their NDCs. For poorer economies, expectations of reduced international climate finance could reduce the willingness to adopt more ambitious pledges.

In the European Union, lack of momentum is also visible. The world's second-largest economy traditionally sees itself as a front-runner in climate action and has indeed legislated extensively to achieve its 2030 climate target of reducing greenhouse gas emissions by 55 percent compared to 1990. For 2040, its proposed target is a 90 percent emissions reduction compared to 1990. The European Council—the body representing the EU countries' heads of government—so far has not formally agreed to this target, which means the European Union has delayed its NDC for 2035, which depends on its 2040 target. EU decisionmakers cite ongoing challenges to industrial competitiveness and high energy prices. But the knowledge that the world's largest economy is unwilling to commit to further climate action does not help the case of those promoting climate action in Europe.

Perhaps the most critical NDC will be the one that the world's largest emitter, China, submits. In its current NDC, its main target is to ensure that its greenhouse gas emissions peak before 2030. China moving toward an absolute emissions reduction target would send a signal to other emerging economies to consider similar carbon constraints. The absence of a new US NDC, however, will remove any peer pressure from its greatest geopolitical and economic rival to enhance its current ambition.

The Paris Agreement is working, even if change is slow.

So far, the United States is the only country to have gone as far as to leave the Paris Agreement. But even without other parties jumping ship, the agreement is not without its critics. Critics point to global emissions, which have yet to peak even if their growth has slowed. China's progress in implementing its current NDC is critical here.

The fact that global emissions haven't peaked yet is not necessarily evidence of the inadequacy of the Paris architecture. Paris Agreement implementation is a bottom-up process, much like global emissions are the result of thousands upon thousands of individual actions and policies.

In such a bottom-up structure, and against a historical background of emissions increasing year over year, it is virtually inevitable that we first observe a period of slower growth and flatlining emissions. That is what has been happening since 2015, with annual global emissions having grown by just under 5 gigatons over the past decade, compared to an increase of about 10 gigatons during the first decade of this century.

The only binding parts of the Paris Agreement (insofar as anything can be binding under international law) are the processes surrounding NDC submissions. It is not obvious that another international climate policy architecture would fare better given the challenges of multilateral cooperation.

The NDCs will always reflect global geopolitics and macroeconomic conditions. What is certain, however, is that large economies can influence the NDCs of other parties for better or worse. It also means that with a true loss of momentum, estimates about global emissions trajectories and temperatures might need to be revised again, but now in an upward direction (after estimates of global warming by 2100 were reduced several times based on NDC pledges). The damages from climate change would then increase in the United States and globally.

No country truly stands or acts alone in global climate policy. It is against this background that the United States' choice to reduce its own capabilities to take regulatory action and adopt stronger pledges under the Paris Agreement in the future might be very costly for itself and the rest of the world in the long run. ■

> **Paris Agreement implementation is a bottom-up process, much like global emissions are the result of thousands upon thousands of individual actions and policies.**

Milan Elkerbout is a fellow at Resources for the Future.

Evidence and Policy: Resources for the Future Responds to Proposed Federal Rules

Resources for the Future regularly posts public comments in response to major policy proposals within the purview of our research. Some recent highlights, published here as a Q&A with some key researchers, were presented in a recent event.

TEXT
Karen Palmer, Brian C. Prest, Joshua Linn, Nick Roy, and Carlos Martín

ILLUSTRATIONS
Estúdio Grota

By now, everyone involved in US environmental policy is familiar with the sweeping regulatory changes the Trump administration has proposed in its first year. Relevant federal agencies from across the executive branch have proposed new rules (and, in some cases, tweaked, revised, and fully repealed existing rules), with executive actions on climate policy receiving special scrutiny. Core agencies such as the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE) have fundamentally changed the interpretation of long-standing rules and precedents that established decarbonization programs and standards. Along with reconsidering legal precedent, the agencies also have put forth new and questionable interpretations of scholarship, including the work of Resources for the Future (RFF) researchers.

Our scholars have been swift to respond when opportunities for formal public comment have arisen—often with a correction to governmental regulatory analysis, but always with a focus on the rigorous and comprehensive assessment of costs, benefits, and related outcomes that is fundamental to our mission. Analysis-based responses to government proposals, informed by insightful discussions with stakeholders and policymakers, are at the core of how RFF ensures that environmental and climate regulations are grounded in the best available evidence.

