

# THE PRESIDENT'S CLIMATE ACTION PLAN: WHAT IS THE IMPACT ON SMALL BUSINESSES?

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## HEARING

BEFORE THE

### SUBCOMMITTEE ON AGRICULTURE, ENERGY AND TRADE

OF THE

### COMMITTEE ON SMALL BUSINESS

### UNITED STATES

### HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

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HEARING HELD  
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## **THE PRESIDENT'S CLIMATE ACTION PLAN: WHAT IS THE IMPACT ON SMALL BUSI- NESSES?**

THURSDAY, JULY 18, 2013

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SMALL BUSINESS,  
SUBCOMMITTEE ON AGRICULTURE, ENERGY AND TRADE,  
*Washington, DC.*

The Subcommittee met, pursuant to call, at 10:00 a.m., in Room 2360, Rayburn House Office Building. Hon. Scott Tipton [chairman of the subcommittee] presiding.

Present: Representatives Tipton, Luetkemeyer, Hanna, and Murphy.

Chairman TIPTON. Well, good morning. I would like to thank everyone for taking the time to be able to come into our hearing this morning and we officially call this to order.

I would like to thank our witnesses for appearing today to discuss the potential implications of the president's recently announced Climate Action Plan on small businesses. I will note that this was supposed to be a two-panel hearing. The Committee invited officials from the Environmental Protection Agency to testify, but they declined. This is unfortunate for several reasons. As many members know, the purpose of this Committee is to give small businesses a voice in government. All too often, Congress and federal agencies fail to consider the potentially negative consequences to small businesses of the laws we pass or the regulations that agencies seek to impose. The Regulatory Flexibility Act, of which this Committee has jurisdiction, is intended to ensure that when federal agencies consider new regulations that they analyze and quantify their potential effects on small businesses.

In addition, the RFA requires certain government agencies, including the EPA, to conduct small business advocacy review panels prior to the regulation's publication in the Federal Registry. This process not only helps small businesses understand the potential scope and costs of government regulations, but allows them to actively inform and assist agencies in developing less burdensome alternatives. Unfortunately, compliance with RFA has too often been the exception rather than the rule, and few agencies have done a worse job in meeting their RFA obligations to small businesses than the EPA, which declined to attend the meeting today.

In too many instances, the EPA has improperly certified rules as not having significant impacts on small businesses. It has produced flawed economic analysis of its rules, and failed to provide small

business review panels with sufficient information to assist them in informing agency rulemaking. Poorly crafted and burdensome regulations have been the result. And let there be no mistake; the new emission limits from electric power generating facilities outlined in the president's Climate Action Plan will have significant and far-reaching implications for the economy and for small businesses.

A previously proposed rule to limit greenhouse gas emissions from electric generating facilities, which the EPA never finalized, would have increased the cost of producing power from coal by between 30 and 80 percent depending on the facility. This, in turn, would directly impact small coal mining operations and small business electricity producers. And let us never forget those same rules and regulations impact senior citizens on fixed incomes and working men and women; that are trying to provide for their families. These costs are real.

The regulations would have also raised costs to energy consumers, particularly manufacturers. Unfortunately, in its usual pattern, rather than taking these factors into consideration, the EPA is moving forward with complete disregard to small end-users. Perhaps the agency feels it is justified in pursuing rulemaking without seeking small business input. If so, then they should have appeared before this Committee today and should have said so on the record. However, if the EPA and the Obama Administration will not listen to small businesses, this Committee will.

I look forward to hearing the testimony of today's witnesses and will now yield to Ranking Member Murphy for his opening statement.

Mr. MURPHY. Thank you, Chairman Tipton. And thank you for having this important hearing today.

I want to thank you all for being with us today. It is important that we hear from you, both ourselves and this entire Committee, on how federal policies may affect your livelihood, positively or negatively.

Climate change is already having a serious impact throughout many of our nation's communities. In southern Florida, where my district is located, we are seeing these changes firsthand. As sea levels rise, the storms we face every hurricane season are becoming more violent and more dramatic, increasing the threat to public safety and jeopardizing infrastructure, homes, and businesses more than ever before. These changes also impact the local economies that are most vulnerable to these sea-level conditions.

For small businesses, the effects of climate change are significant. Extreme weather events have become more common, causing billions of dollars in damages during the last two years. Small firms are left not only with physical damages but often with lower consumer demand. As a result, many shut their doors altogether. In addition, climate change is now affecting human health for small businesses and this is a real concern. Heat waves continue to blanket parts of the country while respiratory illnesses and asthma associated with pollution remains a problem. This is a double-edge sword for small firms—fewer customers and a less healthy workforce.

To address these challenges, the president has put forth a Climate Action Plan which contains a wide range of proposals to reduce emissions of carbon dioxide and other greenhouse gases, and to help our nation adopt to expected changes in the climate. Among its most important provisions are the directives to reduce pollution from power plants, incentivized greater use of renewable energy, and encourage the development of energy efficient technologies. Taken together, these steps have the promise to reduce U.S. greenhouse gas emissions while spurring investment in new industrial sectors.

While these steps would reduce our country's CO2 emissions, increase efficiency, and move the U.S. toward an "all of the above" energy strategy, it is critical to address the plan's impact on small businesses. Small firms could face higher energy bills. As lower pollution but potentially more costly, energy sources come on online. Some businesses are some of the largest energy consumers, so we need to carefully consider how the president's plan will affect them.

Another outcome of the president's plan would be to stimulate further energy innovation. By prioritizing cleaner energy broadly, new technologies would be developed and brought to market. Such stimulus is often accompanied by job growth, providing many communities with a foundation for a more prosperous future. From a development of new generation turbines to the construction of more efficient buildings, small businesses are ready to lead American forward.

All these factors are important as we evaluate the best way to address climate change as they touch on all aspects of our economy. The panel here today will help us understand the potential impacts, both positive and negative, the president's plan on the small business community, ensuring that the plan helps us reduce carbon emissions but in a way that minimizes economic disruption is critical.

I look forward to hearing from our witnesses today and yield the remainder of my time. Thank you, Chairman.

Chairman TIPTON. I thank the ranking member for his opening statement. If Committee members have an opening statement prepared, I ask that they submit it for the record.

And I would like to take a moment to be able to explain our timing lights for you. Each of you will have five minutes to be able to deliver your testimony. At the beginning of your statement it will start out green. When you have one minute remaining the light will turn yellow, and finally, at the end of your five minutes it will turn red and if you could wrap up at that time, we would appreciate it.

I would like to go ahead and begin the testimony from our panel. Our first witness is Mr. Michael Kezar, general manager of San Miguel Electric Cooperative, Inc., which is located in Jourdanton, Texas. Mr. Kezar joined the cooperative when the San Miguel facility was first under construction, and has served in a number of capacities prior to his becoming general manager.

Mr. Kezar, thank you for taking time to appear before this Committee, and please deliver your testimony.

**STATEMENTS OF MICHAEL KEZAR, GENERAL MANAGER, SAN MIGUEL ELECTRIC COOPERATIVE, INC.; JAMES L. BROWN, PRESIDENT, BREMEN CASTINGS; BERNARD WEINSTEIN, MAGUIRE ENERGY INSTITUTE, SOUTHERN METHODIST UNIVERSITY; PAUL GARDNER, VICE PRESIDENT BUSINESS DEVELOPMENT, AGILIS GROUP.**

**STATEMENT OF MICHAEL KEZAR**

Mr. KEZAR. Good morning. My name is Mike Kezar and I serve as general manager of San Miguel Electric Cooperative.

I appreciate the invitation to appear before the Subcommittee this morning to discuss the potential impact that the regulation of carbon dioxide emissions under the New Source Performance Standards of the Clean Air Act could have on San Miguel and its members.

San Miguel was organized for the sole purpose of owning and operating a mine-mouth, lignite-fired generating plant and associated mining facilities in Atascosa County, Texas, approximately 60 miles south of San Antonio. As a not-for-profit cooperative, San Miguel has no shareholders, and the total cost of owning and operating the plant, including any compliance costs associated with regulation of CO<sub>2</sub> emissions will be borne directly by San Miguel's consumers and members.

I want to stress at the outset that the Clean Air Act is not the appropriate vehicle for the regulation of CO<sub>2</sub> for several important reasons. First, any meaningful effort to produce emissions will require the kind of tough national economic and public policy choices that must be made by Congress with the transparency and participation allowed through the legislative process.

Second, reducing greenhouse gas emissions in the U.S. alone will have no significant impact on worldwide inventories; however, it would likely have a notable impact on our nation's ability to compete in the international marketplace. Any significant effort to address greenhouse gas emissions must only be undertaken as part of an overall initiative that properly balances domestic and international interests. The Clean Air Act is not structured to facilitate the balancing of these interests and public policy concerns.

EPA's NSPS CO<sub>2</sub> standards for new coal fire generation were initially proposed in April 2012. That proposal is to be withdrawn with the president requesting a new proposal no later than September 20th of this year. The new proposal must not include the same technical and legal flaws that were present in the April 2012 proposal. One of those flaws was a combination of coal-fired and natural gas-fired generating facilities into a single regulated category and then establishing one emission limit for the entire category. This combination into one large source category is unprecedented for this type of rule. Coal-fired and natural gas-fired generating units are very different and combining them makes no practical sense, flies in the face of decades of EPA Clean Air Act precedent, and likely violates the Clean Air Act's requirements regarding sub-categorization of different types of source categories.

EPA admitted that new coal-fired generation was incapable of meeting the proposed emission limit, and the proposal allowed potential new units the option of meeting an interim standard cou-

pled with carbon capture and storage (CCS) to be applied in the future. The mandate to install in the future a technology that is not currently commercially available effectively ensures that no new coal-fire generation will be built within the foreseeable future.

Section 111 of the Clean Air Act requires that cost be taken into account when developing NSPS for both new and existing units. CCS may be technically feasible, but its deployment would effectively double the cost of power produced by coal-fired, electric-generating facilities, and there is no evidence that the technology will become commercially available in the new future. If EPA were to make CCS applicable to San Miguel, the doubling of costs would almost certainly force the unit out of service; therefore, the technology does not meet the NSPS mandate for cost consideration.

Although Section 111 requires that NSPS be economically achievable at the unit level, the EPA could force guidelines on states that are unrealistic and couple them with requirements for emissions averaging or offsets with natural gas or renewable generation. While this approach may be viable for larger electric utilities with broader generation portfolios, it would not be viable for San Miguel or other small electric utilities whose generation is primarily coal-based.

Lastly, EPA must follow the requirements of the Regulatory Flexibility Act. The act mandates that EPA take steps to minimize the economic impact that Section 111 regulations would have on small business entities such as San Miguel. I am especially concerned that EPA may posit that the guidelines themselves do not directly affect small business, but rather that the state implementation plans would. Executive Order 13563, as well as the president's June 25, 2013 memorandum entitled "Power Sector Carbon Pollution Standards" clearly advocates that policy formulation not prejudice small business entities. An upfront consultation process involving small business entity representatives would be an excellent opportunity for the administration's own objectives to be satisfied.

That concludes my statement. I thank the Committee for the opportunity to address these important issues and I would be happy to answer any questions.

Chairman TIPTON. Thank you, Mr. Kezar. You left 20 seconds on. Mr. Brown, you may or may not use those if you would like.

We would like to introduce our next witness.

Mr. James Brown is president of Bremen Castings, Inc., located in Bremen, Indiana. Bremen Castings is a fourth generation, family-run business which was started by his great grandfather in 1939. Mr. Brown, thank you for appearing today, and we look forward to your testimony.

#### **STATEMENT OF JAMES L. BROWN**

Mr. BROWN. Good morning, Chairman Tipton, Ranking Member Murphy, and members of the Subcommittee. Thank you for this opportunity to testify before you on this timely subject of the President's Climate Action Plan: What is the Impact on Small Business?

My name is J. B. Brown, and I am president of Bremen Castings in Bremen, Indiana, a small town of 5,500 people, roughly 50 minutes south of South Bend, Elkhart. As a small business that is en-

ergy intensive, I am very concerned that the regulations proposed by President Obama on the utility sector to force a quick reduction in carbon emissions would place on my company and the entire U.S. foundry industry a substantial disadvantage to our foreign competitors and will raise our electric rates greatly.

