



CEPP Will Drive an Achievable, Affordable & Reliable Transition to More Clean Electricity

The Clean Electricity Performance Program builds on what's working and pushes utilities to do more, while benefiting customers and grid reliability

The Clean Electricity Performance Program (CEPP) is a federal investment program supporting steady growth in carbon-free energy and direct customer benefits over the coming decade. This memo summarizes several analyses, utility commitments and state policies to show how CEPP will drive an achievable, affordable and reliable clean electricity transition.

What does CEPP do?

CEPP incentivizes every utility electricity supplier across the country to grow their share of carbon-free energy each year, from 2023-2030.¹ Utilities that increase the clean energy they supply by a certain percentage each year will receive a federal grant that must be used to benefit consumers and workers. To make these federal investments most effective and ensure the program's integrity, each utility that does not achieve this annual rate of clean energy growth must make a payment to the federal government for every megawatt-hour (MWh) that it falls short.

Through this system of carrots and sticks, electric utilities will make rapid, steady progress toward a carbon-free electricity grid; driving clean energy development and job growth, reducing pollution for communities and the climate, and protecting customer energy bills.

CEPP is Achievable, Affordable and Reliable

1. CEPP is Ambitious and Achievable

CEPP builds upon utilities' existing clean energy commitments, as well as state policies, but demands and empowers more rapid progress.

¹ House of Representatives Committee on Energy & Commerce, [Fact Sheet on Key Provisions in the Committee Prints of the Build Back Better Act](#), 2021.



2. CEPP is **Affordable** for Utility Customers

CEPP uses federal investments to reduce customer bills and energy burden. Utilities must use 100% of their grant money for customer benefit, bill reductions, and worker support.

3. CEPP will Protect Grid **Reliability**

CEPP will protect grid reliability while driving an effective, technology-neutral transition to more carbon-free power.

CEPP Will Support Nearly 8 Million Jobs and \$1 Trillion in Economic Growth

Independent [economic analysis](#) conducted by the Analysis Group found that implementation of a CEPP policy could expand the U.S. workforce by nearly 8 million jobs and the U.S. economy by nearly \$1 trillion by 2030.² Further [analysis](#) using the Integrated Planning Model (IPM) shows that CEPP could reduce carbon pollution in the power sector by more than 80% below 2005 levels by 2030, and reduce nitrogen oxide and sulfur dioxide by more than 80% and 70%, respectively, compared to business as usual.³ Together, CEPP-driven pollution reductions could produce \$100 to \$184 billion per year in climate and public health benefits.⁴

1. CEPP is Ambitious and Achievable

CEPP builds upon—but demands more than—utilities' existing clean energy commitments and state policies. Annual clean power growth of 4 percentage points (p.p.) is achievable. Some utilities, but not enough, are already planning to achieve 3 p.p. per year. CEPP federal grant support and extended clean energy tax incentives will empower utilities to make more rapid progress. This means more and faster job creation and pollution reduction in every region of the country.

Some utilities have cast 4 p.p./year as too difficult to achieve—but these arguments ignore the growth of clean energy, the proven success of state policies and, sometimes, even utilities' own public commitments.

² Darling, Pavel, Paul Hibbard, Luke Daniels, [Economic Impact of a Clean Electricity Payment Program](#). Analysis Group, 2021. Findings include CEPP would support 7.7 million job-years (reaching 1.7 million jobs each year by 2030), \$907 billion in added economic activity, and result in an increase in \$154 billion in federal, state and local government revenues, over the coming decade.

³ Evergreen Action & Natural Resources Defense Council (NRDC), [The CEPP Delivers Massive Job Creation & Economic Growth](#), 2021.

⁴ Ibid.



Other voices have questioned whether the CEPP is just a giveaway to utilities for what they are already doing. That too is inaccurate. The 4 p.p. annual clean energy trajectory exceeds the highest-ever U.S. clean power growth in a single year—2.3 p.p. in 2020. CEPP grants are provided only for those utilities that reach 4 p.p., and are paid only for clean MWh that utilities add above 1.5 p.p. in growth.