This fall, RFF hosted an Insights Hour event—a periodic informal discussion with RFF stakeholders and donors—focused exclusively on the public comments RFF experts submitted in response to three key administration efforts: (1) EPA's proposed repeal of greenhouse gas emissions standards for fossil fuel–based electric power generation; (2) a report produced last year by DOE's Climate Working Group that questioned the impacts of greenhouse gas emissions on the US climate (and, in turn, related economic outcomes) that was cited extensively in those EPA emissions standards; and (3) an EPA proposal to eliminate vehicle emissions standards along with, more profoundly, the underlying endangerment finding that serves as the basis for the agency to regulate greenhouse gas emissions.

RFF Senior Fellow and Director of RFF's Electric Power Program Karen Palmer led an insightful discussion with Senior Fellow Joshua Linn, Fellow Brian C. Prest, and Research Associate Nick Roy about how and why RFF engages in public comments. The following is an annotated transcript of the event.

Karen Palmer: The subject today is how RFF informs the regulatory process through public comments on recent regulations and related actions by the administration—including some proposed regulatory repeals from EPA on fossil fuel power plants, vehicle emissions standards, and the overall endangerment finding, based on a recent report about climate change from a Climate Working Group established by DOE, to which RFF has submitted a comment. All these comments are published on the RFF website and focus entirely on the analyses of economic costs and benefits from these proposed regulatory changes.

Let me start out with Brian and your public comment on the report that was produced by the Climate Working Group established by DOE. I want to discuss your review of the chapter on economics and the social cost of carbon (SCC). Can you tell me about what that chapter said and your reaction?

Brian C. Prest: While much of the report was about the physical science of climate change, one of the 12 chapters focused solely on the economics of climate change and the SCC. This subject is of course squarely in RFF's wheelhouse. Basically, this chapter had two sections: one on the SCC and another about the impacts of climate change on the economy.

The SCC section was broadly dismissive of the idea of estimating the SCC and made several misleading or simply false claims. What's particularly interesting is that the chapter didn't acknowledge much of the core progress made in environmental economics over the past decade or so, and instead mostly focused on old and outdated research.

For instance, the working group didn't cite the landmark 2017 National Academies report that prompted RFF to establish the SCC Initiative that same year. They also didn't acknowledge any of the research that the National Academies inspired, such as more than a dozen peer-reviewed studies over the past decade that were part of the efforts of RFF and the Climate Impact Lab. They made one passing reference to the widely lauded efforts by EPA in 2023, but in doing so, made the astonishing and unsubstantiated claim that EPA's work did not represent any new data or methods relative to old models, even though that effort in fact built a brand new integrated assessment model from the ground up.

In short, the DOE working group didn't really engage with the major advances of SCC research over the past decade or so. My public comment highlights this major deficiency with the analysis, and corrects erroneous claims in the report, like confusing the concepts of social costs and external costs.

Palmer: I also understand that, while they didn't cite RFF's major work on the SCC, they did cite one of your papers, which was coauthored with former RFF President and CEO Richard G. Newell. How well did their summary represent the results of your paper?

Prest: Right! Our 2021 paper was written in part as a critique of a high-profile 2015 paper that, in our view, strongly overstated the expected adverse impacts of climate change on economic growth. Most existing research estimates the effects of climate change on the *level* of GDP, while our 2015 paper instead estimates the impacts on its *growth rate*.

We point out in our paper that growth-rate methods are very sensitive to model specifications, which raises concern about the reliability of the models. But we also found that methods focusing on GDP levels yield much smaller but much more robust estimates that are closely in line with other research.

Nonetheless, the report from the DOE Climate Working Group cites only the less robust set of models in our paper, concluding that the effect of climate change on GDP growth is statistically noisy but "likely positive" on net, while ignoring the more reliable set of models that yield the opposite conclusion. But if you consider the set of models that we found to be more robust, you get the reverse conclusion that the impacts are likely negative, with a 92 percent likelihood of climate change hurting the economy—the opposite of what the DOE working group describes in its report.

In short, our study was meant as a warning against overinterpreting noisy growth-rate models, but the DOE report went on to commit the very same error.

