

Testimony of the Honorable Mark W. Menezes

Former Deputy Secretary
U.S. Department of Energy
Former Chief Counsel, Energy and Environment
U.S. House of Representatives Committee on Energy and Commerce

Before the U.S. House Select Committee on Climate Crisis Hearing on
“Good for Business: Private Sector Perspectives on Climate Action”

Wednesday, October 20, 2021

Chair Castor, Ranking Member Graves, and members of the Select Committee:

Thank you for the invitation and opportunity to testify before you today on the important question of whether Congressional efforts to take meaningful climate action will be good for business. Today, I appear before you as a private citizen, not in any official capacity, and my testimony is my own opinion informed by over 30 years of experience in the public and private energy policy sectors.

To be sure, Congressional climate action can be good for business. While at DOE, we carried out Congressional direction promoting technology that would be good for business, good for consumers, and good for the environment. We know advancing affordable technologies is both necessary in reducing domestic emissions and is vital to reducing emissions globally—particularly in developing nations where affordability is paramount. If we miss the opportunity to leverage domestic action to reduce global emissions, then we will have accomplished little.

Not all climate legislation is good for business, or consumers, or even the environment. Some provisions could be harmful to all three.

In that regard, I would like to focus today on the Clean Electricity Performance Program, commonly referred to as “the CEPP” that is part of the budget reconciliation package before Congress. As the members of this Select Committee are well aware, it’s not unusual for Congress to take several Congressional sessions to consider transformative, controversial measures, proceed through regular order, to ensure a complete record in order to survive judicial scrutiny. But that’s not the case here. Other than the House Energy and Commerce markup without a legislative hearing, there is a dearth of evidence in the Congressional record or even the public record as to why this CEPP is necessary. This lack of transparency and objective analysis is not inconsequential as the CEPP would transform a sector of the economy that every business and every family in America pays for and relies on daily. It is deserving of significant vetting. I would note that this Select Committee spent over a year hearing from stakeholders before the majority released a staff report that contained over 700 recommendations. While that report was embraced by the Speaker, it is the CEPP, which was neither considered nor included in the 700 recommendations, that is pending before Congress.

The interesting thing about the CEPP, from my point of view, is that, except for those who were involved with its creation, no one else was aware of it until it was released a few months ago from Evergreen Action. A recent article confirmed that as of a year ago, the concept itself didn't even exist calling its invention “an acrobatic feat and calculated to get past arcane Senate rules” on reconciliation.¹ Congress, think tanks, academicians—all serious minded people who want to contribute to solving climate challenges in the policy arenas in meaningful ways—have not had much time to independently analyze or model this approach, described as both an incentive and a penalty,² because no one saw the proposal, outside of “The Third Way, a center-left think tank, Evergreen Action, an environmental policy outfit, and the Natural Resources Defense Council, the nonprofit advocacy group,”³ until about a month ago. And apart from a committee markup, there have been no hearings or testimony on it.

As I will explain, the CEPP is a solution to a process problem, not an emissions problem. Since the CEPP was designed to bypass a process problem it was limited in utilizing tools and policies that could have led to an efficient and cost effective solution. This process intentionally ties the hands of Congress and the potential negative impacts of the CEPP are a result of these process restrictions.

The CEPP, I believe, is unnecessary for two reasons. One, the electric sector leads all sectors in actual, quantifiable greenhouse gas emissions reductions since 2000. In fact, these reductions have been of such magnitude that the U.S. leads all other countries in actual GHG emissions reductions since 2000.⁴ These are actual emission reductions, not pledges or public statements that the U.S. will get to “net zero” or achieve some clean energy standard by a certain date. Other countries and sectors do not come close to matching the actual reductions of the U.S. electric sector. The electric and power sector continues to reduce emissions at a faster pace than other sectors.⁵ Emission reductions in this sector have been so significant and lasting that today it is the transportation sector that leads U.S. emissions.⁶ One would wonder why the CEPP targets the sector that has demonstrated a commitment and has achieved success reducing emissions without federal government mandates. Indeed, one Senate critic of the CEPP has wondered why there is even a need for incentive payments to companies already doing everything they can to reduce emissions while ensuring safe, reliable and affordable power.⁷

