

Bernard L. Weinstein, Ph.D.
Associate Director, Maguire Energy Institute
Cox School of Business
Southern Methodist University
Before The Subcommittee on Agriculture, Energy and Trade
Of The House Committee on Small Business
July 18, 2013

Mr. Chairman and Members of the Subcommittee, I am Bud Weinstein and I am the Associate Director of the Maguire Energy Institute at Southern Methodist University (SMU) and an adjunct professor of business economics at SMU's Cox School of Business. Thank you for this opportunity to address the President's climate action plan and its impact on small business.

Several weeks ago, President Barack Obama released his "Climate Action Plan." Specifically, he wants to use his executive power to limit carbon dioxide (CO₂) emissions from both new and existing power plants, further increase fuel economy standards for motor vehicles, and provide additional incentives for the development of renewable energy sources. Among these initiatives, the potentially most damaging to the economy, and small businesses in particular, are those related to power generation.

Electricity drives our economy, and almost 40 percent of the electrons on the grid come from coal-fired power plants, which will be most affected by mandates to reduce CO₂ emissions and other greenhouse gases (GHG). Coal's contribution to the electricity mix has been slowly declining in recent years, mainly because of a sluggish economy and comparatively cheap natural gas prices. And though we haven't yet seen the specifics from the Environmental Protection Agency (EPA), the forthcoming GHG standards will unquestionably accelerate plant closures. The consequences, in terms of higher energy costs and compromised grid reliability, could be serious. The new standards could also derail America's nascent industrial revival while eroding the competitiveness of US manufacturers. Hundreds of thousands of jobs are at risk—

not a happy prospect in an economy that's barely growing four years after the Great Recession with a 7.6 percent unemployment rate, 12 million workers currently unemployed, and millions more underemployed or discouraged from even looking for work.

The outlook is even gloomier for small business enterprises who have historically been the primary job producers in our economy. Businesses with fewer than 500 employees, along with sole proprietorships, account for about two-thirds of the nation's employment. But the country's rate of new business development is sliding. According to the US Bureau of the Census, the rate of new business formation has fallen to between 7 percent and 8 percent (as a portion of all companies), down significantly from the rate of 12 percent to 13 percent in the 1980s.

As Robert Litan of the Kauffman Foundation has observed, "Without the new jobs created by business startups, the Great Recession would have been even deeper, with many more jobs lost."¹ But the Foundation finds that businesses less than five years in existence now represent merely 35 percent of all companies, down from the 50 percent they represented three decades ago. The share of employment at these young firms has fallen from 20 percent to 12 percent in recent years, a trend that's present to some degree in every single state, with those in the West, South, and Southwest regions seeing the greatest drop-offs in entrepreneurship.

Government regulations and red tape are already a tremendous barrier to small business growth. By the House Small Business Committee's own reckoning, small enterprises bear regulatory compliance costs that are 36 percent higher than large businesses. By driving up energy costs, the forthcoming EPA greenhouse gas regulations will place additional burdens on those enterprises that provide most of the jobs in America.

¹ A Cited in L. Mutikani, "U.S. Business Startups at Record Low," Reuters, May 2, 2013.

Likely negative impacts of forthcoming GHG regulations: higher electric power costs and impaired grid reliability

Every 1 percent increase in economic output necessitates a 0.3 percent increase in energy use. By extension, any combination of policies that serves to increase the price of electricity or reduce the reliability of energy sources will have a negative impact on economic growth. Higher power costs can be especially detrimental to manufacturing industries, who consume proportionately more electricity than other sectors of the economy. Five million manufacturing jobs were lost during the Great Recession, and very few have come back during the recovery. But manufacturing still matters because of its strong linkages with other sectors of the economy. About one in eight private sector jobs, mainly in small and medium-size businesses, rely on America's manufacturing base.

Within the past few years, EPA proposed two new air quality rules that could prove extremely costly to America's utilities and manufacturers: (1) the Cross-State Air Pollution Rule (CSAPR) that would cap key emissions crossing state lines and (2) the Utility Maximum Achievable Control Technology Rule (MACT) that would set absolute limits on mercury and other chemical emissions. The CSAPR was overturned by the D.C. Circuit Court of Appeals and is now under review by the US Supreme Court.