Palmer: The DOE Climate Working Group report is heavily cited in EPA's proposed rescission of the 2009 endangerment finding, which concluded that greenhouse gases negatively affect public health and welfare and that emissions can be regulated through the Clean Air Act. To remind everyone, the endangerment finding came from the landmark 2007 *Massachusetts v. EPA* Supreme Court case that focused on vehicle emissions standards.

Let's turn to our transportation expert, Joshua Linn, about the proposed removal of these standards and how the recently proposed reversal has been justified economically. In 2024, EPA set greenhouse gas standards that would have cut emissions rates in half between 2026 and 2032. This year, EPA has proposed eliminating the standards altogether. How did the agency justify this complete reversal?

If/Then

This Insights Hour event took place on September 30, 2025. The original transcript of the discussion has been edited for length and clarity.

> **"The US Environmental Protection Agency clearly is taking a different regulatory and policy approach under the current administration. But we can also see a difference in the analytical methods and rigor that the agency is using to justify the changes."**

Joshua Linn: EPA justifies the proposed reversal largely on the grounds of consumer benefits. Specifically, the proposal asserts that, although consumers would have higher fuel costs, vehicles would be much less expensive, leaving consumers better off overall. But the draft of EPA's regulatory impact analysis associated with the proposal misinterprets findings from past research, causing the proposal to overstate the net benefits of revoking vehicle emissions standards.

Several assumptions about manufacturer behavior and market outcomes, such as the relationship between compliance costs and regulatory stringency, remain unclear or unjustified in EPA's recent analysis, causing the proposal's approach to depart from historical methods for estimating vehicle technology costs, without explanation. Further, the proposal's analysis relies on obsolete data that are inconsistent with recent market information.

Palmer: In the past, EPA has claimed that consumers would benefit from lower gasoline expenditures. Now, EPA claims consumers are better off without the standards. What has changed?

Linn: EPA clearly is taking a different regulatory and policy approach under the current administration. But we can also see a difference in the analytical methods and rigor that EPA is using to justify the changes. This reduced rigor is true for the analysis of consumer behaviors.

For example, the EPA proposal states that manufacturers and industry should report payback periods of 2.5 years. For a consumer choosing between a fuel-efficient, more expensive vehicle and an inefficient, less expensive vehicle, this number means that a consumer would buy the fuel-efficient vehicle if the first 2.5 years of fuel cost savings justify a higher purchase price. This conclusion differs markedly from past arguments and from contemporary analysis.

In our response, we offer two arguments as to why the 2.5-year payback period is inappropriate. On the one hand, EPA argues that including the first 2.5 years of fuel cost savings accounts for the missing costs related to consumer adoption of electric vehicles; for example, range anxiety. In arguing that EPA's 2024 standards amount to an electric vehicle mandate, EPA should use an estimate of missing costs that corresponds specifically to electric vehicles. However, the sources that EPA uses appear to predate the rise of electric vehicles in the US market and hence current evidence about such missing costs. For that reason, using the 2.5-year payback period to approximate missing costs of battery-powered electric vehicles is not supported by evidence.

More to the point, some of my research has directly estimated consumer valuation of fuel cost savings, specifically when manufacturers add fuel-saving technologies to the vehicles they offer. During the early 2010s, these technologies included things such as cylinder deactivation. If some costs indeed were missing, those costs would be uncovered in our valuation estimate as deviations from the actual market value of the saved fuel. However, our preferred valuation estimate is consistent with a 7-year payback period. No missing costs from that period would cause consumers to insist on a 2.5-year payback period.

EPA's assumption of an appropriate payback period is one example of how the proposal undervalues the benefits of the emissions standards. The misinterpretation, in turn, has caused the EPA analysis to overstate the net benefits of revoking the greenhouse gas standards.

Palmer: If EPA goes ahead and revokes the standards, how would the industry respond in the next few years?

Linn: Without the incentive of things like tax credits, manufacturer responses to a repeal of emissions standards will vary.