The second reason that the CEPP is unnecessary is that the electric sector is viewed as the solution, not the problem, to reducing our nation's emissions. All comprehensive plans to obtain emission reductions or “net zero” goals call for greater electrification of the economy. Where electrification makes sense and where it does not is a worthy policy debate, but increased electrification is going to be part of the solution. Recognizing this better efficiency, it is not surprising that other provisions contained in the budget reconciliation legislation increase the use

¹ [Meet the CEPP, the biggest federal climate policy you've never heard of | Grist](#)

² [House Proposes Strong Clean Electricity Performance Program | NRDC](#)

³ See FN 1.

⁴ [Global CO₂ emissions in 2019 – Analysis - IEA](#)

⁵ [U.S. energy-related CO₂ emissions declined by 11% in 2020 - Today in Energy - U.S. Energy Information Administration \(EIA\)](#)

⁶ [Microsoft Word - MER_S11 \(eia.gov\)](#) at 198.

⁷ [What a clean electricity payment plan means for gas, CCS - E&E News \(eenews.net\)](#)

of electricity.⁸ Indeed today, almost all new electric generation being built today is renewable and natural gas,⁹ with the exception of the emission-free Vogtle nuclear facility in Georgia. Natural gas complements the addition of renewable power on the grid for several reasons: 1) it can be added in incremental amounts to meet generation capacity requirements as intermittent sources stop producing, 2) it can respond quickly to demand changes, and 3) has lower environmental compliance, fuel, and operating costs.¹⁰ As Congress encourages the electrification of sectors of the economy, utilities will have to increase generation sources to meet the increased demand. Is the CEPP, which penalizes utilities unable to meet clean electricity requirements, a rational reaction?

The CEPP was created, as has been reported, as a mechanism to comply with the Byrd Rule restrictions against policy changes in the budget reconciliation process.¹¹ Any policy change would be subject to a “point of order” which would then require 60 votes in the Senate for consideration for final passage. As of last week, it was not known if the Senate Parliamentarian would rule that it in fact satisfies the Byrd Rule.¹² It also was created to compel electric utilities to add clean electricity sources to their generation mixes in a scoring window to comply with the Byrd Rule. The reconciliation process does not allow for long-term policies to be considered. Thus, the CEPP had to require taxpayer action (on paper) within an unreasonably short time frame to achieve emission reductions targets announced by the Biden Administration in preparation for the upcoming COP26 meeting in Glasgow.¹³

Let’s take a minute to look at each of these reasons for its creation. The CEPP requires all electric utilities (co-ops, munis, and IOUs) (referred to as “eligible electricity suppliers” in the CEPP) to increase their “certified clean electricity” by 4% each year from 2023 to 2030 or pay the government \$40 for every MWh below its mandated target. To say this is a very aggressive timetable is an understatement. The average rate nationwide of bringing new renewable generation online is one percent per year over the past 10 years.¹⁴ Reconciliation rules do not allow for a longer timeline of compliance.

The other factor at work here is that the Biden administration has increased dramatically its emission reduction goals. On “day one”, the President announced the ambitious goals to reach net zero emission economy-wide by 2050 and a carbon-free power sector by 2035. Only three months later, at a “Leaders (sic) Summit on Climate” on April 22nd, he announced a new goal of ambitious reductions by 2030.¹⁵ These are not insignificant changes over a very short period of time. These new numbers reverberate throughout all sectors of the economy. All sectors had to immediately revise project capital expenditures, ensure supply chains, implement meaningful management and sustainable policy changes to meet these new goals. Teams of engineers had to recalibrate operational facilities and design, financial managers reassessed access to capital

⁸ [R46934.pdf \(fas.org\)](#) at 4.

