

# **CLEAN ENERGY STANDARDS: SECURING THE FUTURE OF THE ELECTRIC POWER SECTOR**

**By Samuel Thernstrom**

# EXECUTIVE SUMMARY

America must determine the future of its electric power sector: Continuing to “muddle through” in the face of persistent regulatory uncertainty will mean mounting risks to reliability, affordability, security, and our environmental ambitions. If Congress clarifies the sector’s regulatory requirements with well-designed policies, we can have *abundant, affordable, reliable, and secure clean power*.

Each party has taken a relatively passive stance toward power sector policy:

- Democrats generally assume that a combination of new Clean Air Act regulations (section 111d) and Inflation Reduction Act (IRA) spending will decarbonize the sector. Modeling suggests otherwise: Emissions will not fall far enough, fast enough to achieve decarbonization goals—and EPA’s current proposal is unlikely to survive judicial review.
- Republicans typically assume the Court will secure the sector’s future but it cannot. The courts can block EPA actions but that only prolongs the regulatory uncertainty; another rulemaking is always ahead, with its own uncertainty. Persistent regulatory uncertainty is a significant impediment to investment, innovation, and resource planning.

As *West Virginia v. EPA* underscored, only Congress can establish durable policies for the sector. Congress must accept this responsibility, and the time for that conversation is now. Environmentalists, consumer and energy advocates, electric utilities and power sector unions have a common interest in securing a better future for America. Innovators, investors, and power generators need to know what the federal government will expect. Absent legislation, regulatory uncertainty and inefficient market structures will deter and distort investment, undermining reliability, competitiveness, energy security, and environmental performance.

The only path to a power sector that produces abundant, affordable, reliable clean electric power is through legislation designed to secure each of those goals: A well-designed **Clean Energy Standard** that replaces the current Clean Air Act authority for power plant emissions could decarbonize the sector while ensuring affordability, reliability, security, and fuel diversity. It could also enable enactment of complementary policies such as permitting reforms, transmission line siting, LNG export standards, and accelerated deployment of advanced energy technologies.

A CES-for-CAA swap would provide the industry with the regulatory (and deregulatory) certainty that it needs, enabling large-scale, long-term investments within an efficient regulatory framework. *We can keep the lights on and costs low while decarbonizing the grid—if we have a well-designed plan*; Continuing to simply muddle through the regulatory landscape would be irresponsible.

## Introduction

Few things are so right that they cannot be made wrong. Washington's energy and climate policymakers, in their inimitable style, are snatching defeat from the jaws of victory. In 2022, Congress pivoted from the longstanding quest for regulatory measures requiring immediate emissions reductions, enacting instead the Inflation Reduction Act (IRA), an "*innovation-first*" approach to emissions. This was an historic step in the right direction: Demonstrating clean energy technologies, building out their infrastructure, and jump-starting commercial markets for them are critical first steps in an energy transition. Before regulators require the use of advanced energy technologies, it is important to demonstrate the technologies' performance and start moving along the cost-reduction curve in their production.

But "*innovation first*" does not—probably should not, and certainly will not—mean "*innovation only*." America's electric power sector cannot succeed without appropriate regulatory structures to support it. Regulatory limits for the power sector are unavoidable; the only question is whether they will be the product of inflexible, ineffective, and uncertain mandates from the U.S. Environmental Protection Agency or whether Congress will accept its responsibility to enact well-crafted, efficient, and effective regulations that harmonize the range of energy and environmental values at stake in power sector policy. Energy policy is complex, and the Clean Air Act's tools for controlling power plant emissions

are outdated, ineffective, contested, and inherently inefficient. We can and must do better.

Having committed hundreds of billions of dollars in federal support for clean energy infrastructure, Congress must now address the uncertainty in the sector's regulatory structure—or the IRA will fall far short of its ambitions and the sector will remain mired in "policy ping-pong," facing indefinite uncertainty for investors and consumers alike. With electric demand rising for the first time in years, now is not the time for immediate, arbitrary, and inefficient reductions—but it is the time for more practical alternatives that can put us on a path to sustainable decarbonization by mid-century.