Today, the metal casting industry remains critical to the U.S. economy, as 90 percent of all manufactured goods incorporate engineered castings into their makeup. Castings are used in cars, trucks, planes, railroads, ships, air conditioners, refrigerators, lawnmowers, oil and gas field equipment, medical devices, water infrastructure, wind turbines, tanks, bombs, just to name a few areas. In short, Castings represent a vital, yet very basic aspect of our everyday life.

I am proud to be a fourth generation Indiana metal caster and president of the family-owned small business that has been in continuous operation for over 75 years. Growing up I spent many hours around the foundry and continued my experience through high school and college. I have worked every job, every shift throughout our 155,000 square foot facility. Both my parents' fathers worked in this plant and today we still have other families that are currently on their fourth generation as well. More recently, my daughter representing a fifth generation has been learning the business interning in the foundry machine shop every chance she gets when she is on break from school at Indiana University.

After weathering a number of recessions and overcoming changes in the marketplace, our foundry continues to be a leading metal caster producing thousands of different types of gray and ductile iron castings. Our team of over 250 associates today manufacture an array of castings for heavy truck, agricultural equipment, valves, pipe fittings, pump components, compressors, lawn and garden equipment, as well as a variety of critical parts for the military Humvees, Oshkosh defense for the U.S. Department of Defense. BCI has been a long-time supplier of John Deere and Case New Holland in the agricultural sector, as well as Eaton in the heavy truck sector. We are now exporting castings from agricultural equipment to Brazil, France, Mexico, and Canada.

By the way of background, the U.S. metal casting industry and the world's second largest producer of castings after China, metal castings are truly the foundation for all manufacturing. The U.S. foundry industry is comprised of 2,000 operating casting facilities with over 50 of these plants located in Indiana. More recently, a few new foundries have been built in states with inexpensive electricity, as well as proximity to their customers.

The American metal casting industry provides employment to over 200,000 men and women directly, and supports thousands of other jobs indirectly. The industry supports a payroll of more than 8 billion and sales of more than 32 billion annually. Our industry is dominated by small business with over 80 percent of the U.S. metal casting employers having 100 workers or less.

Over the past two years, Bremen Castings has worked diligently to cut some of our energy costs and become more efficient. In fact, we have made significant investments, over half a million dollars in a variety of energy-saving projects. Despite being an energy-in-

tensive industry, foundries are major recyclers. Castings are manufactured from recycled scrap material rather than newer virgin material and melt stock. Annually, U.S. foundries consumed 15 to 20 million tons of recycled scrap material giving new life to products that would otherwise go to the landfills.

The foundry industry believes that it is imperative for the Americans to continue to expand access to our domestic energy supply in order to meet current needs for affordable energy and shore up our energy security. Oil, natural gas, and clean coal remain essential contributors to America's energy security. In addition, we strongly support the building of the Keystone XL pipeline and urge the U.S. Department of State to approve the president's permit for this project to move forward.

As an energy-intensive manufacturer, I am very concerned about the consequences of the president's plan outlined on June 25th to regulate greenhouse gas emission from new, modified, and existing power plants on my foundry, other industries, and in manufacturing across the United States. I believe this new rule will cause power plants to close, drive up power costs for households and businesses across the country, and especially harm manufacturing-heavy states.

Additionally, these new regulations have banned all of the above energy policy and will threaten the foundry industry's ability to remain competitive in the international manufacturing environment. We compete globally against countries like China, where the industry is often state-owned, controlled, and subsidized, including for electricity costs. Furthermore, if the proposed rules will adversely affect Indiana manufacturing consumers much more than most states. Indiana is a top energy-using state, and most of its electricity comes from coal-fired power plants. Currently, coal generates about 40 percent of electricity in the U.S.; however, in Indiana it is 80 percent. The proposed utility rules will make Indiana manufacturing, including BCI, less competitive with other states that are not coal dependent in countries that do not have strict rules in place, ultimately costing jobs.

Energy is the life blood of the U.S. foundries and most manufacturers, and even slight competitive advantage if the price of energy can make an enormous difference for the companies like mine that compete globally. Like all manufacturers, we benefit from the decreased production costs attributed to lower energy prices.

In conclusion, as an energy-intensive industry, comprised primarily of small business, metal casters are troubled by the prospect of increased electricity costs and reliability issues that will likely result from the administration's new power plant regulation being developed. Establishing new, stringent, and burdensome regulations on the power sector will have a negative effect on all U.S. manufacturers regardless of company size, consumers, or long-term health of the U.S. economy and the prosperity of American workers. As we are transitioning our power-generating fleet, utilities need flexibility to ensure that they can manage these emerging environmental regulations while continuing to control costs. We do not need more regulation roadblocks as the country and our industry struggle out of this recession.

Thank you for the opportunity to appear before you today. I look forward to your questions.

Chairman TIPTON. Thank you, Mr. Brown.

Our next witness is Dr. Bernard Weinstein. He serves as an associate director for the Maguire Energy Institute and is an adjunct professor of Business Economics at the Cox School of Business at Southern Methodist University in Dallas, Texas. Dr. Weinstein has authored and co-authored a number of books and articles on the subject of energy security. He has also served as a consultant to energy firms on legislative and regulatory topics.

Dr. Weinstein, thank you for appearing, and we look forward to your testimony.

#### **STATEMENT OF BERNARD WEINSTEIN**

Mr. WEINSTEIN. Thank you, Mr. Chairman, and members of the Committee, for this invitation to speak for a few minutes.

I want to focus on some of the macroeconomic concerns that I have about these proposed climate change policies and regulations. As the previous speaker mentioned, the economy is not in great shape. Second quarter gross domestic product is probably going to come in at about 1 percent growth rate. The unemployment rate is 9.6 percent. It has been virtually unchanged over the past year. There are 12 million Americans unemployed. If you add in discouraged workers and part-time workers who want to work full-time, we are talking about 22 million. If we look at total payroll employment in the U.S., it is 3 percent lower than it was before the Great Recession began. We have a long way to go before we get back to full employment and sustainable growth.

This recession and its aftermath has really hit small businesses, and that matters because, as you know, small businesses employ two-thirds of the nation's workforce, but we are seeing declining rates of business formation in recent years. Businesses with less than five years in business represent 35 percent of all companies today down from 50 percent a couple of decades ago. Employment in young firms has dropped from 20 percent to 12 percent in recent years, and as your Committee's own research has demonstrated, the regulatory burdens, the compliance costs facing small businesses are considerably higher than they are for large businesses. And that is why I think it is very important for this Committee and indeed all Committees in the U.S. Congress to look very carefully at the president's proposed Climate Action Plan because those proposals will raise the cost of electricity. And we do not know the specifics yet, but we do have some history that suggests that these regulations that will be promulgated by EPA will be quite costly. We have seen analyses in the past of CSAPR, of course, that air pollution rule, which is now before the Supreme Court, the Utility Maximum Achievable Control Technology (MACT)—I always have trouble saying that. But a very reputable economic research firm estimated that those two regulations will decrease national GDP by \$350 billion over 20 years, cut employment—net employment—by 2.5 million, even taking into account location of so-called green jobs, and increase the cost of electricity to households and small businesses by at least \$1,000 a year. And in some states that increase could be even greater.

Now, if we add in the compliance costs that will likely be associated with these GHG regulations, that is obviously going to push up power costs even more. I think it is fair to say that the president's plan is mainly at coal-fired power generation. We need to keep in mind, of course, that 40 percent of this nation's electricity comes from coal, and we have seen a slight decrease in the contribution of coal to the grid mainly because of a sluggish economy and because of the aging of plants and low natural gas prices, but we are going to need coal for a long, long time.

When we talk about higher electricity costs, anything that is going to affect business in general is going to affect small businesses disproportionately. Small businesses are typically operating on thinner margins. If they have to pay more for power, that is really going to affect their bottom-line.

And then there are grid reliability issues. We have already heard about that. If we were to switch off 40 percent of the nation's power, or even if we were to phrase it out over say a 10-year period, there would be some serious, serious concerns about having adequate reliability on the grid. Worst case scenario we see rolling brownouts and blackouts all over the country. Power shortages can disrupt communities, can disrupt businesses, can affect the economy more broadly, could derail the nascent revival of U.S. manufacturing. So there are lots of issues there that we need to be concerned about.

Some of you may have seen this plan that has been put forth by the National Resource Defense Council. They hope the EPA will adopt their proposals. Basically, what NRDC is calling for is a very, very complex approach to greenhouse gas reduction. I do not have time to discuss it here but I would encourage you to read my written testimony in which I present a detailed critique.

And finally, I think there are some other issues that we need to keep in mind when we talk about climate change and climate change action. Number one, greenhouse gas emissions in the United States are lower than they were 20 years ago, even though the economy is a third larger. And as we have already heard, any marginal reductions in GHGs from the U.S. will likely be more than offset by increases in emerging countries. That is why we need a global approach to greenhouse gas reduction.

Then there is the whole issue of who should be making energy policy. Should it be Congress or the EPA? There are other things that we can do if we are really concerned about climate change. We can encourage a nuclear revival in this country. We can talk about natural gas fueled vehicles instead of electric vehicles. We can talk about liquefied natural gas (LNG) exports. Ironically, one way that we could help bring down global GHG is by exporting our gas and encouraging other countries to buy our gas instead of burning coal.

So, again, the EPA is proposing what could be some very, very expensive regulations with disproportionate impacts on small businesses, and I think it is very important to keep in mind the fragile state of the U.S. economy and the fragile state of a lot of small businesses when we move forward on climate change issues.

Thank you very much for your attention. I will be happy to answer any questions you may have.

Chairman TIPTON. Thank you, Dr. Weinstein.

I would now like to yield to the ranking member so that he may introduce our next witness.

Mr. MURPHY. Thank you, Mr. Chairman.

I am pleased this morning to introduce Mr. Paul Gardner, who is the vice president of Business Development for Agilis Group, a company headquartered in Palm Beach Gardens, Florida. Mr. Gardner has been working in the aerospace industry for 25 years and has particularly focused on research and development of turbine engines for power generation and flight applications. Mr. Gardner has a broad range of experience in the turbine industry and has helped his company grow by developing relationships and wind contracts to support several key clean energy initiatives, including research and development of high-efficiency natural gas engines, clean coal combustion, CO2 sequestration systems, fuel burn reduction and increased fuel efficiency for advanced air Force and Navy aircraft systems, turbine power generation from advanced small modular nuclear reactors, catalytic low emissions combustion systems, advanced wind turbine gear systems, and turbine power generation from advanced fuel cell systems.

Thank you for being here today, Mr. Gardner, and I look forward to hearing your testimony. That was a tongue-twister. That was impressive.

#### **STATEMENT OF PAUL GARDNER**

Mr. GARDNER. Thank you, Chairman Tipton, and Ranking Member Murphy for allowing me the opportunity to testify before your Subcommittee regarding President Obama's Climate Action Plan and its impact on small business.

My name is Paul Gardner, and I am the head of business development for Agilis Group. Agilis is a 20-year-old professional engineering services company focused on the technical research and engineering development of turbine engines. Agilis is a small business with approximately 130 full-time employees, mostly degreed engineers in Palm Beach Gardens, Florida. We also have an engineering office in Camden, South Carolina. We currently provide advanced research and development engineering to the turbine original equipment manufacturers in the industrial power generation, oil and gas, military flight, and commercial flight industries.

Our business contracts and engineering projects primarily come from private industry. Only a very small percentage of our work comes directly from government agencies and direct government contracts. Agilis wins contracts from the turbine engine companies and provides sub-supplier support to the government contracts these companies have received. At Agilis, we believe that the president's Climate Action Plan will have a definite impact on our business.

I would like to explain some details of the work we have performed to illustrate how funding of clean energy initiatives, specifically the research and engineering development of clean energy technologies can provide direct support to small businesses like Agilis.