⁹ [Electricity generation, capacity, and sales in the United States - U.S. Energy Information Administration \(EIA\)](#)

¹⁰ Ibid.

¹¹ FN 1.

¹² FN 8 at 7 (FN 29).

¹³ [Joe Biden to reveal US emissions pledge in key climate crisis moment | Climate crisis | The Guardian](#)

¹⁴ FN 8 at 2.

¹⁵ [FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies | The White House](#)

markets and debt issuance, Wall Street and rating agencies had to again reassess risk and value. The cost of doing business in the U.S. likely increased dramatically all in a matter of three months because the President simply decided to increase reduction goals. This announcement alone is driving U.S. companies to change. The CEPP is piling on.

Indeed, it's possible the CEPP, if enacted as drafted, would make electricity unreliable, increase costs to consumers, and not do much to improve the environment. With the CEPP's relatively short time line for compliance, the "clean electricity" sources needed to be added will be mainly solar which, as an intermittent resource of electricity, does not assure reliability. The grants in the CEPP are intended to reduce costs to ratepayers so they do not bear the direct cost of this transition to "clean electricity." However, for reasons explained later, no one really knows for certain who will bear the expected costs and how much. In the long run, customers might pay more.

Of all the statutory changes under consideration today by Congress to address climate, the CEPP is likely not good for business or for American families.

Let's now discuss those three aspects: reliability, costs to consumers and the utility companies, and environmental consequences.

Reliability

Mandating a rapid increase throughout the entire power sector of "clean electricity" in the time frame to meet an arbitrary budget scoring window will result in only a very few energy sources qualifying. Of the energy sources allowed under the CEPP—renewable energy (wind, solar, hydro, geothermal), maybe fossil with CCS, maybe biomass—only solar, possibly some wind, will be able to be brought online in time to meet the CEPP's aggressive timelines.¹⁶ These power sources are variable and intermittent and need transmission upgrades to accommodate integration into the power grid. There is insufficient time under the stringent CEPP timelines to build the necessary transmission to meet the CEPP mandates while keeping rates affordable and ensuring reliability.¹⁷

Some claim that batteries will take the place of traditional power generation. Our current state of effective battery technology is 4 hours and it takes years to site, permit and build. Long Duration Energy Storage (LDES), possibly the "holy grail" of grid storage is still years away from development and deployment.¹⁸ In California, a 4-hour, 350-megawatt battery storage project scheduled to come online in 2022 has been under development since 2015 (a seven-year period for one project).¹⁹ There simply isn't enough storage available in time to maintain reliability, and even if there were, it would be enormously expensive. A study by the National Renewable Energy Laboratory in 2019 predicted the cost of 4-hour battery storage ranging between \$124

¹⁶ FN 8.

¹⁷ [Ditto Says House Clean Energy Plan Creates Unachievable Transition Timeframe For Public Power | American Public Power Association](#)

¹⁸ [Energy Storage Grand Challenge Energy Storage Market Report](#)

¹⁹ [California Scrambles to Find Electricity to Offset Plant Closures - WSJ](#)

and \$328 per kilowatt hour in 2030.²⁰ As comparison, the average cost of electricity here in the District of Columbia is about 12 or 13 cents per kilowatt hour (kWh).²¹

I have been unable to find any review of the CEPP by either the North American Energy Reliability Corporation (NERC) or the Federal Energy Regulatory Commission (FERC), those entities mandated by Congress to develop, implement and enforce the electric reliability provisions of our nation's bulk power system. Considering the great concern expressed by Congress just this year about electric reliability in Texas, California and elsewhere, one would wonder why Congress hasn't insisted on getting views from those with the statutory obligations to keep our grid reliable.