The power sector has suffered from 30 years of regulatory uncertainty over greenhouse gases (GHGs), and it cannot successfully navigate the challenges that lie ahead without settling the issue. We can have abundant, affordable, clean power or we can have limited, unreliable, and not-clean-enough power. The choice should be easy. The power sector deserves regulations that are clear, durable, and rationally constructed to harmoniously advance American's energy goals: affordability, reliability, security, and environmental performance.

## Is Innovation Alone Enough?

Senator Joe Manchin, one of the chief architects of the Inflation Reduction Act (IRA), famously asserted that the IRA signified an enduring embrace of “innovation not elimination” as the federal government’s climate policy philosophy. The appeal of that assertion is obvious but the story is unfortunately incomplete: Innovation incentives are necessary for decarbonization—but *they are insufficient, and they will not stand alone*. The IRA put innovation first but it did nothing to provide relief from future regulations, and in the longer term, has facilitated them. Rather than pursuing innovation alone, we now have a de facto national policy of innovation coupled with inefficient and uncertain regulations.

The power sector cannot be decarbonized on an innovation-only basis, and EPA intends to pursue multiple Clean Air Act rulemakings in the coming years—most importantly, Section 111 emissions standards that will be finalized (in part) in 2024, with an additional proposal (for existing natural gas-fired power plants) in 2025-26. These command-and-control regulations face significant legal challenges, as well as political resistance, and lack the flexibility necessary for cost-effectiveness.

Regulations based upon EPA’s use of existing authorities risk running afoul of the U.S. Supreme Court’s *West Virginia vs. EPA* decision, which was a clear call for Congress to enact legislation that addresses these emissions in a well-tailored manner and ensures sufficient choice for the regulated community.

A formula that suggests *we don’t need to price or regulate carbon if we reverse-price it (by subsidizing low-carbon generation) and let markets do the rest* sounds easy, but it is an illusion. Nothing will stop future EPA rulemakings except legislation that replaces the existing authority with something well-crafted. In the absence of such legislation, continuing on our current path will be inefficient, ineffective, and fiscally and politically unsustainable. It will ultimately accelerate a regulatory war of attrition rather than avoiding it.

The IRA’s reliance upon spending rather than regulations had its advantages (it could be enacted with Democratic votes alone through the budget reconciliation process), but it also had weaknesses: chief among them, the funding has to be indefinite or the emissions reductions will plateau. IRA will accelerate decarbonization for a period of time but without regulatory standards to drive continued deployment, costs will mount until programs expire or are curtailed. Should IRA provisions be repealed or curtailed in the interim, the market will face even less predictability, further undermining the stability necessary for an effective energy transition. With the projected costs of the tax credits already rising, the temptation for Congress to curtail the credits whenever political circumstances permit will be strong.

EIRP’s recent modeling of innovation and regulation scenarios illustrates this dynamic. Figure 1 (left) shows emissions scenarios under an innovation-only scenario, where incentives phase out 10 years after enactment (blue line) and emissions plateau and then rise, in contrast to an innovation + regulation (I+R) scenario where emissions continue to fall. Figure 2

(right) shows a stronger innovation scenario, where tax credits are extended to sustain emissions reductions over the longer term; annual costs exceed \$80 billion by 2040 and peak at \$95 billion, spending levels that may not be sustainable.

Cost-effective decarbonization requires a sequenced, synergistic combination of innovation incentives and regulatory standards—“I+R,” as EIRP has termed it. Enactment of IRA was the “I” element, providing a foundation for decarbonization that can be built upon. Additional legislation must now provide the “R” element necessary to secure America’s energy future.

Figure 1: Emissions under Innovation-Only (blue) and Innovation+Regulation (red) scenarios

