Statement of The Honorable Charles D. McConnell

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Rice University

Committee on Energy & Commerce

Subcommittee on Energy & Power

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Thank you, Mr. Chairman and Members of the Committee, for the opportunity to testify on the impact of EPA rules on the energy sector. I will focus in particular on the EPA's rules and proposed rules for new and existing power plants under Sections 111(b) and 111(d) of the Clean Air Act, known respectively as the greenhouse gas new source performance standard (GHG NSPS) and the Clean Power Plan (CPP).

Let me begin by offering a quote by the famous novelist Saul Bellow, who wrote: "A great deal of intelligence can be invested in ignorance when the need for illusion is deep!"

Public servants need to serve the public, and they need to follow the law to do it. The EPA may have forgotten they are to serve the people, not the other way around. That is the only way to explain rulemakings in which collaborations and expert warnings were brushed aside, real energy sustainability downplayed or outright denied, claimed benefits exaggerated, truths ignored, all coincidentally in a way that serves the agency's agenda. Are we also observing a false sense of accomplishment by environmental rule-makers that does nothing substantial to

improve our environment? Yes. And we do it with our EPA Director admitting the rules are not impactful to the environment but are the cornerstone of US environmental leadership to the world. And that we should not judge the Clean Power Plan on its real merits but the fact that the US is showing global leadership. What? This is stunningly uninformed.

I am going to focus on three things:

1. The effects of EPA rules are harmful, in two dimensions:
    a. The rules do not serve their stated purposes. For example, the climate impact of the CPP is negligible. It will not meaningfully reduce GHG emissions.

    b. They improperly attempt to subordinate expert federal and State agencies by arrogating to EPA authorities it doesn't have. Rules like the CPP have been falsely sold as environmental regulation, when they are really an attempt by our primary federal environmental regulator to take over federal and State regulation of energy.

2. The EPA does not properly consult with fellow agencies to gain input to understand the effects of their actions. They did as little consulting as possible, as late in the process as possible, to avoid having to address commentary from sister agencies that their proposals would harm the country.

3. The rules damage our framework of energy sustainability and fail the test in all dimensions. We have a regulatory agency putting the illusion of environmental performance (no improvement) as a totalitarian approach to energy sustainability and ignoring reliability and affordability. The CCP is an abject failure on all fronts.

Before going further, let me be very clear. I believe the climate is changing. CO_2 is a contributor or "forcing function" for climate change – certainly not the exclusive forcing function, but a major contributor – and it requires an energy strategy in this country and globally to address the long term implications. Climate change and the impact of CO_2 is, I believe, scientifically and technically documented and we have an obligation to address them as a society. That does not, however, give the federal government through this agency, license to do whatever it wants.

Harmful Effects of EPA's Rules

EPA's Rules Do Not Serve Their Stated Purposes

In recent years, EPA has adopted rules that do not serve their stated purposes. The mercury rule provided very little benefit from mercury reduction, as EPA itself acknowledged. Similarly, it is clear both scientifically and technically, that the EPA's CPP is not a plan that will significantly impact global CO_2 emissions. If the definition of "clean" were the reduction of atmospheric CO_2 levels – and that would be a narrow, incorrect perspective – then this CPP is not even really clean, because it is neither relevant nor impactful in reducing CO_2 emissions and improving our environment.

For one thing, let's look at the nuclear plants that are closing. Industry urged the EPA to take a logical approach and allow nuclear energy generated after a license was extended to count as clean energy under the CPP. In power markets heavily impacted with subsidized renewables, there is no guarantee that nuclear owners can afford to keep running their plants and would seek license extensions. Giving them credit for zero emitting energy would have helped. EPA said no, and in just the few months since the CPP was issued we've seen at least eight nuclear units announce they are shutting down.[1] How are we going to replace this energy? At least some of it will be from fossil sources – probably gas – so emissions will actually go up not down. Many have accepted gas as a temporary "bridge fuel" that is considered "better than coal", so for the time being they find this tolerable, but if this were all really about emissions rather than about an ideology that opposes coal and nuclear (and eventually all fossil fuels including gas), we could have a rule that promotes all types of low-emission and emission-free energy.