Our current state of the electricity sector finds that the ramping ability of efficient natural gas combined cycle units has complemented the rapid buildout of wind and solar. When DOE issued emergency orders to California in 2020 and again in 2021,²² it ordered natural gas units to run. California has such an abundance of solar that over 1.5 million MWh was curtailed in 2020, and that number continues to increase unless and until additional storage technologies can be developed and deployed and transmission upgrades are made.²³ As reported by the Congressional Research Service (CRS), and mentioned above, the CEPP does not provide for necessary upgrades to the transmission and distribution systems (wires) of our electric system.²⁴

Costs

The CRS points out that the CEPP will go beyond a Clean Energy Standard (CES) in that it will put compliance costs on federal taxpayers as well as electricity customers.²⁵ The CRS estimates it will cost federal taxpayers \$150 billion over 10 years.²⁶ For families, it is not a question of "if their utility bills will go up, but instead just a question of "how much." Renewables with energy storage to maintain reliability are very expensive, as highlighted above in the NREL study, and take years in siting and deployment. It is very likely that transmission cannot be built in the time frame of the CEPP, so the construction costs would be incurred later, after the incentive payments have ended. Finally, we do not know how competitive electricity markets will react to a situation where qualified "clean electricity" will be scarce and there's a \$40 penalty for every MWh below the mandate. It is logical to predict that companies capable of producing new qualified "clean electricity" will increase their price because it is obvious buyers will pay up to \$40 more for that electricity than pay a penalty. But utilities won't know whether their State utility commissions will allow them to pass on that cost to customers. The CRS is correct in concluding "[e]lectricity consumers ultimately bear most costs of any electricity policy."²⁷

Environmental Performance

²⁰ [Cost Projections for Utility-Scale Battery Storage: 2020 Update \(nrel.gov\)](#)

²¹ [Electricity Rates by State » \(October 2021\) « ElectricRate](#)

²² [DOE's Use of Federal Power Act Emergency Authority | Department of Energy](#)

²³ [California's curtailments of solar electricity generation continue to increase - Today in Energy - U.S. Energy Information Administration \(EIA\)](#)

²⁴ FN 8 at 6.

²⁵ FN 8 at 1.

²⁶ Ibid at 2.

²⁷ Ibid at 5.

It is not apparent that the CEPP will do much for the environment. Indeed, the CEPP does not guarantee reductions.²⁸ The CRS has alerted Congress that under the CEPP electric utilities “may face cost or other constraints (e.g., siting challenges, state and local regulatory requirements, reliability risks) on achieving CEPP targets....”²⁹

As I mentioned, the utility sector has reduced emissions dramatically in recent years, and that has happened in large part because of market forces. Through the economic miracles that have come with hydraulic fracturing for natural gas, gas has become very cheap and has replaced coal as the dominant power source. That largely accounts for the U.S. GHG emissions dropping over the past 20 years as mentioned above. And due to the abundance and affordability of domestically produced natural gas, generation fueled by it complements the development and operation of renewables since it ramps up when the sun goes down or the wind stops blowing.

Were the CEPP to be enacted, it’s likely there will be unintended consequences.

First, the environment might not improve very much because companies are unable to build renewables fast enough to meet the targets, due to supply chain issues, permitting, and other issues mentioned previously. Many utilities and developers have already built solar farms near to existing transmission lines capable of interconnection to existing reliable power grids. The next wave of solar onto our bulk power system, as experts predict, will require substantial and extensive new transmission facilities and significant (and expensive) upgrades to our existing, and currently reliable, transmission system.

Second, for the portion of renewables they are able to build, they will need reliable backup power in place because they won’t be able to build storage quickly enough, due in part to the same supply chain issues, delays in permitting and other time-consuming processes. Today, we have 1.5 gigawatts of battery storage deployed and another 14.5 gigawatts expected to come online by 2024. Of this amount, only 4% will be standalone. Of the rest, 9.4 gigawatts will be co-located with solar and 1.3 gigawatts with wind. That means utilities will be unlikely to install batteries without planning, siting, permitting, and constructing solar or wind farms.³⁰ Notwithstanding the collective effort of Congress, DOE, the national labs, the private sector, the SPAC investors, private equity, and the many universities and think tanks to achieve the breakthrough, grid-scale battery storage needed to accommodate the variable sources of energy we desire, we have yet to make the technological breakthroughs necessary for grid-scale battery storage to be available today as a reliable, cost-effective solution. It’s likely, if the CEPP is enacted this year, the backup power will be fossil energy. As mentioned, today at best, we have battery technology capable of operating 4 hours in duration. Long-duration energy storage is still in its early development.³¹