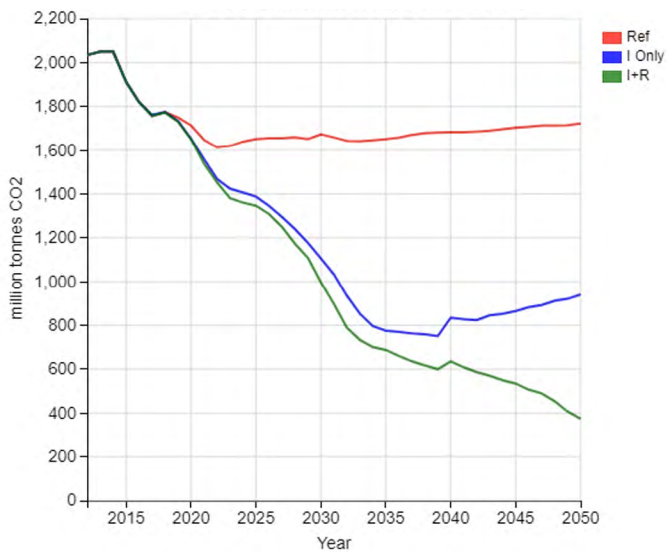
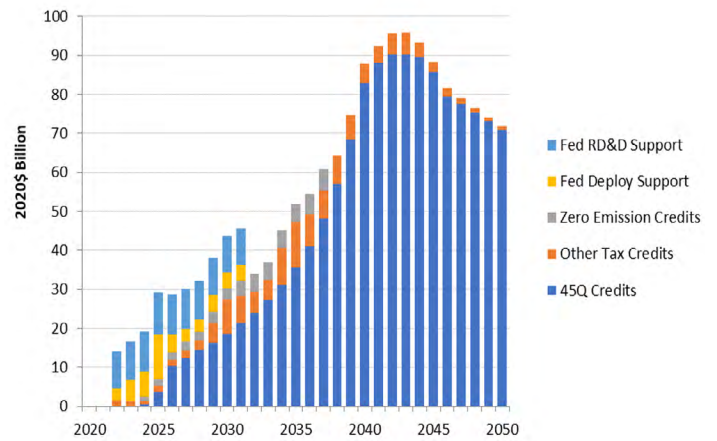


Figure 2: Annual federal expenditures necessary to sustain emissions reductions through 2050



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## The Need for a Clear and Efficient Regulatory Framework

The lack of predictable, enduring but market-sensitive emissions standards for the power sector is a recipe for inefficiency. Regulatory standards engineered to respect market realities are the best way to structure markets to produce socially desired outcomes—wealth, predominantly, but in many markets (including energy) other attributes are also valued (security, resilience, environmental performance, etc.). If affordable, reliable, fuel-diverse decarbonization is our goal, markets benefit from flexible standards structured to produce that specific outcome. The discipline that well-regulated markets provide to the investment and commercialization process cannot be wholly replaced by tax incentives. The more we pursue our goals through proxy policies, the less efficient those processes are likely to be.

Subsidies without well-designed standards can misdirect the market's invisible hand away from the desired outcomes in favor of supporting technologies that may not be optimal in the longer run. The optimal generation mix changes depending upon desired levels of decarbonization; a deeply decarbonized grid favors more firm clean resources while an incremental approach to emissions reductions favors more intermittent renewables. Absent ambitious long-term standards, there is a risk of overbuilding the easiest technologies (solar and wind) while underinvesting in more challenging, higher capital cost technologies that are necessary for deep decarbonization. Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) may—or may not—be able to manage these risks effectively.

## Shortcomings Of EPA’s Proposed Power Plant Rule

In response to this challenge, and in an attempt to supplement the IRA with clean energy-incentivizing regulations, EPA proposed New Source Performance Standards, issued for public comment May 23, 2023. The proposed rule would require rapid emissions reductions from fossil fuel units, premised in large part on the Agency’s assertion that carbon capture, utilization and storage (CCUS) and clean hydrogen technologies have been “adequately demonstrated” for purposes of the Clean Air Act. The proposed regulations require a 90% capture rate for CCUS or a 96% clean hydrogen co-firing rate by 2035 and 2038 respectively.<sup>1</sup> Little to no generation has ever performed at either of these thresholds on a sustained basis, much less at the scale envisioned by the proposal.<sup>2</sup> EPA’s proposed rule rests upon projections of future projects, conditioning the viability of all fossil fuel units on the success of technologies that have not yet demonstrated commercial viability or feasibility at scale.