In 2002 and 2003, Agilis provided sub-supplier support to a DOE contract to convert the waste coal dust from a coal-fired plant in Alabama into electricity. The original plant design collected the re-

sidual coal dust from the coal-fired boiler, compressed and packaged it into transportable blocks, and shipped it off to be stored as toxic waste. In support of the DOE contract, Agilis performed the combustion research, engineering design and development of a turbine combustion system that burns the residual coal dust as a fuel for a small industrial gas turbine. The turbine engine now produces enough direct electric power from the coal dust to operate the entire facility.

Since 2009, Agilis has provided sub-supplier support to DOE contracts directly focused on the technical research and engineering development of the next generation fuel efficient turbine engines. These DoD programs include the Navy's Task Force Energy and the Air Force's VATE (Versatile Affordable Advanced Turbine Engine) initiatives. These programs directly aligned with the DoD Operational Energy Strategy Implementation Plan released in March 2012 with a key goal factor to increase fuel efficiency and reduce reliance on foreign oil supply. Since 2009, Agilis has received more than 5 million in engineering contracts from the turbine engine contracts to support these programs.

Agilis has provided over \$5 million in engineering effort in support of the DOE program to develop advanced compression systems used in the capture and sequestration of CO<sub>2</sub>. This effort is in direct support of the president's plan to cost effectively meet financial and policy goals, including the avoidance, reduction, or sequestration of anthropogenic emissions of greenhouse gases.

Agilis has provided over \$10 million of engineering support to develop and implement advanced catalytic combustion and low emission systems. Agilis has also supported development of turbine engine designs for advanced helium-cooled small modular nuclear reactors powered by stored nuclear waste material. Our customers published research suggest that there is enough degraded nuclear waste stored in the United States today to fully meet our domestic energy needs once this technology has been fully developed and implemented. If additional DOE and customer internal funding is made available to continue this development, Agilis and other small businesses will directly benefit.

Many of these clean energy technologies and energy efficiency programs are ongoing development efforts that will provide future contracts and work for Agilis. Agilis does not receive these projects directly from government agencies. We receive our business contracts and engineering projects from the turbine engine companies. However, the majority of these programs have been driven by specific government initiatives that are aligned with the needs and goals of private industry. In support of these programs, Agilis has been able to grow and hire 23 full-time engineers in 2013, of which 15 have been recent college graduates. These clean energy initiatives create high-paying jobs for small businesses.

Now, as we try to understand the implications of the climate action plan and its impact, we believe there are several related topics and issues that must be addressed by this Committee for the Climate Action Plan to have a positive impact. These topics include stronger encouragement for the prime government contractors to flow work to small businesses, keeping high-skilled, high-value engineering jobs on shore; meaningful tax incentives for small busi-

nesses to grow; controlling the insurance cost burdens that small businesses bear, and consistency in funding subsidies and government research and development initiatives. Small businesses are often the first impacted when budgets are in doubt. Small businesses struggle to find the financial stability to weather through the uncertainties of funding delays, sequestrations, and continuing resolutions.

Mr. Chairman and Ranking Member, thank you again for allowing me the opportunity to testify today. I hope I have helped you further understand how the Climate Action Plan could impact small business.

Chairman TIPTON. Thank you, Mr. Gardner. And I would like to thank all of our panel for testifying. It is my understanding that the ranking member has another obligation shortly and so I will yield to him to start our questioning.

Mr. MURPHY. Thank you, Mr. Chairman. I appreciate that.

Thank you all for your testimony. I appreciate your time.

Mr. Gardner, your company is an example of how a shift toward cleaner energy can result in business opportunities and job growth. Without federal leadership in this area of clean energy, how successful, in your opinion, would Agilis be today?

Mr. GARDNER. Right now, about 40 percent of our business comes as a sub-supplier for government contracts. Our customers are in a very competitive industry. They sell gas turbines for flight and industrial power. There will be competition. They will spend internal research and development money, but the initiatives that the government has put forth are giving them goals and things that they need to achieve through new levels, and for us that means research and development. It means the effort required, the scientific technology and research required to go and find how practically and cost effectively to make the changes to those engines so that you do get cleaner natural gas burn or you do find ways to make power in a different way from residual heat in other areas.

Mr. MURPHY. So you mentioned about 40 percent of your work is government-related. Are you seeing an increase from the private and demand from the private sector?

Mr. GARDNER. In some degrees, yes; but, as a small business, the private sector is more directly related to the timing of how the economy does. As a small business there is a delay, and so as the economy improves—and it is sluggish right now—as the economy improves what we see is a delay in getting contracts. As there is still uncertainty, these companies are unwilling to spend a lot of their own money until they know that they can continue to make a profit.

Mr. MURPHY. How impotent do you feel a consistent stream of government funding is to the advancement of some of these technologies? And part two of that is I read a study recently. I verified to myself that China is, in fact, investing about three times as much in renewable energy as we are. Can you comment on both of those?

Mr. GARDNER. Well, for us the consistency is important in hiring because as a small business the margins are small. And we are affected greatly by the utilization of our employees. We have to keep them busy. So as things are consistent and these programs

are funded long term and you do spend multiple years with a wind subsidy or with some other subsidy for clean coal, then that work can trickle down to a small business, and those prime contractors feel more confident in giving the work or investing their own money in that research and development. When things are in a stop and start mode, what happens is that work stays at the prime contractors and I never get to see it.

Mr. MURPHY. Thank you.

Mr. Brown, you commented, and I agree, the importance of manufacturing in our economy and in your business metal castings, the importance of that, how have you seen your business change with the increased demand or supply of greener energy technologies, whether it is geo thermal, wind, solar, etcetera? Has that increased your business investing?

Mr. BROWN. Well, for some foundries that produce, for that industry, yes, for those castings. But where we are located, solar and wind is not really—northern Indiana—is not viable for us. One of the things that we are seeing is from our customers where we have an energy surcharge. And as our electric rates go up, so does the price of our castings. So they go to states that have manufacturers or can get castings that do not have such a high energy surcharge, so we are saying—we are being—I do not want to say punished, but we are losing work because of that.

Mr. MURPHY. I would imagine in your business it is a pretty energy-intensive production to produce these castings. Have you done anything internally within your company to perhaps make it more efficient with energy costs?

Mr. BROWN. Right. We spent about \$500,000 last year on energy-efficient new technologies, and also, we work with our town. But one of the things that we are, we can only melt between 6 p.m. and 6 a.m. And if we go above those time periods we get fined essentially about \$15,000 for the rest of the month because of how much electricity that we do use. It is about 40 percent of our costs, so it does hurt us.

Mr. MURPHY. Thank you.

Mr. Kezar, the president is proposing to phase out tax provisions that benefit fossil fuels. How would this affect your cooperative and its consumers?

Mr. KEZAR. Phasing out tax benefits for fossil fuels would not affect us at all.

Mr. MURPHY. It would not?

Mr. KEZAR. No.

Mr. MURPHY. Okay.

And Professor, you state in your testimony that CO2 emissions are lower than they were 20 years ago. Do you feel that this is enough, we have gone far enough? Should we stop here? Or do you think we should continue to look at perhaps other ways. You mentioned fossil fuels, LNG. While I support that as a transition fuel, do you think renewables are ultimately where we should end up?

Mr. WEINSTEIN. First, can I make a correction? I misspoke. At least I think I misspoke when I said the nation's unemployment rate was 9.6 percent; it is 7.6 percent.

Chairman TIPTON. We knew what you meant.

Mr. WEINSTEIN. I want to correct that for the record.

It is a very broad question. We have made significant progress in reducing GHG, mainly in response to market forces, as well as regulatory mandates. We know the air is cleaner today than it has been in a long, long time. From a global perspective, one could argue that we have done more than our fair share but I do not have any philosophical opposition to doing more. I just think whenever we talk about addressing climate change we need to look at the costs versus the benefits. Renewables have a role to play. I do not believe we can run our economy solely with a combination of efficiency and conservation and renewable. We are going to need base-load power in the future.

Now, I saw something yesterday. I think it was an article in the New York Times or the Wall Street Journal about advances in battery-stored technology. I do not have any problems using some of my tax dollars to underwrite that type of research because ultimately, renewables are only going to make sense if we can develop that battery storage technology. But it is probably not going to be in my lifetime, and maybe not in your lifetime where we get to the point where we can store thousands of megawatts during the day and use them at night.

So I am for an "all of the above" energy policy, but when Mr. Obama talks about all of the above, he may have a different vision than when I talk about all of the above.

Mr. MURPHY. Okay, good.

Well, thank you all for your testimony. I appreciate your time. And Chairman, thank you for holding this hearing. Thank you.

Chairman TIPTON. Thank you. I now recognize Mr. Luetkemeyer for his questions.

Mr. LUETKEMEYER. Thank you, Mr. Chairman.

I just have a comment before we get started here with regards to the EPA not showing up today. I am very sorry that did not happen. I think their lack of attendance shows a lack of respect for this Committee and the process that we, as congressmen, and as this Congress have for oversight. I also think it disrespects our panel who they need to hear from. If they are going to promulgate rules and impact your lives and your businesses, they need to hear from your side so that they have a better understanding of what their rules have as far as consequences. So I am very disappointed.

With that being said, that is not unusual with that group. They do not want to listen to anything that happens in the private sector. They have their own mindset and off they go.

Mr. Kezar, thank you for coming today. Quickly, you live in a state that is expanding dramatically, economically, and obviously there is going to be tremendous increased energy needs. How do you anticipate meeting those energy needs with this kind of restriction unable to expand with coal-fired plant? Are you going to continue to do this or are you going to build a natural gas plant next to the other one? What's your plan?

Mr. KEZAR. That is a broad question, so let me deal with maybe the first part a little differently.

As you are probably aware, the state of Texas is dealing right now with issues regarding the increased demand for energy within the state. As you know, ERCOT has an energy-only market, which does not necessarily tend to incent new construction of generation

facilities. So the state right now has been grappling both at the legislative level and within the Reliability Council on how to incent new generation. And it is an uncertain market right now. I will just put it that way.

From our perspective, it is very difficult to envision the construction of a gas-fired power plant where we are located. The plant is situated at the mine. We are where we are because that is where the fuel source is, and we are physically dislocated from the major load demand requirements of our two customers. And so a gas-fired plant would be more likely built closer to those higher load demand centers than at the mine location itself.

Mr. LUETKEMEYER. What do you anticipate your increased costs to be to be able to comply with the EPA new regs and rules in order to be able to expand and meet your customers' needs?

Mr. KEZAR. Are you speaking about the greenhouse gas regulations?

Mr. LUETKEMEYER. Yeah.

Mr. KEZAR. Well, if the requirement for existing facilities mirrors the requirements that were contained in the new source proposed rule—and that is the rule that was proposed in April of 2012—we could not meet those requirements. There is not technology commercially available that would allow us to meet the emissions requirements that were contained within that proposal.

Mr. LUETKEMEYER. That is a great point. I appreciate you bringing that out.

Mr. Brown, in your testimony you said that 40 percent of the cost to production recasting is energy. I have a company in my district actually who got the number one award for the casting of the year last year, and so I have toured their plant. I know what you do. I appreciate what you do.

I did some quick calculations here, and if we—because of where you live—my state is very similar to yours. About 85 percent of the energy that we get is produced from coal, so I would assume that I think the testimony said anywhere from 30 to 80 percent of the increased cost is the result of going to something else. If you had to go to natural gas it would raise your cost of operation roughly 14 percent from 40 percent—excuse me, your energy costs would go from 40 percent to 54 percent of your total budget. You do not have to tell me how much money you make, but what is your spread? Is it less than 14 percent?

Mr. KEZAR. It is definitely less than 14 percent.

Mr. LUETKEMEYER. So in other words you are going to go out of business if you cannot raise the cost of the production of your product to be able to put a margin back in there to cover not only the cost of the electricity but also something that you can go to the bank with and keep everybody—

Mr. KEZAR. And that is 100 percent true. I mean, we have to have a higher margin to be able to invest in future growth and better electric and everything else. And being a small business, we do have small margins.

Mr. LUETKEMEYER. I am running out of time here so Dr. Weinstein, thank you for your comments as well. Can you tell me what the price of natural gas would have to get down to to be able

to compete with coal so that we would not experience an increased cost for electric production, energy production?

Mr. WEINSTEIN. Well, as you probably know, natural gas prices have fallen quite a bit in recent years.