One form of low-emission – and potentially emission-free or emission-negative – energy is carbon capture, utilization and storage, or CCUS. The 111(b) rule put forth an emission standard for new coal-fired power plants based on "partial CCS" – capturing about 25% of the CO_2 emissions of a supercritical coal-fired power plant and sequestering those emissions underground. This may sound like progress, but mandating a technology that hasn't yet been proven and burdening it up with draconian regulatory consequences should it not perform, will simply discourage people from choosing this option. EPA says this is a "technology forcing" section of the Clean Air Act, and while the technology hasn't been proven yet, EPA is just

[1] FitzPatrick, announced February 2016; Pilgrim, announced April 2016; Fort Calhoun, announced May 2016; and Clinton, Quad Cities 1 and 2, and Diablo Canyon 1 and 2, announced June 2016. The Nuclear Energy Institute has stated that some 20 other nuclear units are at risk of closing. These few plants alone produce enough electricity to meet almost 10% of the Clean Power Plan's 2030 414 million ton CO_2 reduction target.

helping it along by requiring it? This is illogical on many fronts. I don't know of anyone who would consider implementing transformative technology in a coal plant with CCS at the same time the government would impose penalties on them if the technology didn't work. This is technology stifling regulation, not technology promoting implementation and deployment that the IPCC has declared to be the most important tactical technology to mitigate CO_2 emissions to the atmosphere and reduce GHG emissions globally. Without global adoption of CCS and CCUS, there can be no conceivable way to meet climate change targets.

DoE has made it plain that CCUS (Carbon Capture Utilization and Storage) technologies are not ready for commercial deployment, and has published numerous materials showing CCUS will be ready for broad commercial deployment – *assuming* proper funding and continued technical progress – in the 2025 time range. Fewer people will invest in CCUS if, when new reliable power is needed, their choices are 1) an immature technology with no performance history and a burdensome regulatory structure, or 2) an off-the-shelf technology – natural gas – that has a well-known risk profile and less regulation. DoE has spent years working to help industry develop CCUS for power plants, but EPA decided for its own reasons that the technology was "ready enough" to require people to implement. A number of people told the EPA that regulation would stifle CCUS investment, but EPA did not listen. This is classic passive-aggressive behavior to stifle CCUS deployment and damages the potential for clean fossil fuel technology development.

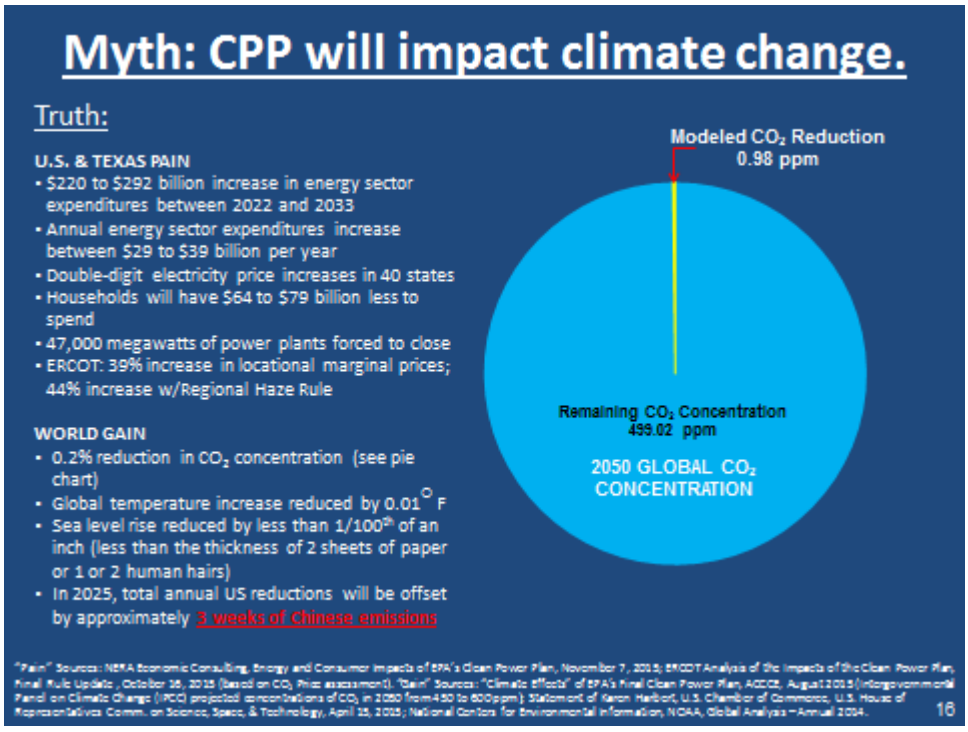
Also, under both the 111(b) and CPP rules, EPA required that CO_2 sent to oil fields to increase oil production should be reported under a greenhouse gas reporting provision known as Subpart RR. This is so the EPA can verify that the CO_2 is staying in the ground, not escaping into the