Even if the technology were proven, the infrastructure necessary to scale these technologies and meet the

requirements of the proposed rule is unlikely to be built in time. A 2023 report by the EFI Foundation estimates that satisfying the requirements of the proposed rules will necessitate over 10,000 miles of hydrogen pipelines and over 50,000 miles of CCUS pipelines.<sup>3</sup> Meanwhile, opposition to pipelines is rising nationwide, from both the left and the right, and numerous projects have already been forced to cancel.<sup>4</sup> Beyond pipelines, EPA has not approved a single Class VI well permit (which are necessary for the geologic storage of captured CO<sub>2</sub>) since the passage of the IRA, despite over 120 applications submitted in that timeframe.<sup>5</sup>

EPA’s proposed regulations also assume the IRA will provide a massive boost for the use of hydrogen in the power sector, despite the fact that the guidance on the 45V credit for clean hydrogen production issued on December 22, 2023 prompted strong objections that the guidance’s requirements could severely depress investment in clean hydrogen and technological innovation.<sup>6</sup> For multiple reasons, serious questions remain about the cost and availability of hydrogen as a decarbonization tool for the sector, and it is far from clear that hydrogen will be commercially viable when existing tax credits expire.<sup>7</sup>

1 <https://www.federalregister.gov/documents/2023/06/16/2023-12834/new-source-performance-standards-for-greenhouse-gas-emissions-from-new-modified-and-reconstructed>

2 <https://www.electric.coop/wp-content/uploads/2023/08/111-NPRM-Comments-NRECA.pdf>

3 <https://efifoundation.org/foundation-reports/how-much-how-fast-infrastructure-requirements-of-epas-proposed-power-plant-rules/>

4 <https://www.spglobal.com/commodityinsights/en/market-insights/blogs/energy-transition/102523-navigator-co2-carbon-capture-heartland-greenway-pipeline-cancellation#:~:text=Navigator%20CO2%20Ventures%20shook%20up,pipeline%20to%20Illinois%20for%20sequestration.>

5 <https://www.jdsupra.com/legalnews/hurry-up-the-senate-committee-on-energy-1303184/>

6 <https://subscriber.politicopro.com/article/eenews/2023/12/22/hydrogen-industry-slams-biden-tax-rules-00133095>

7 <https://itif.org/publications/2024/01/16/a-realist-approach-to-hydrogen/>

When developing the proposed rule, EPA attempted to estimate the cost of deploying sufficient CCUS and hydrogen technology to meet the new requirements. The Agency’s assumptions appear dubious, however: the true cost may be 40% higher than EPA estimates for CCUS and 20 times higher for clean hydrogen.<sup>8</sup> These costs will fall disproportionately on regions with fewer resources and geographic features that are conducive to hydrogen production and geologic storage. This highlights the inflexibility of the rule, as it forces regions more suited to other clean energy pathways into an extremely high-cost and inefficient strategy that rejects specialization. The narrow focus on CCUS and clean hydrogen may even divert investment away from the most innovative and necessary technologies for decarbonization.

The most likely outcome of the proposed regulations is that they will force the premature retirement of a significant amount of dispatchable generation that are vital to a reliable grid and the broader project of decarbonization. These rules are sweeping; between the 111 rule that will be finalized in 2024 and the gas rule expected in 2025, they affect 40% of total U.S. dispatchable power generation capacity.<sup>9</sup> As renewables penetrate the grid at an increasing rate, dispatchable units are critical to the operation of

the grid to meet periods of peak demand and/or low renewable generation.<sup>10</sup>

Another likely outcome of EPA’s current path is drawn-out litigation that will prolong the destructive regulatory uncertainty industry faces today. In *West Virginia v. EPA*, the U.S. Supreme Court struck down Obama’s Clean Power Plan and, despite the Biden Administration’s efforts to tailor the current EPA proposal, the Court is likely to do the same again:

- *West Virginia’s* “major questions” doctrine clearly indicated that the road to significant emissions limits runs through Congress.
- The longstanding *Chevron* doctrine is widely expected to be overturned in 2024 when the Court decides a pair of cases; this will limit judicial deference to agency expertise.
- The Clean Air Act’s authority is *technology-following* (not technology-forcing), and its legal structure means it cannot require fuel-switching. The CAA can only mandate the use of “*inside-the-fenceline*” emissions control technologies that have been “*adequately demonstrated.*”

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8 <https://efifoundation.org/foundation-reports/how-much-how-fast-infrastructure-requirements-of-epas-proposed-power-plant-rules/>

9 <https://www.regulations.gov/comment/EPA-HQ-OAR-2023-0072-0674>

10 <https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/the-role-of-natural-gas-in-the-move-to-cleaner-more-reliable-power>



- Emissions limits for fossil units consequently depend upon adequate demonstration of CCUS—which is a challenging case to argue given the absence of CCUS power plants currently operating in the US and the need for very large government subsidies for CCUS demonstration.
- IRA’s investments in CCUS are not relevant to the “adequate demonstration” determination at present.