The Utility MACT may prove to be the most expensive direct rule in EPA history. Indeed, EPA itself has estimated it will impose costs of about \$11 billion a year on the US economy, though third-party estimates of compliance costs are considerably higher.² For example, an analysis by National Economic Research Associates (NERA) finds that complying

² US Environmental Protection Agency, *Regulatory Impact Analysis of the Proposed Toxics Rule: Final Report*, " March 2011.

with the proposed standards will cost power companies close to \$18 billion per year for the next twenty years.³ Some coal-fired plants will be so expensive to retrofit to comply with the standard that they will simply be shut down. The NERA study projects that about 48 gigawatts of coal generation may be retired by 2016, representing a 13 percent decline. New natural gas generators would be the most likely substitutes for these shuttered facilities, and the increased demand for gas is estimated by NERA to push up gas prices by about 17 percent by 2016. Higher prices, in turn, will increase natural gas expenditures by the residential, commercial, and industrial sectors of the economy by \$85 billion (present value over 2011-2030 in 2010\$) or \$8.2 billion per year. Average retail electricity prices could jump by about 12 percent with some parts of the country recording increases as high as 24 percent.

In addition to CSAPR, Utility MACT, and forthcoming GHG regulations, EPA has promulgated several other rules that will affect the utility sector. These include air quality standards for sulphur dioxide, nitrous oxide, and fine particulate matter as well as new standards for ash and other residuals from coal combustion. Taken together, these regulations will impact about 400,000 megawatts (MW) of oil and coal-fired power generation, almost 40 percent of currently available US capacity. Should all of the proposed implementation deadlines remain unchanged, the reliability of the entire US power grid could be compromised.

The utility industry is already laboring to comply with these and a myriad of other EPA mandates. The result could well be a reduction in reserve margins, making less power available during periods of peak demand or plant outages. Imagine what would have happened in Texas and other southern states that rely heavily on coal-fired generation during the record summer heat wave of 2011 if adequate reserve power had not been available? Not only would many

³ National Economic Research Associates, *Proposed CATR + MACT*, May 2011.

energy-intensive industries have been forced to shut down, but rolling blackouts could have put the public's health at risk in the face of 100 degree plus temperatures week after week.

This prospect was highlighted by the Electric Reliability Council of Texas, which operates the state grid, which stated that likely production cuts to comply with the proposed CSAPR rules alone would have threatened the state's ability to keep the lights on.⁴ American Electric Power Company has stated it will retire nearly 6,000 MW of generating capacity if the CSAPR rule is reinstated while Duke Energy will shutter 862 MW and Georgia Power another 871 MW.⁵ Should the EPA promulgate costly emissions reduction standards for GHGs, even more generating capacity is likely to go offline, further weakening the integrity of the power grid.

At the same time, by substituting higher-cost electricity (natural gas) for lower-cost electricity (coal), many energy-intensive industries could see their overall production costs rise while their competitive advantages in the global marketplace decline. At risk are not only hundreds of thousands of high-paid jobs but a worsening of America's balance of trade.

Some have suggested that the benefits of carbon reduction outweigh its regulatory costs. However, unilateral carbon regulations in the US will do little to affect global warming which is, as the name implies, a global phenomenon. As the EPA has noted, "climate change presents a problem that the United States alone cannot solve. Even if the United States were to reduce its

⁴ "Energy Future Holdings envisions cutting power production to comply with EPA rules," *Dallas Morning News*, July 30, 2011.

⁵ "Dozens of coal factories forced to shut down in response to strict EPA regulation," *Business Insider*, August 9, 2011.

greenhouse gas emission to zero, that step would be far from enough to avoid substantial climate change.”⁶

A flawed proposal from the Natural Resource Defense Council (NRDC) to lower GHG emissions

The NRDC is proposing that the EPA set an emission standard for carbon dioxide from existing power plants that would vary by state. The standards would not describe the required technology or even the total amount of allowable GHG emissions. Instead, the NRDC argues that EPA should:

- Calculate each state’s “baseline fossil fuel fleet generation mix of coal-and-gas fired plants for 2008 through 2010”;
- Establish nominal carbon dioxide emission rate targets for coal- and gas-fired power plants;
- Determine each state’s emission rate standard as a function of the state’s nominal targets weighted by the state’s generation mix;
- Allow the use of emission rate averaging across fossil-fuel fired units and create a system to credit emission reductions achieved from increased use of non-emitting power plants and increased demand-side energy efficiency; and
- Create a system allowing states to consent to combine their power plants fleets into a multistate region for compliance purposes and to permit states to trade emission credits on a multistate exchange.⁷

⁶ US EPA, Technical Support Document, Social Cost of Carbon for Regulatory Impact Analysis (February, 2010) at 10.