Third, the CEPP may very well kill the development of zero emitting nuclear development and deployment and any chance of deploying carbon capture technologies. Take nuclear: Congress

²⁸ Ibid at 2.

²⁹ Ibid.

³⁰ [Most planned U.S. battery storage additions in next three years to be paired with solar - Today in Energy - U.S. Energy Information Administration \(EIA\)](#)

³¹ FN 18, 19.

has spent billions to fund nuclear technology development and deployment ranging from fuel technologies for existing units to small modular reactors to fusion energy. None of the new reactor technologies being funded by Congress can possibly be built in the time frame of the CEPP. To be sure, nuclear qualifies under the CEPP but where is the investment incentive to develop new technology? If we abandon our commitment to maintain technological leadership in nuclear generation, we will cede new plant construction around the world to our competitors at best or Russia or China. These are countries without the obligation to enter into other nonproliferation or enrichment agreements with those they are providing nuclear technology. Congress should carefully at programs that might appear to accomplish one goal but lose another of greater security importance.

As for CCS, like nuclear, it is likely eligible under the CEPP. However, like nuclear, these facilities involve a longer planning and construction time than the CEPP allows. And, like nuclear, Congress has supported both technological development through research and development through appropriations to DOE and its deployment by the enactment of 45Q tax credits for both CCS and CCUS. By making CCUS less of an opportunity for the power sector, we lose out on the opportunity to produce low-carbon oil, because we won't be capturing the CO₂ necessary to produce it. That means higher-carbon oil produced by foreign competitors will take its place in the oil market.

Both nuclear and carbon capturing technologies simply cannot be permitted and built in time. And that means the world, not just the U.S., but the entire world is going to lose out on technology that we would otherwise build, test and export. It will be the U.S. – the world's technological leader – building new technologies that can be exported around the world to supply reliable power with low emissions and low cost. All credible experts agree that global deployment of carbon capture technologies is essential to reducing global emissions. It is foreseeable that global emissions would miss out on reductions that could have been made across the world because this proposal will set back our technological leadership, about which I know quite a bit from my time at DOE, implementing the clean energy programs Congress assigned to us.

Congress should conduct hearings specifically on the CEPP to determine if it is in fact, “good for business.”

Finally, and perhaps most importantly, another interesting aspect of the CEPP is that it is part of a “roadmap” proposed by Evergreen Action comprised of several mechanisms that Congress should enact to achieve emission reductions in the electricity sector. Most of the reductions would be obtained through the extension and enhancement of tax credits, not the CEPP. It is my understanding DOE has reviewed some of these provisions and has indicated that full implementation of the tax package provisions under consideration would result in a 73% clean electricity sector mix by 2030. Thus, the CEPP's role is to obtain the remaining 7%. It seems an overreach to enact a program that will increase the federal deficit by \$150 billion over the next 10 years³² to achieve an additional 7% clean electricity sources when the U.S. is building renewables at an already historically high pace. It has been reported some utilities will expend more capital by several factors to comply with CEPP than expended in the past 15 years. One

³² FN 8.

major utility, which has already announced plans to add 16,000 MW of renewables—over half of its current load—has raised questions about the impact of the program on market prices and failing to take into account the costs to build and upgrade transmission systems.³³ Layering on an administratively burdensome and costly CEPP regime to get to the administration’s goal of 80% in 2030 appears to be excessive.