Given these considerations, the Court is likely to view the Biden Administration’s power plant regulations with skepticism.

Judicial relief, however, cannot give the industry what it needs to succeed. Even if EPA loses in court, the uncertainty deters investment—and the Agency can always come back with a new proposal if it has the president’s support.

To succeed regulations must be rational, appropriately ambitious, market sensitive, and predictable to produce a well-structured energy transition. Given the multi-billion-dollar cost and long construction times for power plant construction, utilities need to

know what environmental regulations will require of them years in advance. They need to plan for decarbonization, and they need the opportunity to do so in the most efficient manner possible.

On our current path, EPA’s regulatory requirements will unfold at an uncertain pace and stringency, subject to unpredictable judicial and political delays and reversals. Most of them will only target carbon indirectly; their goal will be to increase operational costs. Regulations and litigation will continue to delay, deter, and prevent completion of many potential projects. This is not the framework for efficient management of the power sector.

Moreover, even setting aside the unpredictable and contested nature of performance standards, it should be uncontroversial to say that the 34 years since enactment of the 1990 Clean Air Act Amendments has demonstrated clearly the significant benefits of market-based mechanisms to reduce emissions. To continue to pursue a regulatory regime deeply rooted in command-and-control regulations at this point in time is to ignore the most important lessons in regulatory design of the last half-century.

## Looming Challenges for the Electric Grid

This uncertain regulatory environment is unfolding against the backdrop of increasing load growth, placing further strain on power generators and grid operators over the next 30 years and beyond. The increase in demand stems largely from rising consumption, as total energy consumption is projected to rise by 15% from 2022 to 2050.<sup>11</sup> New technologies such as artificial intelligence will further exacerbate this rise in consumption.<sup>12</sup> Increasing electrification of critical sectors will bring new industries onto the electric grid, adding further demand.<sup>13</sup> Princeton's REPEAT project estimates a 38% rise in electricity demand by 2035, and this may well be an underestimate.<sup>14</sup> Just in the last year, grid planners have doubled their projections of load-growth for the next 5 years, and that trend is likely to continue.<sup>15</sup>

A period of intense load growth is the worst time to enact new, inflexible command and control regulations to be implemented in the near term. It is, however, the right time to put in place an alternative pathway to deeper emissions reductions over the longer term, allowing for efficient market planning. EPA's upcoming regulations will make meeting rising demand

impossible as a wide range of electricity markets, with different resources and needs, are forced to rely on a narrow subset of technologies hand-chosen by the EPA while dispatchable generation sources such as natural gas are regulated out of the marketplace. Regions with abundant natural gas resources will see them go to waste just as regions devoid of natural geologic storage will be forced to attempt large-scale carbon capture that is not likely to be feasible or affordable in their region. This is likely to produce a backlash that could have far-reaching negative effects.

Meeting the challenge of rising energy demand requires a diversity of low/zero-emissions technologies. Wind, solar, nuclear, hydropower, natural gas, CCUS, and more will all be necessary to satisfy energy demand. Inflexible command-and-control regulations that seek to shut down dispatchable generation or mandate certain technologies will decrease the pool of reliable generation and spur misdirected and inefficient technological innovation that will fail to generate a national energy portfolio capable of meeting rising demand while reducing emissions.

This combination of rising energy demand and overburdening regulations could be deeply problematic for grid reliability. The North American Electric

11 <https://www.eia.gov/todayinenergy/detail.php?id=56160>

12 [https://www.cell.com/joule/pdf/S2542-4351\(23\)00365-3.pdf](https://www.cell.com/joule/pdf/S2542-4351(23)00365-3.pdf)

13 <https://www.aceee.org/blog-post/2023/02/coming-electrification-will-require-grid-evolve>

14 <https://www.cnbc.com/2023/07/01/why-the-ev-boom-could-put-a-major-strain-on-our-power-grid.html#:~:text=Domestic%20electricity%20demand%20in%202022,saw%20in%20the%20past%20decade>