Mr. LUETKEMEYER. Can you turn your microphone on, please?

Mr. WEINSTEIN. I am sorry. Natural gas prices have fallen considerably in recent years and they are now below \$4 in MCF. When you get down to the \$3 range, gas becomes very competitive with coal. I do not think we are going to get back down to \$3, assuming the economy starts to grow, assuming we can get into the business of exporting LNG as I indicated earlier, that is going to increase demand and push up prices. So I do not think gas is likely to get down to the point where it is going to be competitive with coal. There are other advantages obviously that gas has, and certainly, we have an abundance of gas, but all of the prognosticators that I look at see gas prices getting back up to the \$5 to \$7 range, which is kind of an okay place. It is good for producers. It does not really hurt consumers. Gas prices tend to be more volatile, a lot more volatile than coal prices. That is one of the downsides of relying on natural gas. So it is really hard to say but I think coal will continue to be the cheapest power source for a long, long time.

Mr. LUETKEMEYER. Thank you. My time is up. I yield back.

Chairman TIPTON. Thank you for your questions.

Mr. Kezar, I would like to ask you, have you calculated out should the president's initiative and the EPA's rules go into effect, how much will that increase the cost for your consumers in terms of the monthly bill? Have you been able to calculate that?

Mr. KEZAR. We have estimated that the cost of being forced to install—and assuming the carbon capture storage equipment were available—which as I have indicated it is not commercially available today—but based upon the best estimates available and the amount of additional parasitic load that is taken away from power that would otherwise go to customers to power this additional equipment that is required to capture and sequester that CO<sub>2</sub>, the price of power could effectively double.

Chairman TIPTON. Could effectively double.

Mr. KEZAR. Yes.

Chairman TIPTON. Texas is a pretty popular state right now and a prosperous state right now.

Mr. KEZAR. Yes, sir.

Chairman TIPTON. Would senior citizens, maybe on fixed incomes, some young families that find the doubling of their power costs difficult to be able to accommodate for their family budget?

Mr. KEZAR. Absolutely.

Chairman TIPTON. Where are they going to go to get that additional money?

Mr. KEZAR. That is a good question.

Chairman TIPTON. Maybe we ought to ask the EPA and the president where they are supposed to get the money to be able to pay the bill. Would you view this basically as taxation via regulation?

Mr. KEZAR. I am probably not the best person to ask that question. I am a power plant guy. What I know is that the regulations are driving up the cost of producing power.

Chairman TIPTON. Mr. Brown, you are in business. You are working. Is this taxation via regulation?

Mr. BROWN. It could be looked at that way. Yes. But we are not going to be able to afford to pay those taxes.

Chairman TIPTON. But you are not going to be able to afford it. I think Mr. Luektemeyer's point in terms of going up to 54 percent of your overall costs and that expands your margins. Where are your people going to get a job if we have relinquished those to people overseas?

Mr. BROWN. They are not going to.

Chairman TIPTON. They are not going to be able to do that. We have got a 7.6 percent unemployment right now, Professor, and you and I both know that is probably not an accurate figure; that it is actually much higher when we look at people that are underemployed; people that have simply given up looking for work. And I see Mr. Gardner nodding his head in agreement with that. What is the impact? We are talking about businesses. Businesses employ people. Is this a way to move forward or are there more sensible approaches?

Mr. GARDNER. Well, look at it this way. Energy really drives the economy. There is a pretty close relationship between economic growth and energy consumption. It is about 0.3. In other words, for every 1 percent increase in GDP growth, you need a third of a percent increase in energy production.

What has bothered me in recent years is the fact that America is rich, the fact that we are abundant in energy, the fact that we have cheap energy is somehow a bad thing. And in fact, the availability of abundant and cheap energy is the basis of our international competitiveness. So why do we constantly talk about policies that are going to drive up the cost of energy when those costs, it seems to me, are going to far exceed any benefits in terms of environmental quality. So if we want to continue growing this economy, we need adequate supplies of cheap and abundant energy.

And this is not the forum for me to get on my soapbox, but why do we behave as though we are an energy-poor nation when we are an energy-rich nation? I mean, we export a lot of coal. We should be exporting natural gas. We should be exporting oil. But there is a mindset, particularly in Washington, that we have got to husband these resources.

So it seems to me someone who has spent most of his professional life focusing on economic growth and policies to encourage economic growth, that we have before us in terms that have not been spelled out with this climate action policy, regulation policies that are going to retard economic growth, not stimulate it.

Chairman TIPTON. So would it be a fair assessment—Mr. Gardner commented about a sluggish economy right now—to have an American policy rather than the EPA and the White House, as opposed to going through Congress to actually develop American energy on American soil, to be able to put Americans back to work, to make us competitive in the world and actually make us prosperous. Is that maybe a good idea?

Mr. WEINSTEIN. Well, absolutely. I am not opposed to green energy. I remember during the campaign, President Obama was saying that on his watch, 85,000 jobs had been created in clean en-

ergy. What he did not mention was that 500,000 jobs had been created in the oil and gas industry with no new federal incentives.

Chairman TIPTON. There we go.

Mr. WEINSTEIN. But we do not acknowledge that. We do not acknowledge the fact that we are the richest nation in the world when it comes to energy. We have produced more coal. We produce more nuclear. We produce more renewable energy, and we are number two in oil.

Chairman TIPTON. I would like you to maybe speak just a little bit, Doctor, if you would, about the reliability on the electrical grid. As you noted, we do not have the technology right now to be able to store energy that is generated. I have a piece of legislation calling for all of the above solutions. But we have got to make sure that we can deliver that base load so that Mr. Brown can do his casting and Mr. Kezar is going to be able to deliver to his consumers as well. Can you talk just a little bit about—

Mr. WEINSTEIN. Well, understand I am an economist; I am not a technical person. But when it comes to reliability on the power grid there are two issues. One is the physical capability to move electrons around the country, and then two is having adequate generating capacity to meet peak demand. And my concern with these GHG regulations is that they will limit, they will take additional units off stream and that could occur in a timeframe when alternatives are not available and then we have to deal with reliability in terms of just having enough electrons on the grid.

Chairman TIPTON. Just a final question for you, Doctor. The Regulatory Flexibility Act is a federal statute, and it does obligate agencies to consider alternative regulatory approaches if the rule has a substantial economic impact on a significant number of small entities, and we have heard about those this morning. How would you rate the EPA's compliance with the statute?

Mr. WEINSTEIN. I think the EPA is pretty much ignoring the statute.

Chairman TIPTON. Just ignoring it. Like they ignored this hearing.

Mr. Brown, a number of experts have credited lower and stable domestic energy prices for helping contribute to domestic energy manufacturing rebound. How important are stable energy prices for your business?

Mr. BROWN. Well, our customers would love that; that way they could know what their products are going to cost, and when they do fluctuate, so does the price of those materials. And to get their materials. So having a constant price would be wonderful for everybody. And knowing what we could charge you over here. We can only go to our customers so many times for price increases, and when the energy fluctuates so much in price, that changes the price of that product.

Chairman TIPTON. Thank you.

Mr. Kezar, the EPA has recently sent a draft of new NSPS emission regulations to the White House for review, and it did not consult small business. Has this been the agency's pattern for an extended period of time on other rules that affect small power producers?

Mr. KEZAR. That has been my experience recently. Yes, sir.

Chairman TIPTON. Never bothered to consult you or to be able to seek your input?

Mr. KEZAR. No, sir.

Chairman TIPTON. The Clean Air Act stipulates that the EPA can determine that it is not technologically feasible or cost effective to establish a standard of performance for certain types of emissions from certain facilities. Mr. Kezar, in your view does this apply to greenhouse gas emissions from coal-fired power facilities?

Mr. KEZAR. Well, the problem, Mr. Chairman, is what EPA effectively did is combined all fossil fuel-fired sources into one category and then set an emissions limit that was based upon emissions from a natural gas combined cycle unit and applied those to all fossil-fuel fired plants. And that is just not a feasible thing to do. There was no sub-categorization whatsoever.

Chairman TIPTON. So is the EPA required to establish a standard that they know is too costly?

Mr. KEZAR. No, sir.

Chairman TIPTON. They are not?

Mr. KEZAR. No, sir.

Chairman TIPTON. We have got some real challenges.

Mr. Luetkemeyer, do you have any further questions?

Mr. LUETKEMEYER. Sure. This is a great panel. I have lots of questions over here.

Mr. Kezar, with EPA's new standards, the technological cannot even be reached, how are you going to do that? How do you anticipate being able to comply?

Mr. KEZAR. As I mentioned earlier, we cannot comply. The EPA essentially established a rate. It is not a gross amount of tons of CO2 that can be omitted; it is a rate that is applied per megawatt of production. So even reducing output from the facility does not achieve the standard. Unless there is a technology that is commercially available that can be applied, we have really no hope of meeting it and continuing to consume the fuel that we mine at the plant.

Mr. LUETKEMEYER. So what is your alternative then? Shut down?

Mr. KEZAR. That is right.

Mr. LUETKEMEYER. So effectively, at some point in the near future, you will shut the plant?

Mr. KEZAR. If the final regulations that are applied to existing facilities mirror the ones that were proposed in April of 2012, I do not see any other alternative.

Mr. LUETKEMEYER. Have you discussed with them some sort of waiver or some sort of extension of any kind?

Mr. KEZAR. No, sir. The rules for existing facilities have not yet been proposed.

Mr. LUETKEMEYER. Okay.

Mr. KEZAR. We are waiting to see those.

Mr. LUETKEMEYER. How many other plants around the country are in your position?

Mr. KEZAR. There are a lot of coal-fired plants.

Mr. LUETKEMEYER. Do you have a percentage roughly?

Mr. KEZAR. There are, well, I think we heard earlier that in excess of 40 percent of the power produced in this country comes from

coal-fired facilities. There are on coal-fired facilities that can meet the EPA standard as it was proposed.

Mr. LUETKEMEYER. So we are going to have to replace 40 percent of our electrical production, energy production here shortly?

Mr. KEZAR. Unless some commercially available technology—

Mr. LUETKEMEYER. Unless the great FEAT EPA folk decide to do something different.

Mr. KEZAR. Yes.

Mr. LUETKEMEYER. Amazing.

Mr. Gardner, I am just kind of curious. Do you export any of your product at all?

Mr. GARDNER. Mostly what we provide is engineering services.

Mr. LUETKEMEYER. New services? Okay.

Mr. GARDNER. We do have a small portion of our business that does software for engine health monitoring that we do export. We have international customers in Europe, and we do engineering work for them, so we have been able to bring large contracts from Europe into the United States to work those, so we have done that. But primarily, our customers are the engine companies here in the United States.

Mr. LUETKEMEYER. Now, you mentioned small nuclear reactors a while ago.

Mr. GARDNER. Yes.

Mr. LUETKEMEYER. And that really piqued my interest because I have got a nuclear plant in my district and they are competing for a small nuclear reactor grant to be able to develop and work with the government and work with some other folks. There are three or four companies that are doing this—you are probably more aware of it than I am—to try and come up with ways and to use the spent fuel to go back and recycle it and actually get rid of the stuff and actually be a positive force. Can you explain a little about that? Are you familiar with the process? Can you enlighten us all a little bit?

Mr. GARDNER. I can tell you a little bit about it. I do not want to get into the particular customers' intellectual property. But there is an enormous amount of spent military nuclear fuel which only loses a small portion of its heat and effectiveness before it is not of a military grade anymore, and that is stored across the United States. The calculations for that is that the heat coming off of it now that the storage facilities have to dissipate and get rid of is an enormous amount that could be turned into effective electrical energy. And so these small modular nuclear reactors, at least this one particular idea, is to go take that and case it safely in a way that is as safe as it is being stored now and then use that heat to power turbine equipment to produce power. And that can be done very effectively. It requires a different cooling medium and it does require some research to do it, but when it is done you can then go put that in the ground for 30 years with the existing fuel and have it produce power.

Mr. LUETKEMEYER. You said there is a new cooling medium that would be required. What would that be?

Mr. GARDNER. Helium is the one that this customer is proposing.

Mr. LUETKEMEYER. Okay. Right now it is water; right?