atmosphere. What policy makers need to understand is that oil companies have been pumping CO_2 into oil fields to produce oil for almost 45 years, and other than minor equipment leaks generally understood to be far less than 1% of the total CO_2 volume, CO_2 is injected underground and stays underground. What the Subpart RR reporting rule does, however, is unnecessarily complicate oil production. It requires producers to develop an EPA-approved monitoring, reporting and verification (MRV) plan that could require producers to stay in the oil field longer than they're allowed to under state law. Currently, one CO_2-EOR company has gotten a MRV plan approved, and I commend them for doing it. But why are we treating a molecule of CO_2 from a power plant more onerously than a naturally-occurring CO_2 molecule from a regulatory perspective? We have decades of experience to know the CO_2 stays in the formation, regardless of where it comes from. EPA's reporting requirement for CO_2 in CCUS will not accelerate a technology to positively impact our environment. It will slow or stop adoption, create risk and stifle deployment.

America needs to take leadership on clean fossil fuels. We are the best positioned country in the world to do so. We are leaders in technological innovation, and we have natural resources that can only be developed with CO_2, such as oil in residual oil zones that can be produced only with CO_2. This requires us to develop CCUS, and anyone paying attention knows the world will not meet its CO_2 reduction targets without it. We can build all the windmills and solar panels we want, but by 2035 the world is going to have another 1.6 billion people on it. That is five times the population of the United States. Primary energy consumption is going to rise by 37% between 2013 and 2035. Fossil fuels are still going to supply the vast majority of energy across the globe, and almost all of that growth is going to come from non-OECD countries. We must

have CCUS – and this is validated by the IPCC report that points out that CCUS is the single most important global technology to mitigate GHGs and positively impact the climate.

I have testified previously that the CPP reduces the amount of anthropogenic CO_2 globally by 0.2% (modeled to be less than 1 ppm), that the projected global temperature increase would be reduced by 0.01°F, and that the avoided sea level rise would be 1/100th of an inch, which equates to the width of two human hairs. These are facts, and facts are stubborn things. All of this insignificant impact, which would not even get underway in the U.S. until perhaps 2025 because of the stay of the CPP, will be offset by three weeks of Chinese emissions. And this is US global leadership and the "cornerstone of US climate policy?" I think not – but the illusion is deep!



EPA's Rules Attempt to Subordinate Energy Regulators

The CPP has been falsely sold as environmental regulation when it is really an attempt by an environmental regulator to take over the energy sector. Specifically the energy market sector of the seven states that bear over 40% of the CPP burden of reduction because they are the "makers" of energy. The States that are the "takers" in our US market bear little or no societal responsibility.