Taken together, this collection of regulatory mandates is unprecedentedly broad in its effect. This proposal would have the EPA create and manage a hybrid inter- and intrastate cap-and-trade system for carbon emissions, would require federal oversight and micromanagement of virtually every aspect of electricity generation in every state, and would also require EPA oversight of how much electricity is consumed in states as a part of its demand-side efficiency (DSE) mandates.

Putting aside the questionable legality of the approach to GHG reductions proposed by the NRDC, their argument for creating a new carbon control regime is built around unrealistic assumptions. The truth is that neither NRDC nor any other proponents of the proposal have described *how* exactly it should be used. NRDC fails to specify how any of the proposed measures would be practically enforceable and what objective standards would apply to ensure sources, regulations, and the public can clearly determine if compliance is being achieved and if compliance is realistically possible.

For example, the proposal envisions broad “demand side efficiency” (DSE) improvements. In fact, NRDC’s analysis is built around the assumption that within seven years, energy efficiency will replace 11 percent of electricity generation needs.⁸ However, while the NRDC report does include a call for EPA to impose mandates on states requiring that such efficiency gains be quantifiable and independently verified, it is unclear how NRDC expects states to actually meet these standards and how energy efficiency standards can be practically enforceable.

The types of efficiency improvements called for by NRDC that serve as the key component to their overall scheme cannot be implemented in a manner that makes them practical

⁷ National Resources Defense Council, *Closing the Power Plant Carbon Pollution Loophole*, December 2012.

⁸ NRDC Report at 44.

to use in a tradable credits system. As NRDC notes, their proposal depends on efficiency programs that will lower the demand for [peak] energy through mechanisms ranging from direct load control of individual customer appliances to programs designed to create incentives for individual customers to use less electricity during peak times or select more energy efficient appliances.⁹

While the NRDC may believe that practical issues regarding measurement and attribution of efficiency gains can be accomplished by regulatory fiat, the reality of electricity supply, consumer choices, and consumption is much more complex. This complexity is demonstrated by the various Congressional efforts to grapple with energy efficiency. Legislation on this issue has been a top priority for many lawmakers, and multiple measures to stimulate energy efficiency have been proposed.¹⁰ Outside analysts, including those inclined to support proposals similar to the NRDC's, have noted that "it is difficult to know whether an efficiency programs is leading to reductions in energy demand or if, instead demand has slowed due to economic or other factors."¹¹ Other analysts have added that "the nature of electricity markets and electricity transmission makes it difficult to link energy efficiency-driven reductions in electricity demand to avoided generation at a particular unit" and that "while evaluation, measurement, and

⁹ NRDC Report at 35-36.

¹⁰Bills introduced in the 113th Congress include: H.R.83: To require the Secretary of the Interior to assemble a team of technical, policy, and financial experts to address the energy needs of the insular areas of the United States and the Freely Associated States through the development of action plans aimed at reducing reliance on imported fossil fuels and increasing use of indigenous clean-energy resources, and for other purposes; H.R.115: School Building Enhancement Act; H.R.123: Water Advanced Technologies for Efficient Resource Use Act; H.R.184: Mechanical Insulation Installation Incentive Act of 2013; H.R.400: Clean Energy Technology Manufacturing and Export Assistance Act; H.R.472: Federal Cost Reduction Act; H.R.540: Energy Efficient Government Technology Act; S.52: Promoting Efficiency and Savings in Government Act

¹¹ Jonas Monast, Tim Profeta, Brooks Rainey Pearson, and John Doyle, *Regulating Greenhouse Gas Emissions from Existing Sources: Section 11(d) and State Equivalency*, 42 ELR 10206, 10209 (March, 2012).