Mr. GARDNER. I am not really familiar with all the other processes. The helium is something now that is a gas though that you can actually run through a gas turbine engine. You can use that instead of air.

Mr. LUETKEMEYER. Very good.

Professor Weinstein, I wish you would really speak up and tell us what you really think. I appreciate your passion this morning, I appreciate your comments. They have been very insightful and from your standpoint as an economist, I am sure you would like to see some cost benefit analysis done on all the proposed rules each time; that way we would know how much it is going to cost our economy and our people with regards to jobs and the lack of a competitiveness for Mr. Brown and Mr. Gardner here to be able to sell their products. So I certainly appreciate your testimony this morning, all of you as well.

So with that I will yield back and thank the chairman or the Committee for the hearing this morning. And again, bemoan the fact that we do not have EPA here to listen to the fine testimony of these gentlemen to be able to understand the unintended consequences of what their rules do to their businesses, their way of life, and people in this country's way of life. Thank you very much.

Chairman TIPTON. I would like to thank my colleague for the questions. And I had just a couple more, if I may.

Dr. Weinstein, in an effort to be able to justify recent regulatory activity, the EPA has been citing the social cost of greenhouse gas emissions. As an economist, could you testify to any flaws in the EPA's methodology for estimating these costs?

Mr. WEINSTEIN. I have not examined the EPA's technology. I know that they magically increased the coal costs of carbon from \$21 a metric ton to \$35 a metric ton.

Now, I do not know what—

Chairman TIPTON. Do you know what you used for the basis on that?

Mr. WEINSTEIN. I really have not investigated that. But social cost is kind of a squishy concept, and economists like things that we can really put our arms around and measure. And my concern with social costs, it is not so much the theoretical issue; it is a measurement issue and how do we really get our hands around what they would call the negative impacts of carbon emissions and quantify? I have not examined their methodology. I know that just yesterday there was I think the U.S. Chamber held a seminar on the social costs of carbon. Everybody is kind of looking into it but I think we were all surprised a week or two ago when all of a sudden that cost increased from \$21 to \$35 and nobody seems to know why.

Chairman TIPTON. Well, you might want to hang around for our next panel and the EPA will—oh, that is right. They did not bother to show up so we will not actually get an answer from them.

I think you have pretty much identified this cannot be accurately quantified.

Mr. WEINSTEIN. Yes.

Chairman TIPTON. That the EPA is grasping for straws in the wind to be able to justify an agenda which may or may not make

sense but we do not know because they will not bother to sit down and actually discuss—

Mr. WEINSTEIN. Well, I do not want to impugn any of the professional staff at the EPA. Maybe they have good analytical reasons for increasing that number from 21 to 35. It is just that right now we do not know what those reasons are.

Chairman TIPTON. Right. And it might be helpful if they actually—

Mr. WEINSTEIN. And the problem is, as you suggest—and again, I am not—I do not want to impugn the staff at EPA, are they fudging the numbers to get the costs and benefits to somehow balance out? And again, I do not know.

Chairman TIPTON. You know, Mr. Brown, it caught my eye. I am a small businessman. We are a large power user in our local area through our REA. And you have been pursuing demand efficiency or it has been imposed on you because you are only able to actually produce over a 12-hour period. Is increasing demand efficiency, in your opinion, is that a viable greenhouse reduction strategy to be pursuing?

Mr. BROWN. Yes. Yes, I do believe it is.

Part of the problem is that operating with the amount of energy that we need, the technology to produce what the EPA is talking about and everything else and the electric company is coming back and talking to us, they do not know what the cost is going to be. They are telling us our electric rates could go up as high, as much as 100 more percent because we are coal-fired. And I do not know what is going to happen then.

Chairman TIPTON. So you are willing to comply to do your part; you just do not need to be further punished when you are trying to create jobs and produce a product?

Mr. BROWN. We always try to do our part under regulation, but the thing is when the demands on waste or whatever it might be are more stringent than what even possibly can be contained either by technology or whatever, the technology is just not even there.

Chairman TIPTON. Well, thanks.

Mr. Gardner, you had noted in your business that you rely on government investment I guess, if you will, and I am sure we probably share this—correct me if I am wrong—but you are probably concerned as all of us are about a \$17 trillion debt in this nation. And if we are looking at that in terms of investment, it is really best if we get the economy going, is it not, and we start to actually, rather than punishing businesses and increasing their costs, let us get the American economy moving once again and create jobs?

Mr. GARDNER. Well, I think that is true. I mean, I have four children. I do not want to give them a crushing debt as a legacy from me. At the same time, I do not want to give them an environment that is not sustainable. I cannot speak to all of the things in the president's budget, but I do think there needs to be a hard look to look at the priorities of that budget to determine where the important areas are that we need to invest money and where are the areas in which industries that have been receiving subsidies for decades, that it is time that they stand on their own feet and move on and where the other areas need to be invested. I mean, there is wasteful spending, but there are also areas that are not getting

the funding that they need. And if we want to do renewables, if we want to do these things, a lot of what I have heard here so far has been we do not know if it is going to be ready. We do not know if it is going to be ready. Well, I can tell you from our perspective, we spend a lot of time in start and stop modes with those projects whether they are internally funded by our customers or whether the government subsidies, government grants, government contracts, because they go on for a time, they make a little progress, and then they wait and they fret and they argue. And so if we are going to get on renewables, we need to go set a path and get on with those so that we have the ability to make that choice whenever it is time to go look at these. It is hard because companies like Mr. Brown's, we buy product from those companies and we see that direct impact, it happens to them. So I do fully appreciate the position he is coming from. If it costs him more, it is going to cost me more to go buy a product from him. So we understand that as well. I think it all needs to be balanced.

Chairman TIPTON. Thank you so much.

We certainly want to be respectful of your time and would like to thank all of our witnesses for taking the time to come before this Committee today. You all provided valuable insight into how the government's actions in Washington affect real people, affect small businesses in the real economy that we are all struggling with right now.

It is unfortunate, again, that officials from the EPA chose not to testify at today's hearing. If they had, I am sure that they would better understand the importance of involving small businesses early in the rule-making process, and this would benefit not only small businesses but I believe the EPA as well.

As a Committee, we have examined this a number of time. The present and future prosperity of our economy and the viability of small businesses in the global marketplace are truly dependant on access to secure and affordable energy sources. That has been a great key to the American success story as I am sure Dr. Weinstein can attest to.

For far too long, policymakers in Washington have acted as if the United States is an energy resource foreign nation as you noted, sir, when that is far from the case. Resources, like coal—coal in my district—are important sources of energy and feedstock for small businesses in rural communities throughout much of the Midwest and our mountain states. While many in Washington pay lip service to the importance of developing an all-inclusive, “all of the above” energy strategy, proposed regulations such as those outlined in the president's Climate Action Plan will undermine our goal of energy independence and weaken our already fragile economy. Should the Obama administration continue what many of us see as a war on coal, small businesses and the people who you are providing a service to—senior citizens and young families on fixed incomes—will be the first casualties.

I ask unanimous consent that members and the public have five legislative days to insert statements and extraneous material for the record. Hearing no objection, so ordered.

The Committee is now adjourned. Thank you again, gentlemen, for being here.

[Whereupon, at 11:12 a.m., the Subcommittee was adjourned.]

**A P P E N D I X**

**Written Testimony Submitted by Mr. Michael Kezar  
General Manager  
San Miguel Electric Cooperative, Inc.**

**U.S. House of Representatives  
Committee on Small Business  
Subcommittee on Agriculture, Energy and Trade**

**Hearing:**

**The President's Climate Action Plan: What Is the Impact on  
Small Business?**

**July 18, 2013**

Good morning. My name is Mike Kezar, and I serve as the General Manager of San Miguel Electric Cooperative, Inc. I appreciate the invitation to appear before the subcommittee today to discuss the potential impact that regulating carbon dioxide emissions under New Source Performance Standards (NSPS) provisions of the Clean Air Act could have on San Miguel and its 26 member cooperatives.

San Miguel is a Rural Electric Cooperative Corporation organized for the sole purpose of owning and operating a mine-mouth, lignite-fired generating plant and associated mining facilities in Atascosa County, approximately 60 miles south of San Antonio, Texas. Power produced from the San Miguel facility is furnished exclusively to Brazos Electric Power Cooperative, headquartered in Waco and South Texas Electric Cooperative, headquartered in Nursery. Through the 24 retail distribution cooperatives they serve, power from San Miguel flows to rural electric cooperative members throughout the state of Texas. As a not-for-profit cooperative, San Miguel does not have shareholders and the total cost of owning and operating the plant, including any compliance costs associated with the regulation of CO<sub>2</sub> emissions, will be borne directly by the cooperative consumer/members served by Brazos and South Texas Electric Cooperatives. Additionally, San Miguel's annual sales of electricity total less than 3 million MWh, placing it well under the 4 million MWh ceiling with the Small Business Administration uses to classify electric utilities as small business entities.

Before I address my specific concerns with NSPS regulation of greenhouse gases—including CO<sub>2</sub>—I want to stress that the Clean Air Act is not the appropriate vehicle for the regulation of greenhouse gas emissions for several important reasons. First, any meaningful effort to reduce emissions must necessarily involve tough economic and public policy choices that would significantly impact the nation as a whole. These are choices that must be made by the U.S. Congress, acting as direct representatives of the people, with the transparency and participation allowed through the legislative process. This cannot be left up to Washington bureaucratic agencies. Second, reducing greenhouse gas emissions in the U.S. alone will have no significant impact on worldwide inventories. These reductions, however, would likely have a notable impact on our nation's ability to compete in the international marketplace. The price of virtually all products and services would necessarily increase as the cost of compliance for industry, particularly the electric generation industry, is spread throughout the various economic sectors. Therefore, any significant effort within the U.S. to address greenhouse gas emissions must only be undertaken as part of an overall international initiative that properly balances domestic and international interests. The Clean Air Act is clearly not structured to mandate or allow the appropriate balancing of these interests and public policy concerns.

Unfortunately, and despite the flaws outlined above, the administration has announced its intention to regulate greenhouse gas emissions under Section 111 of the Clean Air Act, and has set timetables for establishing New Source Performance Standards for both

new and existing fossil fueled electric generation facilities. This means that the Environmental Protection Agency will have to re-propose an NSPS for new sources. The fact that EPA is now pursuing a different regulatory path is particularly important, given the fact that, as with the original proposal and now with the anticipated re-proposal, there is no commercially available technology to significantly reduce CO<sub>2</sub> emissions. That means there is no “best demonstrated technology” or “best system of emission reduction” as called for under Section 111 of the Clean Air Act that would produce meaningful reductions in CO<sub>2</sub> emissions from fossil fueled electric generation facilities.

Nonetheless, EPA appears intent on regulating fossil fueled electric generation under Section 111 by re-proposing a rule directed at new sources, followed by guidelines for states to follow in regulating existing sources. The regulation of existing sources is required by Section 111, after NSPS for new sources is established. The cost impacts of these regulations, particularly on new and existing coal-fired generation, and especially on small business entities such as San Miguel, could be catastrophic.

EPA’s NSPS CO<sub>2</sub> standards for new coal-fired generation were initially proposed in April 2012. This proposal is to be withdrawn, with the President requesting a new proposal no later than September 20, 2013. Any new proposal, however, should not include the same technical and legal flaws as the April 2012 proposal. One of the primary flaws was the combination of coal-fired and natural-gas fired electric generation facilities into a single regulated category for the purposes of the rule and then establishing one emissions limit for that entire category. This combination of various types of generation facilities into one-large source category is unprecedented for this type of rule. Coal-fired and natural-gas fired electric generation units are very different, and combining them makes no practical sense, flies in the face of decades of EPA Clean Air Act precedent, and likely violates the Clean Air Act’s requirements regarding subcategorization of different types of source categories.