State energy regulators historically have made decisions such as whether a utility may build and operate a new generation facility. Part of what has gone into that decision has been consideration of fuel diversity. Utilities felt that both reliability and affordability were enhanced if they had generating facilities of various types, so that if there were supply disruptions or cost spikes in one kind of fuel they could moderate the impact by increasing operation of other types of generators. This is why over the decades, natural gas-fired generators have typically been "peaking" units. Gas was an expensive fuel, or at least very price-volatile, so such facilities were built with the idea that they would run mostly during periods of peak demand. That has changed, of course, as gas prices have been consistently low due to the advent of transformative technology.

The point is that the CPP fundamentally changes the nature of decision-making about operating power plants – who makes the decision, and on what basis. In restructured energy markets, States have passed laws essentially determining that the least expensive generators should

operate first.[2] Type of generation is not the driving force, as long as the energy can be provided reliably. The CPP elevates point source generation technology carbon dioxide emissions over cost and often these point sources cannot be fossil fueled by regulation. The key energy generating states must reduce their carbon emissions by as much as 40%, regardless of whether this means that less expensive, reliable generators must shut down. EPA gets final approval of a State's plan, which would be developed by a State's environmental regulators, not the state energy regulators. In other words, which power plants can run and when would no longer be a matter primarily of energy regulation, but of environmental regulation.

One might ask, haven't we long had environmental regulations that apply to power plants, and if so, how is the CPP any different? It is different precisely because of the illegal "flexibility" EPA put in the rule. It is one thing for an environmental regulator to say I can't run a power plant unless I install pollution control equipment. It is fundamentally different, for that regulator to say I can only run the plant a certain amount of the time, and to decide what type of power plant (from an emissions profile) has to run in its place. This displaces energy regulators and makes environmental regulations comprehensively controlling.

There is another point to put the CPP power grab into context. Under the Federal Power Act, FERC has jurisdiction over interstate transmission and "the sale of [electric] energy at

[2] This is true in a "market price" sense, not a true "cost of production" sense. Many generators, such as renewables, are heavily subsidized through government policies such as the Section 45 tax credit, and therefore are able to bid into markets at prices far below other competitors. In many markets, for example, wind energy bids in at $0 or less to ensure that it is dispatched, so that it can receive the $23/MWh tax credit, which is nearly equivalent to the market price in some areas. Such subsidies artificially depress the prices all generators receive.

wholesale,"[3] including matters "affecting" rates or charges for electricity. In *FERC v. Electric Power Supply Association*,[4] decided earlier this year, the Supreme Court addressed the issue of how far FERC's jurisdiction over matters affecting rates could extend. The Court said "Taken for all it is worth, that statutory grant could extend FERC's power to some surprising places. . . . [M]arkets in just about everything – the whole economy, as it were – might influence [electricity] demand." Therefore the Court limited the extent of FERC's "affecting" jurisdiction. It said "a non-hyper literal reading is needed to prevent the statute from assuming near-infinite breadth,"[5] In *PPL EnergyPlus v. Solomon*,[6] the Third Circuit Court of Appeals essentially said the same thing: federal energy jurisdiction has limits. "[W]ere we to determine otherwise, the states might be left with no authority whatsoever to regulate power plants because every conceivable regulation would have some effect on operating costs or available supply."[7]

It would be astonishing if Congress intended that the FERC, the federal agency tasked with energy regulation, expressly does not have authority over power sales to consumers, but intended that the EPA can essentially force some generators to turn off their power plants and buy power from lower-emitting competitors.

The CPP is in effect a mandated federal renewable portfolio standard, which steps on your power as elected legislators. Congress refused to enact a renewable energy standard, half the States have declined to adopt one, but now we have an unelected federal agency, not responsible for energy, imposing one. This led renowned legal scholar Laurence Tribe, President Obama's