Moreover, the CEPP does not specify how revenue collected would be used and directs the Department of Energy to administer the program.³⁴ For a Department whose missions are to conduct basic science research, maintain our nuclear security systems, cleanup environmental wastes at the Manhattan Project sites, and develop breakthrough technologies in the energy sector, this would be an entirely new challenge for it. From my experience in employing qualified people into the service ranks at the Department, under current hiring processes, DOE would not be able to get the number of people in place in time to carry out the aggressive timetable set forth under the CEPP. Congress would have to change the hiring process. The Executive Branch cannot hire qualified candidates as efficiently as the Legislative Branch.

Speaking of roadmaps to meeting emission reduction targets, I typically encourage policy makers to read the Lawrence Livermore Lab Foundation’s “Getting to Neutral.”³⁵ It was prepared at the request of the state of California to determine if the state could meet what it considered to be a very aggressive “net zero” goal by 2045. The scientists that performed the analysis and published the study determined the state could achieve its goal with existing technologies at a cost of between \$5 billion to \$15 billion annually to the citizens of California. Importantly for policy makers, the report assumed no statutory changes by the state or federal government. It does not call for the ban or elimination of fossil fuels. It recognizes fossil fuel’s continued role in our economy and its role in achieving net zero goals. The report concludes that California would need to put CCS on existing point sources, develop pipelines to transport carbon and its geologic storage capacity to ensure permanent sequestration with monitoring, better land management of forests and wetlands to increase biomass and biofuels production and increase natural carbon sinks, and to employ existing direct air capture technologies. The report goes on to suggest other technologies capable of deployment today including carbon weatherization with rocks and use of cellulosic ethanol. All technologies are currently available for use. Congress could consider creating a fund for continued development of these technologies and incent deployment nationwide. There is no need for Congress to pass legislation penalizing anyone for not reaching arbitrary reduction goals.

Suggested improvements to the CEPP

All this is not to say there couldn’t be improvements to the CEPP as drafted. While it would take significant improvement to overcome the flaws of the current construct, I haven’t met one industry, corporation, NGO, not-for-profit, trade association or person who does not want to be part of the solution to achieving emission reduction goals. All are willing to work on new proposals as they are made aware of them. You have probably heard from the munis and co-ops as well as the investor-owned utilities that some “tweaks” to the CEPP should be considered. Supportive suggestions include language being considered by the tax committees: eliminating penalty exposure for failure to meet annual percentage targets if the load serving entity meets

³³ [Major utility questions Biden's signature climate plan - E&E News \(eenews.net\)](#)

³⁴ Ibid.

³⁵ [Getting to Neutral.pdf \(llnl.gov\)](#)

even higher clean electricity standards, and similarly, eliminating the penalty for failure to reach the 80% target by 2030 if annual progress targets are met; increase the annual averaging mechanism to lessen the severity of penalties to avoid either increased cost of electricity to consumers or increasing capital costs that result in increased rates to consumers.

In addition to those improvements, other suggestions include allowing state public utility commissions to determine whether compliance payments should be recovered in retail rates removing the express or design a mechanism to have benefits flow to customers and remove the compliance payment paid by the utilities; spreading out the acquisition amounts more than the 4% target in a given year be allowed for use in meeting compliance requirements across the full ten-year timeframe in recognition of the fact that capital is expended in varying amounts depending on the specific projects, not uniformly over a certain time period; and giving credit for early action and removing the compliance payment should there be any “backsliding” due to the vagaries of renewable power caused by low hydro, low wind, solar generation from year to year for utilities already achieving 85% clean electricity. These are just a few of the many suggestions that have been reported in the press.

But in the end, as a former Chief Counsel to an authorizing committee, I believe the best approach is to use regular order to develop policies and programs outside of the reconciliation process. A fair, open and transparent process always results in opportunities to participate in bipartisan debates. In the end, one might not prefer the outcome but none can complain about the process.

Members of the Select Committee, this concludes my prepared statement. Thank you again for the opportunity to testify today and I look forward to answering your questions.