verification (EM&V) methods for energy efficiency are well developed in some contexts, the NRDC proposals pose unique EM&V challenges.”¹²

Efficiency gains that cannot satisfy EM&V demands create dual problems for the NRDC proposal. First, if energy efficiency gains are improperly measured as the economic recovery demands more electricity, it will be impossible for NRDC’s assumptions regarding reduced carbon emissions to be accurate, imperiling all of the alleged benefits from addressing climate change. Second, if EPA does not believe that state efficiency programs satisfy EM&V standards, those states will face the possibility of having their plans rejected and replaced by a federal plan, setting up a clash between EPA and the states, which is contrary to the cooperative federalism structure of the Clean Air Act (CAA). History has shown that when EPA replaces state plans with federal plans, EPA imposes even more draconian limits on energy production from traditional fuel sources, exacerbating concerns about electricity prices and reliability and making it more difficult for those state economies to grow.

Compounding the EM&V problems is the fact that the NRDC proposal includes no details regarding how states or electricity generators can structure their policies or investments in a manner that allows for compliance with overall emission limitations when that compliance is dependent on actions completely out of their control, such as reductions in generation needs by consumers as a result of efficiency measures. Electricity generators cannot control consumers’ demands or choices for electricity and if those consumers require electricity that offsets any efficiency gains it is not clear how generators are expected to comply with the NRDC proposal. Development of new generation facilities or switching of fuels is a capital intensive and time-consuming endeavor, and it is unreasonable and impractical to expect that electricity generators

¹² Jeremy Tarr, Jonas Monast, & Tim Profeta, *Regulating Carbon Dioxide under Section 111(d) of the Clean Air Act* (January, 2013) at 14.

can rapidly change the nature of their generation from month to month or year to year based upon the relative success or failure of the broadly described efficiency measures discussed in the report.

Implementation of the NRDC plan would also be an economic straightjacket on states and localities while undermining the reliability of the US electricity supply. For instance, the NRDC proposal would lock in GHG emissions at 2008-2010 levels, which coincided with the deepest points in the Great Recession. Fortunately, the economic climate is improving, but the recovery is demonstrating that the 2008-2010 emission levels cannot be maintained. As the World Resources Institute has noted, “The economic slowdown experienced by the United States and other parts of the world over the period of 2008 to 2012 has led to decreased demand for goods and services and reduced energy consumption...This decline is projected to be temporary. Manufacturing output is expected to accelerate from 2010 through 2020, and emissions are projected to increase by 4 percent over this time.”¹³

If the economy continues to recover, states will be forced with stark choices under the NRDC proposal. States that have an increase in economic activity, and hence electricity needs, will be required to actually decrease electricity production at a time when demand for electricity is increasing. This will have the effect of increasing electricity prices while simultaneously driving manufacturing and other energy-intensive industries out of those states to areas with less stringent environmental regulations. This result harms both the economy and the environment.

This process will also undermine the reliability of the US electricity supply. Although NRDC attempts to camouflage this reality, other analysts have noted that their proposal will inevitably require the retirement of significant portions of the electricity generating fleet, in part

¹³ World Resources Institute, *Can the US Get There From Here? Using Existing Federal laws and State Action to Reduce Greenhouse Gas Emissions* (2013) at 11.

facilitated by low natural gas prices from increased shale gas development.¹⁴ Of course, groups such as NRDC are also working to hamper the further development of these natural gas resources to achieve separate environmental goals. **Making NRDC's goals a reality would force the retirement of coal-fired generation and require it be replaced with other sources of electricity generation. However, none of these sources have the ability to reliably replace the 59% of coal-fired units that some supporters of the NRDC approach want retired.**¹⁵ **Put simply, there is no evidence that any alternatives can replace the staggering 80.2 GW of coal-fired generating capacity that NRDC estimates will be retired if their proposal is adopted.**¹⁶

The carbon regulatory system suggested by the President and proposed by NRDC is so broad in scope and vague in details that the costs of the program for consumers, business, states, and the federal government are breathtaking. Perhaps this is why NRDC dedicated less than one page to calculating such costs in the nearly 90 pages of their report.¹⁷ Unfortunately, ignoring the cost of the NRDC proposal will not be an option and for individuals and state governments on tight budgets.