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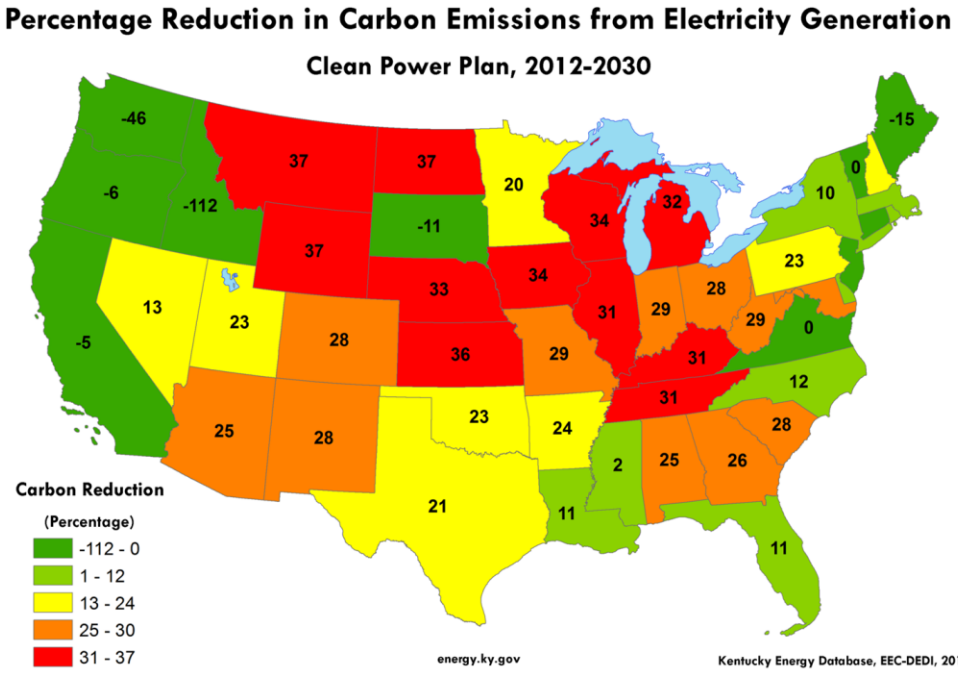
[3] 16 U.S.C. 824(a).
[4] 577 U.S. ___, 2016.
[5] Id, at 15.
[6] 766 F. 3d 241, 2014.
[7] Id, at 257.

Constitutional Law professor at Harvard, to testify last year before this committee that "Burning the Constitution should not become part of our national energy policy."



- Slide Courtesy of Len Peters, Secretary of Energy and Environment, Commonwealth of Kentucky

EPA Consultation

Agencies are encouraged, and in fact required to, consult with one another when they are preparing to propose a rule that has impacts on commerce or expertise within the responsibility of another agency. We have rules for this, including Executive Order 12866, which was signed by President Clinton.

There are good reasons for thoughtful interagency review. We live in a time of tremendous complexity and interrelationships in the spheres of human activity. Adopting a rule that might shut down a power plant – let alone a rule like the CPP that EPA itself says will shut down 23 GW of coal-fired generation – has broad impacts. When power plants close, people are out of work. Coal mines close – maybe nearby, maybe elsewhere – and more people are out of work. No coal, and the railroad jobs decline. When all those jobs disappear, local government revenues drop. This is happening across many parts of the country right now with coal plants and even zero-emitting nuclear plants.[8] .

Interagency collaboration brings experts from other agencies into the process so effects like these can be minimized. A rule that would impact coal might attract interagency suggestions to build in features to encourage carbon capture, utilization and storage, for example. A rule that would result in many power plants closing could impact electric reliability, and therefore cost, as expensive transmission-side upgrades are required to keep service reliable. Electricity has been deemed a vital service such that reliability impact is a matter an agency would want to evaluate early in the process. Energy agencies are adept at evaluating that. FERC and DoE have the expertise to advise EPA on such matters, but in my experience EPA has not properly consulted nor given sufficient weight to the advice of these agencies, or for that matter other experts in the

[8] See, e.g., "Pike County, Ky. facing more than $5 million budget deficit," May 16, 2016, accessed at http://www.wsaz.com/content/news/Pike-County-Ky-facing-more-than-5-million-budget-deficit-379741471.html; "Officials expect 20 to 25 county employees to lose their jobs. They are looking for other ways to save money, including cutting funding for programs."; and "Oswego school budget to cut jobs, sports: 'Heart-wrenching' for everyone," May 18, 2016, accessed at http://www.syracuse.com/schools/index.ssf/2016/05/oswego_school_budget_crisis_heartwrenching_cuts_for_everyone.html. "The Oswego City board of education adopted a $79 million budget for the 2016-17 school year that cuts about 50 positions and eliminates all modified sports and cuts some junior varsity and varsity sports teams, including football."

energy industry. One problem is that when an Administration elevates one priority, like promoting renewables, over things like electric affordability and reliability, the agencies with expertise in those other priorities have a weakened interagency voice often to the point of silence.