These thresholds are important: CEPP does not pay utilities for what they are already doing, nor does it demand more than can be achieved. CEPP hits the sweet spot by being ambitious and achievable, unlocking a rapid transition to more carbon-free energy with a technology-neutral policy that will create jobs and maintain grid reliability throughout the country.

4 p.p. Clean Energy Growth Is Achievable, as Demonstrated by a Number of Utilities' Clean Energy Commitments

A number of utilities, located all across the country, have plans to add more than 3 p.p. of new carbon-free power per year through 2030 (Figure 1). We know this based on vertically integrated utilities' integrated resource plans and publicly available data from the Energy Information Administration (EIA).⁵ Below is a sample of utilities that have planned clean energy growth trajectories over the coming decade that are aligned with and would be further advanced by CEPP. Additionally, some utilities have expressed their support for nation-wide clean energy goals that are consistent with CEPP.

- Arizona Public Service is planning to add an average of **3.6 p.p.** clean electricity per year.
- Dominion Energy is planning to add **3.3 p.p.** per year (as required by Virginia's Clean Economy Act).
- Xcel Colorado increased its renewable electricity percentage by 10 p.p. from 2019 to 2020—in a single year—and forecasted an average annual increase of **3.9 p.p.** per year for the next 5 years (see Figure 2).
- Los Angeles' City Council recently voted 12-0 to require that the Los Angeles Department of Water & Power (LADWP) accelerate its path to 100% clean energy by 10 years, from 2045 up to 2035. This new trajectory means LADWP will add more than **3.3 p.p.** per year between now and 2035.

⁵ Romankiewicz, John, Cara Bottorff, Leah C. Stokes. [The Dirty Truth About Utility Climate Pledges](#). Sierra Club, 2020. Data from integrated resource plans as of Dec 1, 2020. Xcel CO and LADWP rates of addition based on calculations by NRDC.



- The Northern Indiana Public Service Company (NIPSCO) has made plans to add an average of **4.1 p.p.** of clean energy per year for the next decade. And NiSource, NIPSCO's parent company, plans to reduce greenhouse gas pollution by 90% from 2005 levels by 2030.⁶
- American Electric Power has committed to reducing its carbon pollution by 80% below 2000 levels and plans to add 16,600 MW of new clean energy by 2030, across its regulated utilities.⁷ At least two of its utility units, Public Service Company of Oklahoma (PSO), and Southwestern Electric Power Company (SWEPCO), have plans to increase their clean power by approx. **3 p.p.** per year over the coming decade.

These utilities are demonstrating that a rapid clean energy transition is possible all across the country. And CEPP will help utilities go much further, faster. Not enough utilities have embraced ambitious clean energy goals. And while some utility goals approach or exceed 4 p.p. per year, CEPP's federal grants and payments are needed to ensure they will actually meet these often non-binding ambitions.

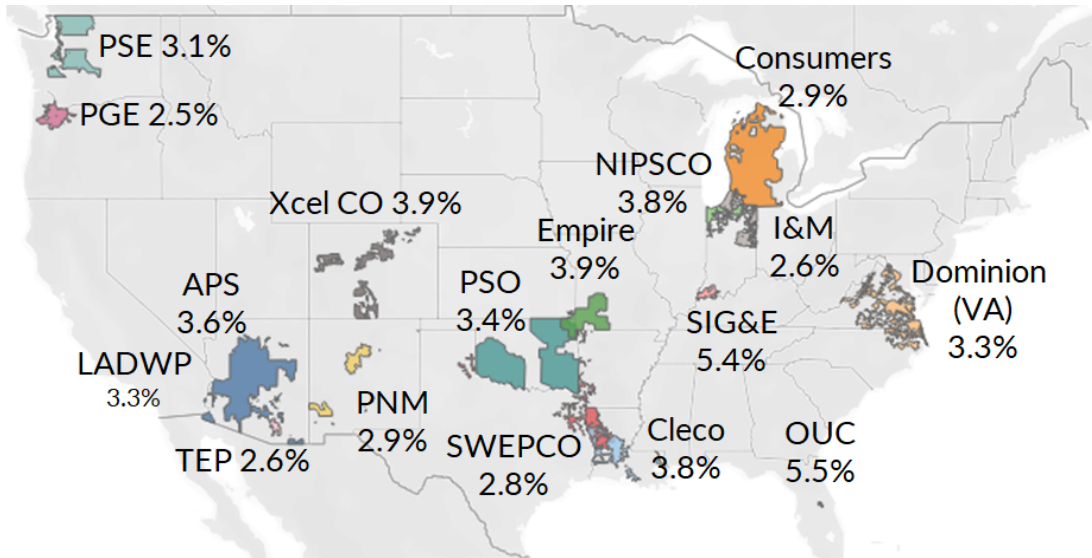
The program also has flexibility. Should a utility fall short of 4 p.p. in any given year, they could still qualify for grants through the procurement of attribute credits in markets that can be supervised by the Department of Energy (DOE) and the Federal Energy Regulatory Commission (FERC), in coordination with regional transmission organizations (RTO), as part of program implementation.