Unfortunately, due to a language quirk in Section 111 of the Clean Air Act, any unit constructed or modified after the *proposal* of the rule must comply with standards applicable to new units. This short-circuits a common sense approach to regulating facilities only after considering public comment on the proposal. The April 2012 proposal did allow “transitional” sources, essentially those close to beginning construction, a one year transitional period to begin construction without meeting the proposal CO<sub>2</sub> standards. However for generation sources not that far along in the planning process, the proposal mandated one emission standard—based upon natural gas-fired generation—for all new sources, including coal-fired generation facilities. EPA admitted that new coal-fired generation was incapable of meeting that standard, and the proposal allowed potential new units the option of meeting an interim standard, coupled with required Carbon Capture and Storage, or CCS, utilization to be applied in the future. The technical and economic uncertainties inherent in constructing new coal-fired generation with the absolute mandate to install in the future a technology

that is not currently commercially available has the effect of ensuring that no new coal-fired generation facility will be built, at least within the foreseeable future. Furthermore, since the requirements were contained in a proposed regulation, they were not subject to a court challenge. Stop and think about that. Practically speaking, you cannot build a power plant in the United States of America using coal—the one fuel that we have more of than any other nation. The one fuel that mine-mouth facilities like San Miguel know will not be subject to price volatility and we are going to take that off the table. I cannot think of another point in history that any nation has ever done something so clearly against its economic and national security interests.

Section 111 of the Clean Air Act requires that cost be taken into account when developing NSPS for both new and existing units. While I fully support the development of technologies that would cost effectively reduce CO<sub>2</sub> emissions from coal-fired generation facilities, presently no such technology is commercially available. Carbon Capture and Storage may be technically possible but its practical and economic viability is very uncertain. Deployment of CCS technology would effectively double the cost of power produced by coal-fired electric generation facilities and there is no evidence that this technology will become commercially available anytime in the near future. If EPA were to make CCS applicable to the San Miguel unit, now or in the future, the unit would likely have to cease operation due to this doubling of power costs. This technology clearly does not meet the NSPS mandate for cost consideration.

Since there are no commercially available technologies that can produce meaningful reductions in CO<sub>2</sub> emissions and satisfy Section 111 NSPS cost viability requirements for coal-fired generation, EPA may well formulate NSPS regulatory policy that requires the use of natural gas in lieu of coal for electric power generation. Additionally, I expect EPA to propose that states develop guidelines that would require physical changes at existing units, such as the San Miguel unit, to gain, at best, moderate efficiency improvements, to thereby reduce CO<sub>2</sub> emissions a few percent for every MWh of electricity produced. Although Section 111 requires that any NSPS be economically achievable at the unit, my concern here is that EPA will force guidelines on states that are unrealistic and couple them with, in effect, requirements for emissions averaging or off-sets with natural gas or renewable generation. While this approach may be viable for larger electric utilities with broader generation portfolios, it would not be viable for San Miguel or other small electric utilities whose generation is primarily coal-based.

I want to make it clear I do not oppose flexible regulatory compliance options, but such options cannot substitute for the ability to comply cost-effectively at the individual unit level. Compliance cost for a single coal-fired generation facility small business entity must be affordable. Since companies like San Miguel, with only one facility, have no opportunities to average emissions using these concepts, this is simply not feasible, let alone affordable.

Lastly, I want to address the absolute necessity that EPA follow the requirements of the Regulatory Flexibility Act. In this case, the

act mandates that EPA take steps to minimize the economic impact that Section 111 regulations would have on small business entities such as San Miguel. Unfortunately, EPA has a poor track record recently of following its own guidelines regarding the formation of Small Business Regulatory Enforcement Fairness Act (SBREFA) panels for the purpose of meeting the Regulatory Flexibility Act mandates.

For example, EPA's guidelines require that small business representatives who participate on Small Business Regulatory Enforcement Fairness Act panels be given adequate background information on the rulemaking, as well as options to lessen the economic impact on small business entities of the regulatory program in question. However, in the last two Clean Air Act major rulemakings directed at fossil-fuel fired electric generation—the new source NSPS and the UMATS rules—EPA failed to provide small business representatives with any regulatory options, let alone allowing an opportunity for panel members to meaningfully comment on alternatives to lessen economic impacts on small businesses.

I am especially concerned that EPA may seek to skirt a responsibility to minimize the regulation's impact on small business entities under the guise that the guidelines themselves do not directly affect small business but rather that the State Implementation Plans would. While I believe that small businesses should be afforded full participation as contemplated in the SBREFA on any potential NSPS rule, at the very least, EPA should conduct comprehensive consultations with small business electric utilities in an effort to minimize impacts on small entities even if such efforts are not conducted under the auspices of the SBREFA. In fact Executive Order 13563, as well as the president's June 25, 2013 Memorandum entitled Power Sector Carbon Pollution Standards, clearly advocate, at the very least, that policy formulation not prejudice small business entities. An upfront consultation process involving small business entity representatives would be an excellent opportunity for the administration's own objectives to be satisfied.

That concludes my statement. I thank the subcommittee for the opportunity to address these important issues. I would be glad to answer any questions you may have.



TESTIMONY OF

JAMES (JB) BROWN  
PRESIDENT

BREMEN CASTINGS, INCORPORATED  
MEMBER OF THE AMERICAN FOUNDRY SOCIETY

BEFORE THE

U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON SMALL BUSINESS

SUBCOMMITTEE ON AGRICULTURE, ENERGY & TRADE

July 18, 2013

Good Morning, Chairman Tipton, Ranking Member Murphy, and members of the Subcommittee, thank you for the opportunity to testify before you on this timely subject of *The President's Climate Action Plan: What Is the Impact on Small Businesses?*

My name is JB Brown and I am President of Bremen Castings, Inc. (BCI) in Bremen, Indiana—a small town of about 5,500 people roughly 15 minutes south of South Bend/Elkhart. As a small business that is energy intensive, I am very concerned that the regulations proposed by President Obama on the utility sector to force a quick reduction in carbon emissions would place my company and the entire U.S. foundry industry at a substantial disadvantage to our foreign competitors and will invariably raise our electricity costs. Metalcasting is one of our nation's oldest and most important industries. It is the most cost effective method to manufacture a shaped metal component. The process consists of pouring molten metal (virtually any type of metal) into a mold made of sand, metal or ceramic, to form geometrically complex parts.

Today, the metalcasting industry remains critical to the U.S. economy, as 90 percent of all manufactured goods incorporate engineered castings into their makeup. Castings are used in cars, trucks, planes, railroads, ships, all types of machinery, air conditioners, refrigerators, lawn mowers, oil and gas field equipment, medical devices, water infrastructure, kitchen appliances, wind turbines, tanks, bombs, mining and agricultural equipment—just to name a few areas. In short, castings represent a vital, yet very basic, aspect of our everyday lives.

I am proud to be a fourth generation Indiana metalcaster and president of this family-owned small business that has been in continuous operation for over 75 years. My great-grandfather founded our foundry in 1939, which was originally established to produce manhole covers, furnace grates, pumps, truck parts and natural gas parts for its customers. Growing up I spent many hours around the foundry and continuing my experience through high school and college. I have worked every job, every shift throughout our 155,000 square foot facility. Both my parents' fathers worked in this plant and today we still have other families that are currently in their 4th generation as well. More recently, my daughter, representing the fifth generation, has been learning the business interning in the foundry and machine shop every chance she gets when she is on break from school at Indiana University.

After weathering a number of recessions and overcoming changes in the marketplace, our foundry continues to be a leading metalcaster producing thousands of different types of gray & ductile iron castings ranging in weight from .5 pounds to 100 pounds. Our team of over two hundred and fifty associates today manufactures an array of castings for heavy duty trucks, agricultural equipment, valves & pipe fittings, pump components, compressors, lawn/garden equipment, as well as a variety of critical parts for Humvees and Oshkosh Defense for the U.S. Department of Defense. BCI has been a long time supplier to John Deere and Case New Holland in the agriculture sector, as well as Eaton in the heavy truck sector. We are now exporting castings for agricultural equipment to Brazil, France, Mexico and Canada.

### **Metalcasting Industry is Critical to the U.S. Economy**

By way of background, the U.S. metalcasting industry is the world's second-largest producer of castings, after China. Metal castings are truly the foundation for all other manufacturing. Foundries produce both simple and complex components of infinite variety. Castings are seldom seen or identified by consumers, because they are normally component parts found inside assemblies.

The U.S. foundry industry is comprised of 2,000 operating casting facilities, with over 50 of these plants located in Indiana. Approximately 600 foundries produce iron and steel castings, while another 1,400 manufacture aluminum, brass and bronze castings. Metalcasting plants are found in every state in the nation, with the highest geographic concentration of facilities located in Alabama, Ohio, Pennsylvania, Indiana, Illinois, Michigan, California, Texas, and Wisconsin. Foundry locations have traditionally been sited close to raw materials, coal, water, and transportation. More recently, a few new foundries have been built in states with inexpensive electricity, as well as proximity to their customers.

The American metalcasting industry provides employment to over 200,000 men and women directly and supports thousands of other jobs indirectly. The industry supports a payroll of more than \$8 billion and sales of more than \$32 billion annually. Our industry is dominated by small businesses, with over 80 percent of U.S. metalcasters employing 100 workers or less. In fact, many are still family-owned, like BCI.

Castings have applications in virtually every capital and consumer goods. Metal castings are used in cars, trucks, railroads, ships, all types of machinery, air conditioners, refrigerators, lawn mowers, medical devices, weight lifting equipment, oil and gas field equipment, water works, mining, wind energy, and agricultural equipment. The major industries supplied by our industry include agriculture, construction, mining, railroad, automotive, aerospace, communications, health care, defense, and national security. Cast metal products are integral to our economy and our way of life.

### **Metalcasting Involves Energy-Intensive Processes**

Metalcasting is among the most energy-intensive industries in the United States. The heating and melting of metals consume large amounts of energy, accounting for about 55% of the total energy used. Mold making, core making, heat treatment and post-cast operations use significant energy as well.

Compared to other foundry sectors, energy costs are typically higher for iron foundries, such as BCI. Most iron casting work is done at temperatures up to 2850° F, with subsequent heat treating done at up to 1900° F. The melt temperature is much higher for gray and ductile iron compared to non-ferrous metals. In addition, our foundry utilizes two different types of furnaces—one called a cupola furnace that utilizes foundry coke to reach these high temperatures, and the other is an electric melt furnace. Approximately half of the total energy used in iron foundries with cupolas is consumed in these furnaces. Typically, our cupola furnaces cannot be

turned off during the production cycle. The electric melt furnace is never shut down. It remains operating twenty-four hours a day—365 days a year. Basically, 40 percent of our energy costs come from the cupola furnaces, while 60 percent comes from our electric melt furnaces.

We are already restricted by the utilities from when we can run our furnaces—essentially during non-peak hours from 6:00 p.m. to 6:00 a.m.—this basically limits us to just two work shifts—a night shift and morning shift. If we were to violate our agreement, we would be fined \$15,000 for the month. It's already a burden to find top management and other skilled workers, but trying to find that same talent to work the late night shift is almost impossible.

In addition, our energy-intensive operations have forced the foundry industry to find ways to become more energy efficient in order to remain competitive. The industry has made good progress in reducing its energy costs by developing and adopting more efficient equipment and by making changes in some of its processes.

Over the past two years, Bremen Castings has worked diligently to cut some of our energy costs and become more energy efficient. In fact, we made a significant investment of over a half-million dollars in a variety of energy-savings projects including: replacing old lighting with energy efficient fluorescent lighting (\$65K); switching out old air compressors with energy efficient electronic compressors (\$300K); installing new premium efficient electric motors and drives (\$75K); updating furnace to use less coke and get same melt rate (\$100K); adding extra insulation in the roof for heating in the winter (\$50K); adding foot pedals for on-demand air for machines instead of constant air supply (\$15K); and, installing an on-demand hot water for the plant (\$50K). Additionally, we are no longer purchasing incandescent lighting and have replaced lighting fixtures with LED lights. We are also recouping waste heat from air compressors to heat in winter.

Despite being an energy-intensive industry, foundries are major recyclers. Most castings are manufactured from recycled scrap materials rather than new or “virgin” materials as melt stock. Annually, U.S. foundries consume 15–20 million tons of recycled scrap metal, giving new life to products that would otherwise go to landfills. As a result, foundries take tens of thousands of old cars from our nation's highways, as well as broken radiators, water meters and other discarded metal products for use in the manufacture of our castings.