When the EPA was hatching the CPP, I witnessed the EPA asking the Office of Fossil Energy, which I ran at the Department of Energy, to comment only on an EPA-defined concept of resource adequacy – not reliability. Why? Were they afraid of inconvenient truths? For those wondering what "resource adequacy" means, it means – in theory – that there is more capacity to generate power than predicted demand. But the real measure we are concerned with isn't theoretical resource adequacy. It's reliability – whether that power is available where it's needed, when it's needed, and available on a constant basis. This is the kind of linguistic mumbo jumbo often offered by EPA, meant to sound like a thoughtful theoretical framework for analysis. It is theoretical, but it is surely not useful.

Reliability means reliability. Available power means available power, not design capacity that is theoretically available. When wind can only be expected to be available in reality about 10-15% of the time, cloaking reliability considerations under a phrase like "resource adequacy" as a required term through which EPA directed DoE's comments to be directed in the stilted interagency collaboration charade I witnessed, devalues the truth. However, it does allow EPA to claim disingenuously that there has been interagency consultation. It was not in my view legitimate interagency consultation because it was deliberately structured to avoid input that would highlight the rule's potential damage to electric reliability.

EPA also did not properly consult with DoE on the costs of the CPP. Neither the National Energy Technology Laboratory nor the Office of Electricity Delivery and Energy Reliability were consulted properly regarding the proposed rule's impact on the levelized cost of electricity or the all-in costs of the rule – i.e., not just counting increased generation costs, but costs to consumers and others from back up generation for intermittent renewables, cost of having to cycle baseload plants and the likelihood of increased costs of repairs, cost of needed transmission upgraded, cost of extended operation and maintenance, service costs, and others.

EPA apparently has no compunction, even when it disregards expert input that conflicts with its narrative, when it is proven wrong in spectacular fashion that puts the public in danger, and its actions are subsequently struck down in court. This is the scenario of the Mercury and Air Toxics Rule, on which rule this Committee held a number of hearings. EPA claimed – again after scant interagency review – that only 4 GW of power plants would shut down as a result of the rule. Well, here we are today and some 60-70 GW of coal-fired generation has shut down, nearly 20 times what the EPA estimated. I would like to thank Senator Murkowski and this Committee for calling on the FERC to step up its reliability consultation for future rules, rather than let its silence serve as a rubber stamp for weakening grid reliability.