15 [Grid Strategies, The Era of Flat Power Demand is Over, December 2023, https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-2023.pdf](https://gridstrategiesllc.com/wp-content/uploads/2023/12/National-Load-Growth-Report-2023.pdf)

Reliability Corp. (NERC)'s 2023 Long-Term Reliability Assessment found that rising peak demand and the planned retirement of 83 GW of dispatchable generation over the next ten years creates blackout risks for most of the United States. Specifically, "capacity shortfalls are projected in areas where future generator retirements are expected before replacement resources can be put in service to meet rising electricity demand."<sup>16</sup> For the first time, NERC's reliability report concluded that energy policy itself poses a potential risk to reliability.<sup>17</sup>

The lack of reliable generation to meet rising demand for electricity is a result of "environmental regulations and energy policies that are overly rigid." If trends continue and EPA's regulations continue to define the market, most of the country will face elevated risks of blackouts, and some markets could see power supply shortfalls during normal peak operations. To remedy this, the report notes the need for natural gas capacity and regulations that explicitly account for electric grid reliability—a call that only Congress can intelligently answer.

## The Path Forward: A Well-Designed Clean Energy Standard

A carefully designed Clean Energy Standard (CES), enacted by Congress on a bipartisan basis, could drive a cost-effective, fuel-diverse deep decarbonization of the power sector that the regulatory war of attrition cannot achieve. To match rising energy demand, a well-designed CES would preserve a diversity of low/zero emission technologies that will ensure sufficient generation while reducing emissions. This would ensure a predictable regulatory standard that can drive planned retirements or retrofits of fossil fuel generation and a coordinated build out of low-carbon power, rather than an unpredictable patchwork of regulations that will force haphazard retirements and inefficient clean energy innovation.

Although the 117<sup>th</sup> Congress did not produce legislation to regulate power sector emissions, it did produce an important bipartisan convergence in thinking that a well-designed CES would be the preferred regulatory structure, especially compared to problematic command and control regulation.

The leading Democratic proposal, Rep. Frank Pallone's *Climate Leadership and Environmental Action for our Nation's Future Act* (CLEAN Future Act or CFA);<sup>18</sup> as well as other prominent Democratic proposals such as Rep. Dianne DeGette's *Clean Energy Innovation and*

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16 [https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC\\_LTRA\\_2023.pdf](https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_LTRA_2023.pdf)

17 [https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC\\_ERO\\_Priorities\\_Report\\_2023\\_Board\\_Approved\\_Aug\\_17\\_2023.pdf](https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC_ERO_Priorities_Report_2023_Board_Approved_Aug_17_2023.pdf)

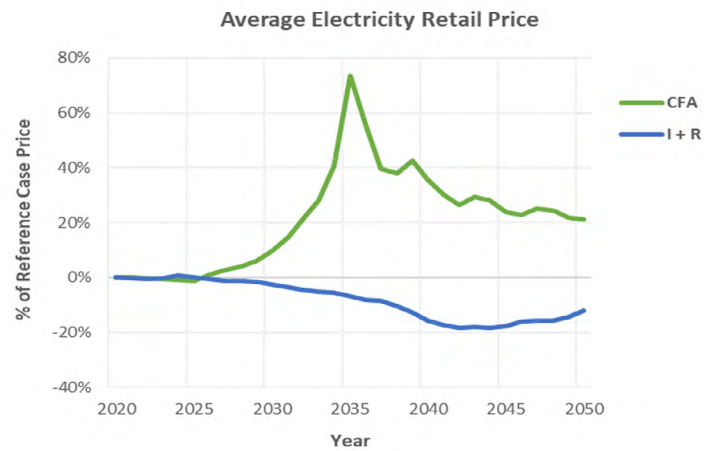
18 <https://www.congress.gov/bill/117th-congress/house-bill/1512>

Deployment Act of 2021,<sup>19</sup> Rep. Ben Ray Lujan’s *Clean Energy Standard Act of 2019*,<sup>20</sup> and Senator Tina Smith’s *Clean Energy Standard Act of 2019*<sup>21</sup> all featured clean energy standards, as did the only bipartisan proposal, *The Clean Energy Future through Innovation Act* (CEFTIA) of 2021, cosponsored by Reps. David McKinley (R-WVA) and Kurt Schrader (D-OR).<sup>22</sup>

Since any legislation to establish emissions limits will require bipartisan support, the CEFTIA framework seems particularly worthy of reconsideration in the current Congress, being the only approach that garnered bipartisan support to date. As noted, IRA lays the foundation for action along the lines of CEFTIA by providing for a decade of innovation investment; what is still needed is the regulatory element.