It is beyond doubt that that adoption of carbon standards will increase electricity prices in many areas of the country. NRDC and others hide this fact in plain sight when they call on states to lower the demand for electricity by adopting policies that give state and utility companies the power to control when individuals and companies can use appliances such as air conditioners and water heaters and set new electricity rates that would “charge more during high-demand

¹⁴ Robert B. McKinstry, *The Clean Air Act: A Suitable Tool for Addressing the Challenges of Climate Change*, 41 ELR 10301,10308 (April, 2011).

¹⁵ *Id.*

¹⁶ NRDC Report at 45.

¹⁷ NRDC Report at 29.

hours.”¹⁸ Once again, NRDC is proposing that the government make choices for consumers, ranging from what appliances and other energy demanding products to buy, to how they operate and during what time of the day such products can be used. When one combines the costs associated with the retirement of existing coal-fired electricity generation, the conversion of some generating facilities to natural gas, the administrative costs associated with developing and implementing the broad array of efficiency mandates called for by the proposal, and the direct increase in electricity prices called for by these efficiency polices, it is clear that that consumers and business will be forced to pay substantially more for their electricity.

Higher electricity prices as a result of policies designed to limit carbon dioxide emissions would “ripple through the economy and result in higher production costs and less spending on non-energy goods,” and could lead to “lower real wage rates because companies would have higher costs and lower labor productivity.”¹⁹ These costs would have a significant impact on the manufacturing sector and could threaten to reverse the momentum of our economic recovery by causing manufacturing output from energy-intensive sectors to decline by as much as 15 percent.²⁰ Small manufacturing companies would be hit especially hard.

In addition to higher electricity prices, the NRDC proposal would be extraordinarily costly for states. NRDC makes absolutely no effort to estimate the administrative costs associated with their proposal. That is understandable because it is hard to conceive of another proposal that requires states to perform a larger array of tasks to try to satisfy EPA regulators. NRDC’s proposal would require that states draft policies, subject to detailed enforcement and oversight by EPA, that would regulate every aspect of electricity production and consumption—

¹⁸ NRDC Report at 36.

¹⁹ National Association of Manufacturers, *Economic Outcomes of a US Carbon Tax: Executive Summary*, (2013) at 9.

²⁰ *Id.*

from the selection of fuels used in a power plant to the amount of electricity use by a washing machine in an individual's home. If EPA finds the policy, or the implementation of the policy, to be lacking the state would be required to draft a new policy and dedicate more resources to EM&V or have EPA force a federal plan on them. In a time of tight budgets, adding an expansive new regulatory regime on top of the panoply of existing environmental mandates on states will require that states dedicate more resources they don't have to pleasing the EPA. Those resources can only be made available by cutting basic services to citizens.²¹ For NRDC to simply ignore these administrative costs on states is an act of irresponsible fancy.

Threats to electric reliability have serious consequences

EPA can ill-afford to risk undermining the availability of electricity supply in the US, placing electricity reliability in jeopardy and risking catastrophic economic impacts. Coal-fired plants cannot be replaced overnight by natural gas plants, and they certainly cannot quickly be replaced by alternative energy facilities. The time it takes to install pipeline and other infrastructure necessary even to begin the conversion of an old plant or construction of a new one is considerable. Accordingly, if the EPA forces the retirement of power plants it will increase the probability of an insufficient supply of electricity at times when demand peaks, such as during hot weather, or when there are unexpected problems with electricity generation or transmission.

EPA should not be developing long-term energy policy through environmental regulation. The improper regulation of GHG's could drastically reduce the diversity of this country's energy sources, particularly by minimizing coal-fired power generation, and hold the

²¹ See Will Reisinger, Trent Dougherty, and Nolen Moser, *Environmental Enforcement and the Limits of Cooperative Federalism: Will Courts Allow Citizen Suits to Pick Up the Slack?*, 20 Duke Env'tl. L. & Pol'y F. 1, 21-22 (2010).

nation hostile to volatile natural gas prices for the next fifty years. NRDC's proposal is therefore inconsistent with the administration's "all-of-the-above" strategy.