If a manufacturer offers two vehicles that are identical to each other, except one is gasoline and the other is electric, and the two vehicles have the same lifetime ownership cost, most consumers will choose the gasoline vehicle. In this case, the missing cost is the monetary

> **Emissions standards historically have incentivized manufacturers to reduce the average emissions rates of their vehicles, and the manufacturer response to eliminating the standards likely won't be a reversion to past behaviors.**

> **Answers to the analytical questions we have posed clearly are fundamental to how we pursue policy in this country.**

value of the disutility that the consumer gets with the electric vehicle instead of the gasoline vehicle. The missing cost makes it harder for the manufacturer to comply with greenhouse gas standards, because the automaker has to offer a discount on the electric vehicle.

Emissions standards historically have incentivized manufacturers to reduce the average emissions rates of their vehicles, and the manufacturer response to eliminating the standards likely won't be a reversion to past behaviors.

This note about manufacturer responses brings up another concern with the proposal's analysis regarding its comparison cases. In the case of the proposal, EPA also should justify its assumptions about manufacturer behavior and market outcomes if the agency revokes the standards. For example, EPA compares the outcomes from the scenario of maintaining the 2024 standards versus reverting to 2021 standards—but the proposal seeks to remove standards altogether. That's one example of the ways in which EPA's approach departs from widely accepted methods for estimating vehicle technology costs; omits explanation and justification of key assumptions, such as the relationship between compliance costs and regulatory stringency; and relies on obsolete data that are inconsistent with market estimates.

It's good to remind folks that the vehicle emissions standard was the channel for the endangerment finding in 2009, and repeal of the standard is tied to reversing the endangerment finding. But a preponderance of evidence since 2009 confirms that greenhouse gas emissions have significant negative effects on public health and welfare. So, a much broader legal question needs to be addressed, in addition to the technical omissions and errors in economic analysis that RFF has documented.

Palmer: Along with greenhouse gas emissions from vehicles, EPA has proposed reversals of emissions-reduction requirements from the electric power sector, specifically questioning Section 111 of the Clean Air Act. Let's turn to Nick Roy, who conducted much of RFF's analysis on the proposal. Nick, can you give us some history that led to this current state of affairs?

Nick Roy: EPA has gone back and forth for decades on how to regulate greenhouse gas emissions from fossil fuel–powered electricity generators. The first proposal actually was legislative and goes back to the failed Waxman-Markey bill in 2009. This failed bill motivated executive action years later with EPA's Clean Power Plan, which was finalized in 2015 but repealed in 2019 and replaced with a proposed Affordable Clean Energy Rule. At the same time, several judicial decisions, such as the *West Virginia v. EPA* Supreme Court case in 2022, redefined the legal framework for regulating greenhouse gas emissions from power facilities.

Ultimately, the Affordable Clean Energy Rule was repealed in 2024 and replaced with EPA's Carbon Pollution Standards, which set emissions benchmarks and a range of compliance technologies such as carbon capture and storage, cofiring, and reduced electricity generation. With the change in administration and Congress in 2025, the Carbon Pollution Standards have been repealed.

So, we're talking about a lot of swings in legislation, executive orders, program rules, and legal decisions. Ultimately, these swings have led to major uncertainties that make planning among electricity providers more difficult and likely lead to increasing costs for consumers.

Palmer: So now, we effectively have no EPA regulation on greenhouse gas emissions from power plants. How did EPA justify this rulemaking, and what does RFF analysis have to say about the EPA analysis?

Roy: In its proposal, EPA reused the benefit-cost analysis in the regulatory impact analysis generated for the 2024 Carbon Pollution Standards but assumed no climate damages and excluded any health benefits from reductions in conventional air pollutants. Put another way, EPA does not quantify benefits lost from increased emissions as a result of the proposed repeal, neither from the increase in local air pollutants that cause the premature deaths of Americans nor from the increase in greenhouse gas emissions and the resulting effect on climate change. Instead, EPA's benefit-cost analysis considers only the estimated

$19 billion in avoided compliance costs from lifting the rule. As such, EPA's analysis is not a *benefit-cost* analysis, but rather a *cost* analysis.

RFF's analysis fills information gaps in two important ways. We've updated assumptions about future electricity demand using forecasts from 2025 instead of 2023, and we've itemized the benefits of both reduced climate change effects and avoided health costs. We find that the increased health damages alone from the repeal are two to four times the size of the electricity cost savings. Factoring in the costs of climate change, the costs from the repeal are about four to eight times higher than any avoided compliance costs.