⁶ NiSource, [Deepening our Commitments](#), 2021.

⁷ American Electric Power (AEP), [AEP Reports Strong 2020 Earnings, Raises 2021 Operating Earnings Guidance](#), 2021.



Figure 1: Sample of vertically integrated utilities planning to add > 2.5 P.P. / year in new clean energy this decade⁸



Utility	Average annual clean energy addition as proportion of retail sales, 2020-2030 (percentage points / year)
Orlando Utilities Commission (OUC)	5.5%
CenterPoint / Southern Indiana Gas and Electric (SIG&E)	5.4%
Empire District Electric	3.9%
Xcel Colorado	3.9%
Cleco Power	3.8%
Northern Indiana Public Service Company (NIPSCO)	3.8%
Arizona Public Service	3.6%
Public Service Company of Oklahoma (PSO)	3.4%
Los Angeles Department of Water and Power (LADWP)	3.3%
Dominion Virginia	3.3%
Puget Sound Energy (PSE)	3.1%
Consumers Energy	2.9%
Public Service Company of New Mexico (PNM)	2.9%
Southwestern Electric Power Company (SWEPCO)	2.8%
Tucson Electric Power (TEP)	2.6%
Indiana Michigan Power (I&M)	2.6%
Portland General Electric (PGE)	2.5%

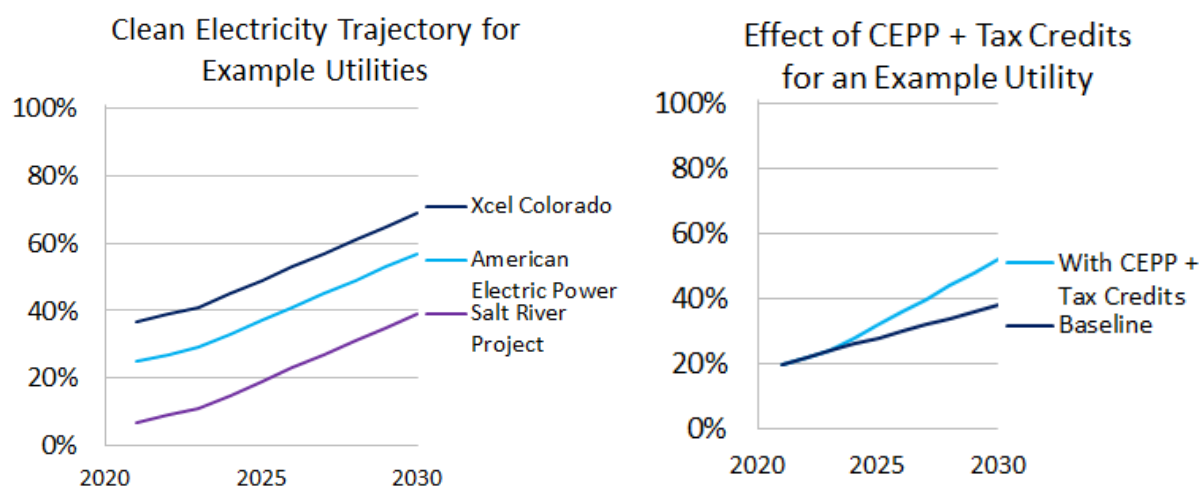
The program is also fair. All LSEs start where they are and move forward at an equitable pace; those with lower levels of clean electricity are not expected to catch up to those that start with higher levels of clean electricity (Figure 2). Those that begin with low amounts of clean electricity will end up lower than