EIRP’s modeling of CEFTIA demonstrated that this approach—innovation followed by a clean energy standard—is radically cost-effective (lowering energy prices while achieving deep decarbonization) and preserves fuel diversity in ways that would protect American energy security and promote bipartisan consensus (figures 3 and 4 below).

Figure 3: Cheap & Abundant electricity is key to decarbonization and maintaining support for policy



I+R leads to price declines to about 8 cents per KWh (18% below Reference case values) by 2040, vs. a Regulate-first scenario (CFA), where electricity prices reach almost 18 cents per KWh in 2035 or 73% (7.5 cents per KWh) above Reference.

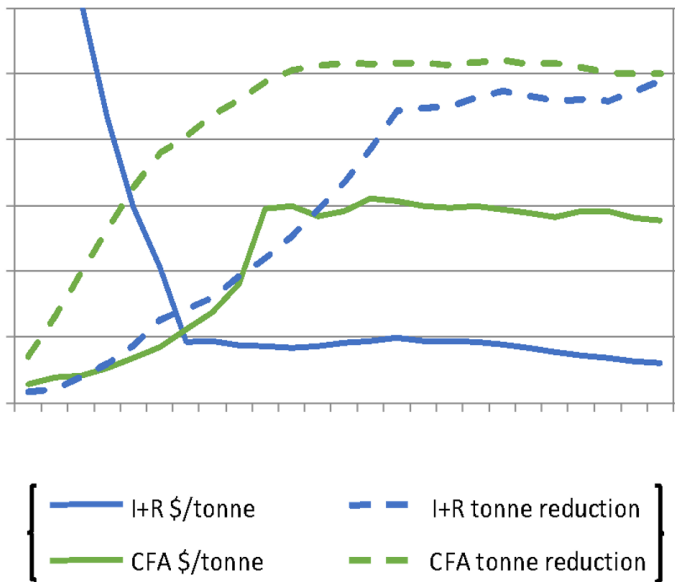
19 <https://www.congress.gov/bill/117th-congress/house-bill/4309?s=1&r=3>

20 <https://www.congress.gov/bill/116th-congress/house-bill/2597>

21 <https://www.congress.gov/bill/116th-congress/senate-bill/1359>

22 <https://www.congress.gov/bill/117th-congress/house-bill/4153?s=1&r=1>

Figure 4: Falling costs/rising ambitions is desirable combination



Mitigation costs for I+R fall steeply due to sequencing of innovation investments and regulatory standards.

Mitigation costs (solid lines) for CFA rise sharply.

Clean energy standards in general—a flexible, market-based regulatory mechanism—and specifically the CEFTIA framework (a period of innovation and infrastructure development followed by regulation) presents an opportunity for bipartisan consensus on climate that should not be abandoned. With the innovation investments largely secured, the role of a federal clean energy standard in structuring the energy transition still must be considered.

## Now is the Time to Consider a CES

The electric power sector is at an important inflection point. In light of increasing demand for clean power generation due to high-technology industry, corporate commitments to decarbonization, electrification of transportation and households, the IRA was a well-timed and important step. However, modeling clearly demonstrates that investment in innovation is most efficient when paired with well-designed regulatory standards that are sensitive to market considerations. By contrast, the current attempt to shoehorn such an approach into existing Clean Air Act authority is likely to end in an expensive failure that will impinge on the supply of affordable and reliable power in ways American households (and Congress) are unlikely to tolerate. Now is the time for policymakers to consider viable, practical bipartisan alternatives.

Developing refined concepts and achieving bipartisan introduction of a CES as a legislative proposal in the interim is of vital importance. Waiting for a Clean Air Act regime to fail without developing a sensible alternative risks losing the gains of IRA and imperils the future of electric power in America. The time to address this problem is now, before it is too late to act effectively

## **About the Author**

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## **About EIRP**

The Energy Innovation Reform Project is a nonpartisan, non-profit organization dedicated to promoting policies that advance innovation in energy technologies and practices to improve the affordability, reliability, safety, and security of American energy supplies and our energy economy.