Palmer: Without the Carbon Pollution Standards, how would we expect the power sector to change in the coming years?

Roy: The most immediate effect is that many coal- and gas-powered electricity plants will stay online longer and be retired more slowly, even when, as other research finds, many of those power plants are otherwise costly to maintain and operate.

But the level of uncertainty is increasing across electricity markets in general, with massive demand growth from data centers and electrification, variable tariffs that increase the costs of building new power plants, and the fact that methane prices are still subject to global volatility. A range of other factors, such as the permitting process for new electricity transmission and distribution, will challenge EPA's assumptions about energy costs, too. In the end, this uncertainty has costs that likely are passed on to ratepayers.

Palmer: Finally, an underlying question of the endangerment finding proposal that bridges analytical and legal arguments: Are emissions from any specific sector "significant" contributors? Brian, you have analyzed the evolution of measuring significance. Can you close us out with your findings?

Prest: Sure. A key justification that EPA gave for repealing the carbon pollution standards on power plants was that the sector's greenhouse gas emissions did not "significantly contribute" to air pollution, on the grounds that its 1.5 billion or so tons of annual carbon dioxide emissions represent about 3 percent of the global total, which EPA deemed insignificant.

However, neither EPA nor the Clean Air Act statute provide a quantitative rationale for what it means to be "significant," so EPA's proposed repeal explicitly emphasizes that its conclusion effectively was a judgment call by this particular EPA administrator.

But from an economic and legal perspective, long-standing quantitative thresholds determine what makes for "economically significant" regulations. Those thresholds (for instance, from Executive Order 12866 in 1993 and the Unfunded Mandates Reform Act of 1995) are commonly pegged at about $100 million–$200 million in annual impacts on the economy, public health, or the environment. Putting environmental impacts into dollar terms is a long-standing practice in economics, and in the case of climate change, this translation of carbon damages into dollar terms is what the SCC does.

SCC estimates vary (our previous work gives a central estimate of $185 per ton of carbon dioxide), but in our comments, we made the straightforward point that, under basically any estimate of the SCC, emissions from the US power sector clearly are economically significant and vastly exceed the well-established $100 million–$200 million threshold.

The math is pretty simple: Even at a minimal $1 per ton of carbon dioxide—the lowest value used by the first Trump administration—the economic impact of the US power sector's 1.5 billion tons of annual carbon dioxide emissions is measured in the billions of dollars. But using more realistic estimates of the SCC, the impacts of carbon emissions amount to tens or even hundreds of billions of dollars annually.

Palmer: Answers to the analytical questions we have posed clearly are fundamental to how we pursue policy in this country. Thanks to my fellow researchers for bringing their tremendous expertise to bear, not just to RFF and to the broader community of environmental policy stakeholders, but also toward improving policy in the United States. ■