⁸ Xcel CO rate for 2021-2025 only and LADWP rate for 2021-2035. All other rates are calculated for the 2020-2030 time frame. PSO, I&M and SWEPCO based on last filed IRP and does not reflect AEP's stated goal of adding 16,600 MW of new clean energy.



the national average, and those starting higher will end up above that national average. And, due to the technical challenges in approaching 90-100% clean power, the CEPP does not levy payments on utilities that achieve and maintain over 85% carbon-free power.

Figure 2. Example Utility Trajectories⁹



CEPP Builds on Successful State Policies

CEPP builds upon state policies with a proven history of success driving economic development and clean energy deployment.¹⁰ Ten states, Washington, D.C., and Puerto Rico have enacted into law requirements that their electric utilities must achieve 100% clean electricity (see Figure 3).¹¹ Over thirty states and territories, beginning with Iowa nearly 40 years ago, have implemented Renewable Portfolio Standards (RPS) requiring utilities to increase their use of renewable energy each year.¹²

Across the country, states have adopted policies that will meet or exceed 80% clean electricity by 2030, most with Clean Electricity Standards (CES). CEPP's federal investments would help lower the costs of state policies and ensure their success. By 2030, Washington state law requires the power sector be 80% clean (and fully carbon neutral), and Maine requires 80% renewable power. Both Oregon and Colorado require an 80% reduction in electricity carbon dioxide emissions by 2030. In September 2021, Illinois enacted new

⁹ Calculations conducted by NRDC and Evergreen Collaborative.

¹⁰ NRDC, [Race to 100%](#)

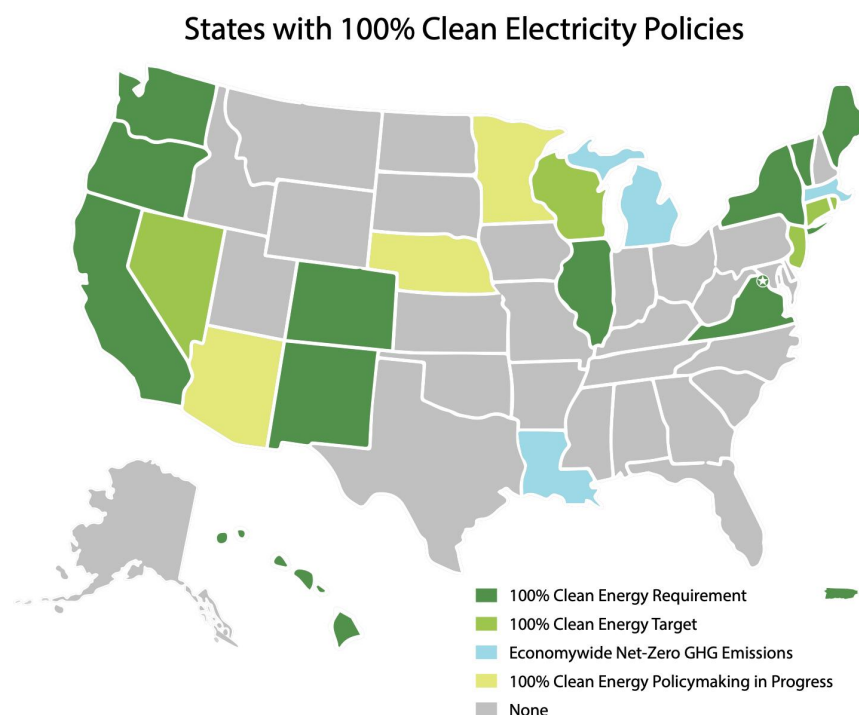
¹¹ Stokes, Dr. Leah, Sam Ricketts, Olivia Quinn. [A Roadmap to 100% Clean Electricity by 2035: August 2021 Update](#). Evergreen Collaborative, 2021.