The foundry industry believes that it is imperative for America to continue to expand access to our domestic energy supply in order to meet current needs for affordable energy and shore up our energy security. Oil, natural gas and clean coal remain essential contributors to America's energy security. In addition, we strongly support the building of the Keystone XL Pipeline and urge the U.S. Department of State to approve the Presidential Permit necessary for this project to move forward.

The foundry industry supports an energy strategy that embraces all forms of domestic energy production, including nuclear power, hydropower, alternative fuels and renewable energy sources like

wind energy and solar power. We are pleased to see the technological advancements in fracturing which have led to an abundance of natural gas production in the U.S. that is fundamentally changing the energy landscape. The result in the growth of all these sectors has provided more work for the foundry industry, more jobs, and consistently lower domestic natural gas prices in what has known to be a historically volatile market.

Continued access to affordable energy sources will help U.S. foundries and our customers better compete against growing global competition and allow us to keep and create more jobs in the U.S.

### **Impact of President Obama's Plan to Regulate Power Plants on Indiana Foundries**

As an energy-intensive manufacturer, I am very concerned about the consequences of the President's plan outlined on June 25th to regulate greenhouse gas (GHG) emissions from new, modified, and existing power plants on my foundry, our industry and manufacturers across the U.S. I believe these new rules will cause power plants to close, drive-up power costs for households and businesses across the country, and especially harm manufacturing-heavy states. Additionally, these new regulations abandon an all-of-the-above energy policy and will threaten the foundry industry's ability to remain competitive in this international manufacturing environment. We compete globally against countries, like China, where the industry is often state-owned, controlled and subsidized, including for electricity costs.

Furthermore, the proposed rules will adversely affect Indiana manufacturers and consumers, much more than most states. Indiana is a top energy-using state, and most electricity comes from coal-fired power plants. Currently, coal generates about 40 percent of electricity in the U.S. However, in Indiana, more than 80 percent of our electricity is generated from coal-fired power plants. The proposed utility rules will make Indiana manufacturers, including BCI, less competitive with other states that aren't coal dependent and countries that don't have strict rules in place, ultimately costing jobs.

Increasing regulations is also unfair to many of these coal dependent regions of the country and will encourage fuel-switching, since there are no proven technologies to control carbon dioxide (CO<sub>2</sub>) emissions from power plants. The shift from coal to natural gas is already well underway due to the low price of natural gas and other EPA Clean Air Act regulations. However, certain areas of the country, including many of the states where there is a high concentration of foundries (i.e. the Midwest), have more abundant coal sources; whereas, other regions are better suited for production from wind and solar sources. The Administration's plan makes coal-fired electricity supply less affordable and less reliable to major industrial customers, which will threaten the loss of valuable manufacturing jobs. For foundries, wind and solar don't have the reliability, affordability or the capacity that you have with fossil fuels. In northern Indiana, it would be challenging to power a

foundry on alternative energy year-round, as we do not have a lot of sunny days in the winter.

Indiana utilities have long relied on coal because it's been a stable and abundant low-cost source of fuel. In fact, this supply of coal from the southwestern part of the state has enabled utilities to offer some of the nation's lowest electricity rates for years. These relatively low electric rates have helped to keep our foundry and other Indiana metalcasters more competitive against foundries in other states, as well as our foreign competitors.

For foundries in coal dependent states like Indiana, Wisconsin, Ohio and Pennsylvania, there is no doubt the cost to produce castings will increase. With the continued sluggish economy, many foundries across the country are reluctant to hire new workers given the continued uncertainty in regards to energy prices, health care costs, cuts to defense programs, potential changes to the U.S. tax code, and new federal regulations from the U.S. Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA).

Energy is the lifeblood of U.S. foundries and most manufacturers and even the slightest competitive advantage in the price of energy can make an enormous difference for companies like mine that compete globally. Like all manufacturers, we benefit from the decreased production costs attributable to lower energy prices.

For many metalcasters energy is a significant expense, only behind raw materials and labor in terms of the costs of doing business. When coal and natural gas are both a key input and a main cost driver, market volatility makes it extremely challenging to plan and to remain competitive. Furthermore, due to the competitive nature of our industry, cost increases can rarely be passed onto our customers. Since state laws allow the power companies to pass all energy and environmental compliance costs through to the consumer, we expect our energy prices to increase substantially due to these new EPA regulations. Even a \$0.01/kWh increase in the cost of electricity imposes additional costs of nearly \$9 billion per year on domestic manufacturing facilities.

Another key factor will be how much time the EPA will allow the utilities to comply with the new power plant rules. We will be closely watching to see how the EPA handles the transition period to minimize the cost and reliability impacts, especially on states like Indiana that are still dependent on coal-intensive electricity generation.

In addition, we remain concerned that the EPA continues to fail to consider the cumulative impact of its power sector regulations on grid reliability. In fact, no comprehensive study has been done to assess the effect on the price of electricity, jobs, reliability of electricity supply, and the overall economy. The Federal Energy Regulatory Commission (FERC) has questioned whether the compliance deadlines set forth in other EPA regulations are too expeditious to allow sufficient lead-time to replace retiring resources. So far, over 140 coal-fired electricity-generating units in 19 states have announced they will retire by 2015. These retirements will create vol-

atility within the electric grid if steps are not taken to balance the retirements with new capacity.

### **Conclusion**

As an energy-intensive industry comprised primarily of small businesses, metalcasters are troubled by the prospect of increased electricity costs and reliability issues that will likely result from the Administration's new power plant regulations being developed. Establishing new stringent and burdensome regulations on the power sector will have a negative effect on all U.S. manufacturers, regardless of company size, consumers, the long-term health of the U.S. economy and the prosperity of American workers. As we are transitioning our power generating fleet, utilities need flexibility to ensure that they can manage these emerging environmental regulations while continuing to control costs. We don't need more regulatory road blocks as the country and our industry struggles out of the recession.

Foundries need a secure and reliable supply of electricity at affordable rates in order to remain competitive. Without healthy production growth in manufacturing, we believe acceptable progress on the hiring front will be impossible.

Thank you for the opportunity to appear before you today. I look forward to your questions.

**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 economies 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 (CO<sub>2</sub>) 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 CO<sub>2</sub> 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 por-

tion 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.”<sup>1</sup> 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.

**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 would 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.<sup>2</sup> For example, an analysis by National Economic Research Associates (NERA) finds that complying with the proposed standards will cost power companies close to \$18 billion per year for the next

<sup>1</sup> A Cited in L. Mutikani, “U.S. Business Startups at Record Low,” Reuters, May 2, 2013.

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

twenty years.<sup>3</sup> 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 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 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.<sup>4</sup> 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.<sup>5</sup> 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

<sup>3</sup>National Economic Research Associates, *Proposed CATR + MACT*, May 2011.

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

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

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 greenhouse gas emission to zero, that step would be far from enough to avoid substantial climate change."<sup>6</sup>

### **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.<sup>7</sup>

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

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

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

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.<sup>8</sup> 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 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.<sup>9</sup>

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.<sup>10</sup> 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.”<sup>11</sup> 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 verification (EM&V) methods for energy efficiency are well devel-

<sup>8</sup>NRDC Report at 44.

<sup>9</sup>NRDC Report at 35–36.

<sup>10</sup>Bills 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.

<sup>11</sup>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).

oped in some contexts, the NRDC proposals pose unique EM&V challenges.”<sup>12</sup>

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 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 lead 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.”<sup>13</sup>

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

<sup>13</sup>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.

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 facilitated by low natural gas prices from increased shale gas development.<sup>14</sup> 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.<sup>15</sup> 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.<sup>16</sup>**

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.<sup>17</sup> 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 hours.”<sup>18</sup> 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

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

<sup>15</sup>*Id.*

<sup>16</sup>NRDC Report at 45.

<sup>17</sup>NRDC Report at 29.

<sup>18</sup>NRDC Report at 36.

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 policies, it is clear that the 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.”<sup>19</sup> 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.<sup>20</sup> 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—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.<sup>21</sup> 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 insuffi-

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

<sup>20</sup>*Id.*

<sup>21</sup>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 Envtl. L. & Pol’y F. 1, 21–22 (2010).

cient 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 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."<sup>22</sup> 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."<sup>23</sup> 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.<sup>24</sup>

### **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, CO<sub>2</sub> emissions today are lower than they were 20 years ago. Even without new directives and mandates from Washington, CO<sub>2</sub> 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?

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 ei-

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

<sup>23</sup> *Id.*

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

ther 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 \$ 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.

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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.

Testimony of Paul Gardner

Business Development for Agilis Group, Inc.

Before the House Committee on Small Business

Subcommittee on Agriculture, Energy and Trade

Hearing on: Climate Action Plan and Impact on Small Business

Thank you Chairman Tipton and Ranking Member Murphy for allowing me the opportunity to testify before your subcommittee regarding President Obama's Climate Action Plan and its impact on Small Business.

My name is Paul Gardner, and I am currently the head of Business Development for Agilis Group. I have spent 25 years in the aerospace industry with a particular focus on the research and development of advanced turbine engines for both flight and power generation applications. I have been with Agilis for the past 16 years.

Agilis is a 20 year old professional engineering services company focused on the technical research and engineering development of turbine engines. Agilis is a Small Business with approximately 130 full time employees, mostly degreed engineers, based in Palm Beach Gardens, Florida. We also have an engineering office in Camden, South Carolina. We currently provide advanced research and development engineering to the turbine original equipment manufacturers in the industrial power generation, oil and gas, military flight, and commercial flight industries.

Since I have been at Agilis, we have developed business relationships and won contracts to support several key clean energy initiatives, including the research and development of high efficiency natural gas engines, clean coal combustion, CO2 sequestration systems, fuel burn reduction and increased fuel efficiency for Air Force and Navy aircraft propulsion systems, turbine power generation from advanced small modular nuclear reactors, catalytic and low-emissions combustion systems, advanced wind turbine gear systems, and turbine power generation from advanced fuel cell systems.

Our business contracts and engineering projects primarily come from private industry. Only a very small percentage of our work comes directly from government agencies and direct government contracts. Agilis wins contracts from the turbine engine companies and provides sub-supplier support to the government contracts these companies have received from the DOE, DOD, NASA and other agencies. Currently, about 40% of our engineering business is as a sub-supplier for government contracts. The other 60% comes from the turbine engine companies' internally funded development efforts.

At Agilis, we believe that the President's Climate Action Plan will have a definite impact on our business. I would like to explain

some details of the work we have performed to illustrate how funding of clean energy initiatives, specifically the research and engineering development of clean energy technologies, can provide direct support to Small Businesses like Agilis.

In 2002 and 2003, Agilis provided sub-supplier support to a DOE contract to convert the waste coal dust from a coal fired power plant in Alabama into electricity. The original plant design collected the residual coal dust from the coal fired boiler, compressed and packaged it into transportable blocks and shipped it off to be stored as toxic waste. In support of the DOE contract, Agilis performed the combustion research, engineering design and development of a turbine combustion system that burns the residual coal dust as a fuel for a small industrial gas turbine. The turbine engine now produces enough direct electric power from the coal dust to operate the entire facility.

In 2009, Agilis provided sub-supplier support to a DOE contract to convert the waste heat from a fuel cell system into additional electricity. The fuel cell system used natural gas as a fuel source, but produced a large quantity of residual heat as the fuel cell converted the fuel into electricity. Agilis performed the system design and engineering development of a turbine system that converts the excess heat into work that powers an additional electric motor. The overall efficiency and power output of the fuel cell facility design was increased by 20%.

Since 2009, Agilis has provided sub-supplier support to DOD contracts directly focused on the technical research and engineering development of the next generation fuel efficient turbine engines. These DOD programs include the Navy's Task Force Energy and the Air Force's VAATE (Versatile Affordable Advanced Turbine Engine) initiatives. These programs are directly aligned with the DOD Operational Energy Strategy Implementation Plan, released in March 2012, with a key goal factor to increase fuel efficiency and reduce reliance on foreign oil supply. Since 2009, Agilis has received more than \$5M in engineering contracts from the turbine engine companies to support these programs.