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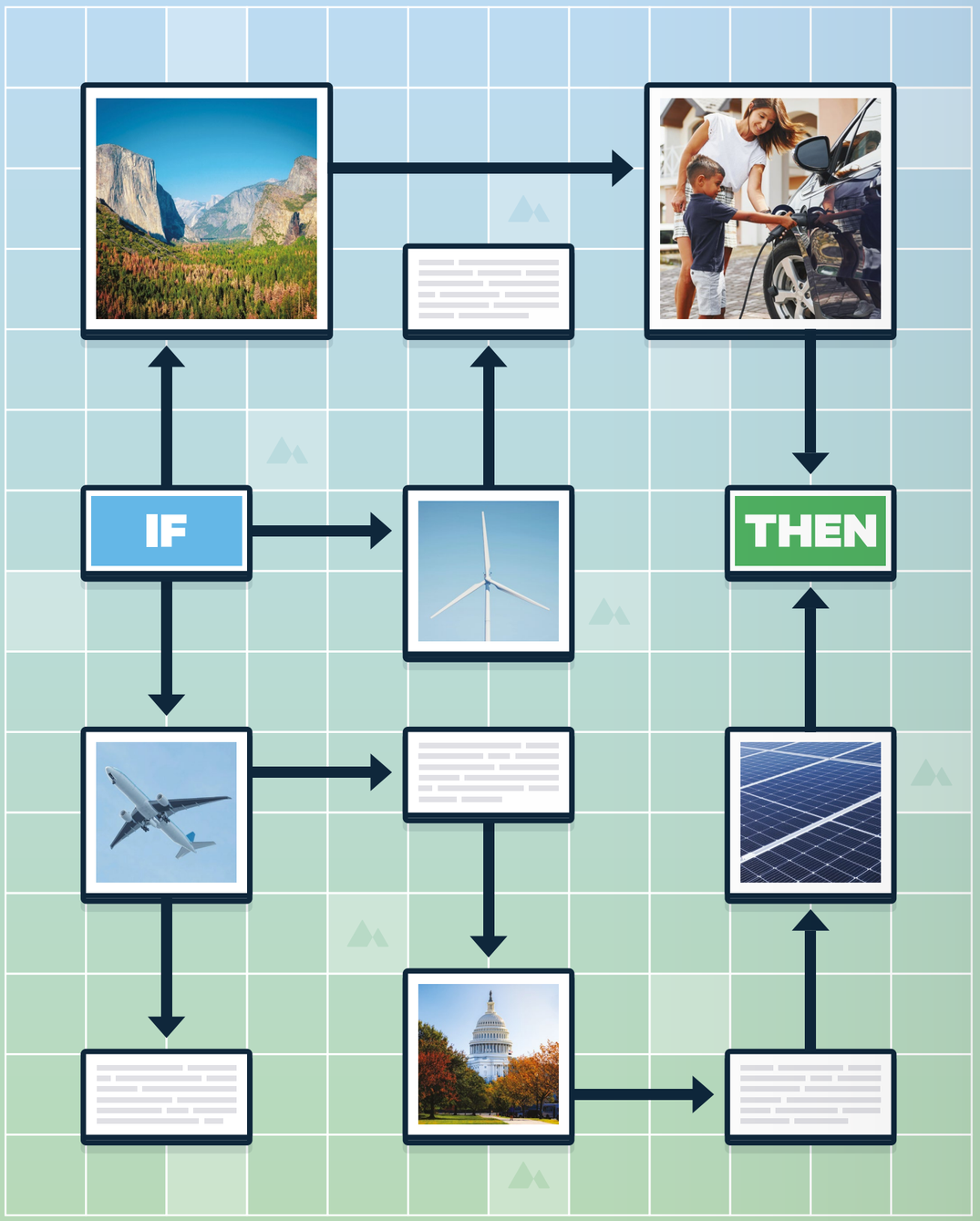

What's Next for the If/Then Series from Resources for the Future?

TEXT Alan Krupnick, Carlos Martín, and Kevin Rennert

ILLUSTRATION James Round

Shortly after the start of the new presidential administration, Resources for the Future launched a multi-channel series to lend expertise in a context of rapid, largely deregulatory federal actions. We've called the series "If/Then," with the collection intended to interrogate proposed and realized policy changes through empirical evidence and economic arguments. As we near the one-year mark of this effort, we reflect on both the still-evolving policy context and the series so far. Here's how things went and what could be next for us in this space.

In April 2025, Resources for the Future (RFF) began the If/Then series. We designed the series as a multi-channel project that provides insights from evidence, computer models, experience, and expertise on the economic consequences of planned, proposed, or actual policy decisions. Our goal was to provide as rapid a response as we could, with the hope of informing the actions and opinions of policymakers, stakeholders, and the general public.

What Progress Have We Made?

RFF researchers produced over 20 blog posts, video responses, issue briefs, and explainers on a full range of topics reflecting current administration priorities. Most notable among these has been the slew of deregulatory actions (particularly focused on energy and greenhouse gas emissions) and the methods underlying legally required cost-benefit analysis.

In particular, the energy regulation rollbacks by the administration so far have focused on the power and transportation sectors. Our analyses have followed suit.

Federal incentives for fossil fuel production have been a priority we've written about. Grant cancellations have surfaced as another key administration priority, so we've published on their impact, along with major reductions in government staff. A signature effort by the administration has been tariffs, particularly on automobile imports, which aligns with our modeling capabilities. We've also published an If/Then blog post that addresses the international consequences of rescinding the endangerment finding.

Following administration efforts to privatize and open up federal land, and as responsibility for handling disasters has shifted from the Federal Emergency Management Agency to US states, we've addressed the likely consequences.