¹² National Caucus of Environmental Legislators, [State Renewable Portfolio Standards and Goals](#).



legislation that would achieve over 80% clean electricity by 2030, provided the continued operation of the nuclear power plants that today provide much of the state's carbon-free power. D.C. requires 100% clean electricity by 2032.¹³ Meanwhile, CA, HI, NM, NY and VA laws all require 100% clean by 2040 or 2045, which puts their states on track for significant clean electricity growth by 2030. A number of other states have set 100% clean electricity goals via executive order or non-binding legislation, including Wisconsin and Nevada.

Figure 3. States with 100% Clean Electricity Policies¹⁴



Experience Shows Utilities Meet Ambitious Clean Energy Policies

When states and the federal government have put policies or investments for utilities into practice, utilities have stepped up to transform their electricity portfolios. State RPS/CES policies, along with federal tax credits, have driven renewable energy growth in the U.S. And individual utility compliance with clean electricity performance standards is extremely high—approximately 96%, historically.¹⁵ The vast majority of utilities meet 100% of their annual obligations.

¹³ Roberts, David. *Illinois Brilliant New Climate Jobs & Justice Bill*. Volts, 2021.

¹⁴ Stokes, Dr. Leah, Sam Ricketts, Olivia Quinn. *A Roadmap to 100% Clean Electricity by 2035: August 2021 Update*. Evergreen Collaborative, 2021.

¹⁵ Lawrence Berkeley National Lab, *Renewables Portfolio Standards Resources*.



These state policies, in many cases crafted with broad support from labor, utilities, businesses, climate groups, and environmental justice communities, show that clean electricity is imminently achievable and popular. CEPP would help these states move even faster, and will maintain lower electricity bills.

2. CEPP is Affordable for Utility Customers

CEPP uses federal investments to reduce energy burden, and decrease customer utility bills over the coming decade.

Already, multiple studies have shown that a rapid transition to clean electricity will maintain affordable electricity for American customers. A meta-analysis conducted by [Energy Innovation](#) looked at 11 different studies examining the transition to 80% carbon-free power by 2030, and found projected wholesale electricity costs would be unimpacted.¹⁶ And this study did not examine the added benefits of CEPP investments.

Compared to other power sector policies that require utilities to use more clean energy but may pass some of these costs onto their ratepayers, the CEPP is designed to reduce customer costs. Under the program utilities must use 100% of their grant money for customer and worker benefit, including direct bill assistance, clean energy and energy efficiency investments, and supporting workers through changes in the energy system. Also, under the program, payments borne by utilities that fall short of annual clean energy targets must be paid by the utility's shareholders and owners, not ratepayers. Utilities that leverage best practices, such as all-source competitive procurement, can reduce power costs still further.¹⁷

If distributed evenly across customers, \$150 billion in CEPP investments could reduce Americans' electricity bills by 5%, compared to the same power sector transformation without federal grants. That's equal to average household savings of \$70/year and nearly \$600 over the program.¹⁸ CEPP also provides

¹⁶ Esposito, Dan. [Studies Agree 80% Clean Electricity Would Save Lives and Create Jobs at Minimal Cost](#). Energy Innovation, 2021. This study found that wholesale prices, which represent roughly a third of customer electricity bills, would range from 4% lower to just 3-4% higher in 2030, relative to today's prices. This study did not examine the benefit of CEPP investments.

¹⁷ Lauren Shwisberg, et al., [How to Build Clean Energy Portfolios: A Practical Guide to Next-Generation Procurement Practices](#), RMI & Regulatory Assistance Project, 2020.