These risks must be taken seriously. As the Institute of Electrical and Electronics Engineers (IEEE) has stated, "a reliable supply of electricity is more than just a convenience, it is a necessity; the global economy and world's very way of life depends on it."²² IEEE further observes that "Even minor occurrences in the electric power grid can sometimes lead to catastrophic 'cascading' blackouts. The loss of a single generator can result in an imbalance between load and generation, altering many flows in the electricity network."²³ The direct costs to high-technology manufacturing in just the San Francisco Bay Area during the California blackouts alone ran as high as one million dollars a minute due to lost production. The relatively brief Northeast blackout of 2003 cost business about \$13 billion in lost productivity.²⁴

Alternative approaches for achieving GHG reductions

When President Barack Obama recently directed EPA to put an end to "the limitless dumping of carbon pollution from our power plants," he was obviously relying on hyperbole and not facts. Mainly because of fuel diversification in power generation, as well as cleaner burning and more fuel efficient motor vehicles, CO₂ emissions today are lower than they were 20 years ago. Even without new directives and mandates from Washington, CO₂ levels from fixed and mobile sources will continue to fall. But begging the question of whether America is already doing more than its fair share to fight global warming, can we really expect government agencies, such as the EPA, to regulate the economy towards a carbon-free future?

²² IEEE, *Reliability and Blackouts*, at <http://electripedia.info/reliability.asp> (accessed Nov. 11, 2011).

²³ *Id*

²⁴ G.F. McClure, *Electric Power Transmission Reliability Not Keeping Pace with Conservation Efforts*, *Today's Engineer* (online)(Feb. 2005).

Assuming no pushback from Congress and industry, in theory the EPA could move us toward a carbon-free economy that is the ultimate goal of the environmental community. But at what cost in terms of lost jobs, higher energy prices, and limited consumer choice?

The EPA is not the best way to attack climate change. Though federal law requires agencies like the EPA to calculate the costs and benefits of its proposed rules, politics often trumps economics when preparing these studies. For example, the purported “social costs” of carbon may be included in cost-benefit calculations to either support new EPA restrictions on power plant emissions or to make the case against a project like Keystone XL. Given the Administration’s recent move to quietly increase the so-called social cost of carbon from \$21 to \$35 per metric ton, we can expect future regulations to be more costly since the estimated benefits will be artificially higher.

The only effective way to significantly reduce global GHG emissions is through a coordinated strategy involving all of the planet’s major economies. Otherwise, any marginal reductions in America as a result of the president’s proposals will be more than offset by rising emissions in China, India, Brazil, and other fast-growing economies around the world.

Still, there is much we can do at home. In particular, investing in natural gas and nuclear power can be much more effective approaches for diversifying our base-load portfolios and thereby reducing CO2 emissions than the regulatory regime proposed by the President and by the NRDC. As a result of market economics, clean natural gas now accounts for 30 percent of power generation compared with 20 percent five years ago. With supplies projected to remain abundant and prices competitive for the foreseeable future, gas may eventually surpass coal as the nation’s primary fuel for utilities and manufacturers. What’s more, if instead of wasting billions of taxpayer dollars on electric vehicles, government and industry partnered to develop

the infrastructure to support better transmission of natural gas and even natural-gas fueled vehicles, carbon emissions would be further reduced.

Regrettably, in his proposed climate plan, President Obama omitted an initiative that could have a greater impact on reducing GHGs globally than any future EPA regulations with no cost to taxpayers—accelerating American exports of liquefied natural gas. The world is hungry for clean natural gas, especially for use in electric power generation. With gas prices averaging \$12 in Europe and \$15 in Asia, US gas at \$4 is a bargain, even when processing and transportation costs are included.

We also need to encourage a nuclear revival in America. Though the US has 104 nuclear plants operating in 31 states, no new facilities have been ordered since the 1970s. Still, those plants currently generate about one-fifth of the nation's electricity while emitting no greenhouse gases. Investing in new nuclear power plants will be good for the economy, good for the environment, and good for energy security.

Addressing global climate change is no easy task. However, the command and control regulations suggested by the President and his environmentalist supporters miss important opportunities, harm households and small businesses by increasing electricity prices, and will do little to address actual environmental challenges.

Thank you for the opportunity to testify, and I am happy to answer your questions.