Given that the focus of the If/Then series is any significant recent policy changes, we also have started looking at major shifts in state policies, such as the extension of the reform of California's carbon cap-and-invest framework. In short, RFF has produced If/Then content across a breadth of policy topics.

If/Then pieces were some of our most visited RFF articles last year, likely reflecting the timeliness, relevance, and accessible nature of our coverage. Particularly popular have been the If/Then articles about recent proposals to sell federal lands, cuts to oil and gas royalty rates, and vehicle import tariffs.

A few other metrics are worth considering: citations in the media and impacts on policymaking. Select articles from the series were cited in more than a dozen news stories in the past year, including mentions in the *New York Times*, *Washington Post*, and National Public Radio.

At RFF, the most important end point is improving public policy decisions with our research. Even though the purpose of If/Then has been to react to highly fluid policy changes, in some instances, we have a more direct line of sight regarding our impact. For example, policymakers who proposed harnessing federal lands for a range of economic development opportunities

> **With policy advancement shifting to the states for any emissions-reduction efforts, our If/Then series may shift in tandem.**

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as part of the recent budget reconciliation bill, which was signed into law on the Fourth of July last year, paid attention to our analysis that questioned the benefits of public land sales. Those proposals eventually were dropped.

By these accounts, If/Then has been well worth the effort so far.

What's Next for the If/Then Series?

Here's where we see the policy conversation going. We're sure to experience no shortage of issues to address, given the midterm elections; critical debates around energy affordability and reliability, hazard mitigation, and "clean firm" energy sources; and further environmental policy changes that the administration may pursue.

The general deregulatory push undoubtedly will continue. We can expect the administration to press for repeal of the endangerment finding (which undergirds the government's ability to regulate greenhouse gas emissions under the Clean Air Act) on multiple grounds; even in the event that the courts reject the case for repeal, the greenhouse gas standards for power plants and vehicles would be dramatically altered for years to come. Relaxing clean air standards, water pollution rules on industry and power plants, chemical standards, and a host of deregulations beyond climate policy and decarbonization likely will be included among the administration actions.

RFF currently has a major project underway to consider these consequences in a state-of-the-art regulatory impact analysis, which will address the interactions between these regulatory rollbacks and the loss of other non–greenhouse gas regulations such as the Mercury and Air Toxics Standards rule. In addition, we will evaluate the implications of the loss of key data-gathering efforts, such as the Greenhouse Gas Reporting Program. That work will result in a series of additional RFF analyses.

The actions will not be all about repeals and cuts, however. We've noted bipartisan support for increasing the use of clean firm resources to generate electricity, including geothermal and nuclear power. A successful takeoff of geothermal power will need much more government support beyond eligibility for investment tax credits. The form this support could take—such as permitting and leasing reforms, automatic approvals for certain project types, direct government support, and derisking measures for exploratory drilling and technological innovation—likely will be considered in the If/Then series as such plans evolve.

Indeed, the permitting delays associated with all forms of energy and infrastructure projects garner bipartisan attention and may well be addressed in congressional actions and administration efforts. Permitting issues certainly will provide fodder for more analysis and commentary.

Another expanded direction will involve highlighting activities in other countries that have energy and environmental consequences for the United States, including new regulatory activities affecting trade, demonstrations of technologies abroad for which transfer or further testing could or should be supported by the US government, and any important developments that follow the most recent Conference of the Parties meeting in Brazil. RFF's work informing two bills on border measures (the Foreign Pollution Fee Act and Clean Competition Act) will expand and could result in more rapid-response pieces.

Of course, much of the core work on energy and environmental policy is playing out among US states. Many states across the nation are scrambling to address the loss of grants and regulations from federal activities. Even states that have incurred less fallout from federal actions have economic interests to shore up in the face of such losses, such as the wind energy industry in Texas. Depending on future federal actions related to wildfire protection and response, states also will develop new programs that our scholars likely will scrutinize for the If/Then series. Thus, with policy advancement shifting to the states for any emissions-reduction efforts, our If/Then series may shift in tandem.

Where If/Then goes depends largely on the policy world. We expect all of these policy conversations to provide additional fodder—and a continued need—for more If/Then pieces, as deregulatory and policy actions continue bearing important implications for energy and the environment. ■

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