¹⁸ Calculations conducted by NRDC and Evergreen Collaborative. Annual electricity sales in the U.S. total approximately 3,800 TWh, and the average retail electricity rate is \$0.1066. Hence, total electricity expenditures are approx. \$405 billion/year. CEPP would provide \$150 billion over 8 years, or approx. \$18.75 billion/year, which is approx. equal to 5% of electricity expenditures. The average household pays \$115/month, or \$1380/year for electricity. Five percent of average bills equals approx. \$70/year, or \$560/8 years.



consumer advocates, environmental organizations, and utility commissions the opportunity to use federal funding to reduce energy burden for low-income customers, through direct bill assistance and energy efficiency.

Furthermore, transitioning to more carbon-free energy will bring massive economic benefits that will accrue through reduced pollution, better health outcomes, and avoided climate damages—which could be 5 to 9 times greater than the marginal cost of investment of moving towards 80% clean electricity in 2030.¹⁹

3. CEPP will Protect Grid Reliability

This clean power transition is achievable and will not adversely affect grid reliability. In fact, moving to more carbon-free electricity is essential for reducing the risks that climate change-driven disaster events are wreaking upon America’s electric grid.

In 2021 alone, wildfires and extreme heat waves in the American West knocked out power for millions, and killed hundreds in the process.²⁰ Three weeks after Hurricane Ida ripped through the Gulf Coast, at least 10,000 people in Louisiana were out of power.²¹ In 2020, according to NOAA there were 22 billion-dollar weather disasters, including droughts, severe storms, hurricanes, and wildfires.²² While the challenges of rapid system transformation are real, we have the resources we need to maintain reliability, under the imminent threat of ever-worsening weather if we fail to respond to the climate crisis.

[Meta-analysis](#) of power sector modeling conducted by Energy Innovation shows that CEPP’s clean electricity goals would not affect grid dependability.²³ This analysis examined seven studies with rigorous reliability stress tests of the grid under variable weather and demand conditions—including two studies that tested the grid in every hour of multiple years of weather data. Many of these studies were also conservative, not accounting for reliability-enhancing measures like demand response, emerging technologies (e.g. long-duration

¹⁹ Krishnaswami, Arjun, Derek Murrow. [80% Clean Power by 2030: Achievable with Massive Benefits](#). NRDC, 2021.

²⁰ Olmos, Sergio and Shawn Hubler, [Heat-Related Deaths Increase as Temperatures Rise in the West](#). New York Times, 2021. Heilweil, Rebecca, [The US Power Grid isn't Ready for Climate Change](#). Vox, 2021.

²¹ Dyson, Mark and Justin Locke, [New infrastructure bill can help break the cycle of grid failure](#). The Hill, 2021.

²² Masters, Jeff. [World hammered by record 50 billion-dollar weather disasters in 2020](#). Yale Climate Connections, 2021.

²³ Esposito, Dan. [Studies Agree 80% Clean Electricity Would Save Lives and Create Jobs at Minimal Cost](#). Energy Innovation, 2021.



energy storage), and using excess renewable energy for uses in other sectors (e.g. electrolyzing green hydrogen).

In addition, rigorous new modeling from the DOE, as part of its [Solar Futures Study](#), found that a rapid transition to clean electricity over the coming decade is achievable while maintaining reliability, keeping costs low, and expanding the energy workforce.²⁴ The National Renewable Energy Laboratory (NREL) also [demonstrated](#) the reliability of the grid under 60% wind and solar energy—which, paired with existing nuclear and hydro energy, could equate to roughly 80% clean electricity.²⁵

The rapid transition to a cleaner electricity system does not mean a complete abandonment of complementary firm dispatchable electricity generation resources. Several studies, including [The 2030 Report](#), find that relying on existing “firm” capacity, along with a rapid expansion of battery storage capacity, can ensure sufficient resources to meet peak demand.²⁶

²⁴ US Department of Energy, [Solar Futures Study](#), 2021.

²⁵ Brinkman, Gregory, et. al. [The North American Renewable Integration Study: A U.S. Perspective](#), National Renewable Energy Laboratory, 2021.

²⁶ Abhyankar, Nikit, et. al. [The 2030 Report: Power America's Clean Economy](#). UC Berkeley Goldman School of Public Policy, GridLab, Energy Innovation, 2021.