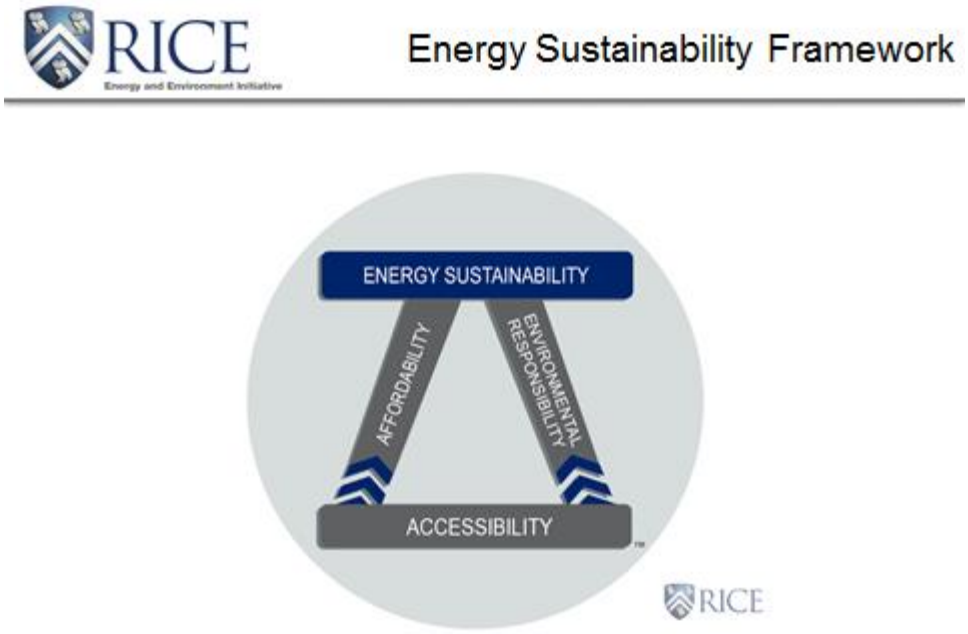
Every credible entity who commented on this rule told EPA they were grossly under-estimating the damage they were about to do. AEP's CEO Nick Akins later testified that 90% of the plants slated for closing as a result of the MATS rule had to operate during the polar vortex, during which a blackout was only very narrowly avoided. By the time the Supreme Court rule EPA's

actions to be illegal, generation owners had already decided to shutter their plants. When an agency minimizes outside marketplace and interagency input and dismisses the foremost experts when the damning truth conflicts with the agency's agenda, it is a disservice to – and a gross disregard of – the public.

Damage to Energy Sustainability

The cascade of environmental rules we have seen during this Administration has weakened energy sustainability. Before going further, let me define what we at Rice University and our Energy and Environmental Initiative mean by sustainability. "Sustainable" means energy is *accessible* – meaning not only that we have secure and steady access to the energy source to make it, but that it can produce consistently available, "always on" power; *affordable*, which means we are not causing consumers undue financial strain and we are globally competitive for manufacturing; ; and *environmentally responsible*. I submit to you that every major source of energy we have today can be used in an environmentally responsible manner through the implementation and broad adoption of the transformative technologies we as a country have been interested in and promote for worldwide deployment.

The CPP is not sustainable. It will cause double digit electricity price increases in 40 states, not to mention the hidden costs to society.



The CPP is nothing more than a forced renewable portfolio standard to substitute renewable energy for fossil fuels. At least it would be procedurally defensible if Congress made that choice, after weighing costs, need for transmission upgrades, stranded costs from diminished use of generation assets, reliability impacts, and job impacts. But it still would not be impactful environmental policy. Understand that today, renewables must be backed up by a fast-ramping, reliable, "always on" power source, which today means natural gas. That subjects ratepayers to the assumption that natural gas costs will remain constant, an increasingly high risk proposition with the EPA aggressively attacking natural gas fracking technology. So, while we push out coal and expect natural gas to be our energy savior, the same administration is driving regulatory cost and burden higher to make it more expensive.

Finally, as to the legality of the rule. I'm no lawyer, but I am a citizen. It is a threat to democracy that an agency would take the plain enacted words of Congress, "best system of

emission reduction . . . adequately demonstrated," and attempt to claim *not only* that it no longer means what the agency and regulated companies have always relied on it meaning – a cleanup technology installed and proven to work at their type of industrial facility – but that "system" now means something the elected First Branch of government that enacted it never conceived: that a federal environmental regulator has carte blanche authority over whose power plants are allowed to run in the United States. EPA's legal insurrection allowed it to set an emission reduction level no cleanup technology has yet been demonstrated to meet. And again, it will not even have a significant environmental impact.

Science and technology requires real understanding and real analysis. The CPP is not worthy of that as it simply does not meet the test of impactful environmental regulation. The EPA's unauthorized expedition into energy policy is nothing short of disturbing.

So let me close with a quote I would ask us to consider: It is often attributed to Mark Twain and most frequently used by Laurence Peter – another of the Peter Principle:
"Sometimes I wonder whether the world is being run by smart people who are putting us on – or by imbeciles who really mean it."