Agilis has provided over \$5M of engineering effort in support of a DOE program to develop advanced compression systems used in the capture and sequestration of CO<sub>2</sub>. This effort is in direct support of the President's plan to "cost effectively meet financial and policy goals, including the avoidance, reduction, or sequestration of anthropogenic emissions of greenhouse gases".

Agilis has provided over \$10M of engineering support to develop and implement advanced catalytic combustion and low emissions systems that have achieved new industry levels for emissions reduction.

Agilis has also supported development of turbine engine designs for advanced helium cooled small modular nuclear reactors powered by stored nuclear waste material. Our customer's published research suggests that there is enough degraded nuclear waste stored in the United States today to fully meet our domestic energy needs once this technology has been fully developed and implemented. If additional DOE and customer internal funding is made

available to continue this development, Agilis and other Small Businesses will directly benefit.

Many of these clean energy technologies and energy efficiency programs are ongoing development efforts that will provide future contracts and work for Agilis. Agilis does not receive these projects directly from government agencies. We receive our business contracts and engineering projects from the turbine engine companies. However, the majority of these programs have been driven by specific government initiatives that are aligned with the needs and goals of private industry. In support of these programs, Agilis has been able to grow and hire 23 full-time engineers in 2013 of which 15 have been recent college graduates. These clean energy initiatives create high paying jobs for Small Businesses.

As we try to understand the implications of the Climate Action Plan and its impact on Small Business, we believe there are several related topics and issues that must be addressed by this Committee for the Climate Action Plan to have a positive impact. These topics include stronger encouragement for prime government contractors to flow work to Small Businesses, keeping high-skilled, high value engineering jobs on-shore, meaningful tax incentives for Small Businesses to grow, control on the insurance cost burdens that Small Businesses bear, and consistency in funding subsidies and government research and development initiatives. Small Businesses are often the first impacted when budgets are in doubt. Small Businesses struggle to find the financial stability to weather through the uncertainties of funding delays, sequestrations and continuing resolutions.

Mr. Chairman and Ranking Member, thank you again for allowing me the opportunity to testify today before this subcommittee on behalf of Agilis. I hope I have help you further understand how the Climate Action Plan could impact Small Business.



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WRITTEN STATEMENT OF  
AD-HOC COALITION OF SMALL BUSINESS REFINERS  
AS SUBMITTED TO THE  
SUBCOMMITTEE ON AGRICULTURE, ENERGY, AND TRADE

Committee on Small Business  
United States House of Representatives

On

“The President’s Climate Action Plan: What Is the Impact on Small Business”

THURSDAY JULY 18, 2013

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## **I. Introduction**

Chairman Tipton, Ranking Member Murphy, and Members of the Subcommittee, thank you for giving the Ad Hoc Coalition of Small Business Refiners the opportunity to testify for the record for the hearing entitled “The President’s Climate Action Plan: What is the Impact on Small Business?” As Congress proceeds with legislative considerations, our group believes it is important for Congress to know about the companies that will be impacted by the President’s Climate Action Plan.

Small Business Refiners (SBRs) are located across the country from Pennsylvania to the West Coast. We vary greatly in operational configuration, product slate, marketing area, crude slate, and capacity. We have worked together for many years in an ad hoc coalition which has enabled us to share views, exchange relevant information and work cooperatively on issues of importance, often of survival. Small Business Refiner flexibilities included in EPA rulemakings and other compliance requirements are particularly important to the continued viability of the small business refiner segment of the industry.

### **Background on the Ad Hoc Coalition of Small Business Refiners**

SBRs occupy a unique place in the economy and the energy sector. We have long been recognized by the U.S. Congress, Department of Energy, the EPA, the Small Business Administration, Department of Defense and other agencies as critical in providing supply and competition that benefits consumers and the nation. Clearly, SBRs have important financial differences from large refiners. It is a well-settled fact that our size limits the options we have to comply economically with new regulations.

#### Small Business Refiners are important to the economy

- Small refiners foster competition in the petroleum industry.
- Small refiners are critical to easing the tight supply of petroleum products and often are the only sources of supply in their areas.
- Most small refiners serve as the major economic resource in the small, often rural, communities in which they operate.
- It is generally agreed that the economic “multiplier effect” (jobs and other local and regional investment and businesses) resulting from refinery operations is eight-to-ten times the refinery’s actual budget.
- Many small refiners provide a reliable and competitive supply of military jet fuel to our country’s military bases and thus are important to national security.

#### Small Business Refiners Do Not Enjoy Economies of Scale

- Small refiners are not able to spread compliance and operating costs over much greater product sales and over a much greater asset base.

- SBRs are not fully integrated and many do not have upstream crude oil and gas production, midstream pipelines and terminals, or downstream retail marketing.
- SBRs as a group are most vulnerable to decreasing domestic demand for refined products and increased competition from renewable fuels.

#### Small Business Refiners Have Limited Resources and Compliance Flexibility

- Access to capital present great obstacles for SBRs.
- Small refiners do not have large staffs with a diverse range of specialties and in-house expertise to negotiate and implement permitting, regulatory, and compliance requirements.
- Qualified outside engineering consulting is limited even where financial resources to procure such help are available. Due to the smaller size of projects, SBRs are disadvantaged when competing with large refiners to garner outside engineering resources.
- The majority of SBRs do not have port access and are therefore more reliant upon local domestic crude supplies; they therefore have little or limited ability to change crude slate when regulations and specification change.
- The majority of SBRs are not organizationally complex and thus have less operational flexibility and fewer outlets for intermediate products.
- Small refiners owning just one or two facilities have limited internal compliance flexibility relative to the industry at large with respect to Average, Banking, and Trading (ABT) programs. ABT programs, which are a fundamental aspect of many EPA fuel regulations, inherently provide more flexibility to companies owning multiple refineries than SBRs owing a single or few facilities.

All Small Business Refiners compete in a highly competitive global commodity market where imported products from foreign competition influence refining margins and economics. Unlike large, fully integrated oil companies, we only operate between two commodity markets: 1) the oil market; and 2) the gasoline market. We must purchase crude oil that is priced in the global market and refine it. We then sell our products into the gasoline market, which is a very sensitive, volatile market. Between these two markets, SBRs are able to stay in business based on how well we control our costs compared to other fuel suppliers.

Regulations and mandates increase operating costs, which in turn negatively impact Small Business Refiners' ability to manage costs between the oil market and the gasoline market. This impact affects all refiners, especially Small Business Refiners. When a refiner cannot pass on or absorb these costs they go out of business. The result is reduced domestic refining capacity and higher gasoline costs for the consumer.

The following sections explain how current, proposed and potential future GHG regulations drive up our costs. These regulations

when added to other regulations that affect our industry show the cumulative burden place on our sector of the industry. These higher costs are either passed on to the consumer in the form of increased gasoline or diesel prices, or the refinery goes out of business when the costs exceed the capitol reserves or credit of the refinery; in the case of a Small Business Refiner, reserve capital and credit are insufficient and do not provide a long term solution.

In addition, several regulations have conflicting consequences, so our industry ends up in between the proverbial rock and a hard place. Regulatory development must be coordinated and use a holistic approach to ensure cumulative costs are taken into account and unintended consequences are mitigated.

## **II. GHG Reporting Rule**

In October 2009, the EPA issued the final Mandatory Reporting of Greenhouse Gas rule, which required facilities that emit greater than 25,000 metric tons of GHG's to submit annual reports to the EPA. During the months leading up to the final rule, the ad-hoc group of SBRs commented on the proposed rule. Here we would like to highlight two of those comment areas; specifically, 1) compliance cost and 2) de minimis emissions.

1. Compliance Cost: From our perspective, the EPA is ineffectively examining the actual cost of compliance. In the proposed rule, EPA estimated that the cost of compliance with the GHG reporting rule was small, and therefore did not have a significant impact on businesses, including SBRs. For example, the EPA's cost estimate for installation of Continuous Emission Monitoring Systems (CEMS) was \$9,500 per refinery. With this presumed minimum impact, the EPA did not establish a Small Business Regulatory Enforcement and Fairness Act (SBREFA) process to investigate the negative impacts on small refiners and determine flexibility options. One SBA's actual cost to install the required CEMS was \$450,000—47 times more expensive than the EPA's estimate. First year set-up and compliance cost exceeded \$750,000. Over the next ten years, the cost to comply with this rule alone will exceed \$4 million for one single SBR.

2. De Minimis Emissions: According to 2010 data published by the EPA, the entire refining industry represents only 5.7% of the 3.2 billion metric tons of reported stationary sources GHGs. One SBR's total of 199,913 metric tons represents 0.00625% of the total reported GHG emissions. Not only does the refining industry contribute a small percent to the economy's overall GHG emissions, but a single SBR's contribution is infinitesimal. Combined, SBRs only represent about 15% of the industry which translates to less than 1% of total GHG emissions. Any rational regulatory approach would recognize an SBR's GHG emissions as de minimis. However, SBRs are subject to this regulatory burden, and in fact, it increased our operating cost disproportionately to the overall impact that our refinery has to global GHG emissions. This rule, and its con-

sequences, are not isolated in their affect, and in fact, interact with other Rules to create even larger negative consequences.

### **III. GHG Tailoring Rule**

In May 2010, EPA issued its final rule addressing GHG emissions from stationary sources under the Clean Air Act (CAA) permitting programs. This final rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V Operating Permit programs are required for new and existing industrial facilities. Under the tailoring rule, existing facilities with carbon dioxide emissions exceeding 100,000 metric ton per year are required to obtain an updated operating permit. In addition, facilities that would implement modifications increasing carbon dioxide emissions by 75,000 metric tons per year would require a PSD permit. Both thresholds were set to limit the number of GHG permits that would be required throughout the national economy. Because most SBR's GHG emissions exceed 100,000 metric tons per year, we will need to update our Title V permits for current operations. However, due to our small size, any modifications we make would most likely have emissions less than 75,000 metric tons, and therefore, not require a GHG PSD permit. To illustrate this point, a small facility like CountryMark's 27,000 barrel per day refinery has process heaters and boilers that average approximately 30 MMBTU/Hr. This results in approximately 15,000 metric tons per year of GHG emissions. This is well below the 75,000 metric ton threshold set by the GHG tailoring rule. Therefore, in the current environment, CountryMark would be able to replace obsolete equipment such as 1950's vintage boilers without the requirements and costs of a PSD permit.

All SBRs are or are preparing to operate under the current tailoring rule. However, decreasing the tailoring rule limits would put significant regulatory pressure on SBRs, especially with regards to replacement of obsolete equipment or making improvements. Without the ability to upgrade, SBRs will eventually not be able to operate and potentially go out of business. The EPA has not indicated significant upcoming changes to the tailoring rule limits at this time. However, of great concern is that EPA has indicated they intend to further restrict GHG emissions for the refining sector applying another concept called New Source Performance Standards.

### **IV. New Source Performance Standards (NSPS)**

Several of the undersigned participated as a Small Entity Representative (SER) on Small Business Advocacy Review (SBAR) panels for both the Tier 3 Fuels and the "Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standard (NSPS)" proposed rule makings. Meetings were held for both panels on June 28, 2011 and August 18, 2011. The SERs are on record stating the information provided as part of the "Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standard (NSPS)" was inadequate for the purpose of providing flexibility options to the EPA from the SERs.

At the SBAR panel meetings, the EPA articulated how they intended to further control GHG emissions only in refineries, below the tailoring rule limits that apply to the general economy. SERs were able to evaluate the impact of the EPA's intentions to lower the GHG limits below those stipulated in the tailoring rule. By uniquely regulating GHG emissions from only the U.S. refining sector, the EPA directly threatens small refineries since we lack the ability to pay for costly and arbitrary regulations.

**Unlike the tailoring rule, meeting NSPS requirements may involve implementation of Best Available Control Technology (BACT). BACT is usually applied to larger sources, because economic considerations are part of the determination. For smaller facilities, BACT implementation is typically uneconomical, because the size of the equipment and de minimis emissions cannot justify the cost.** For example, at large refineries with fired process heaters that burn 100's of millions of BTUs an hour, BACT equipment includes expensive air pre-heat equipment. In these situations, this makes economic sense because it optimizes energy input costs. At a small refinery, the smaller sized process heaters are natural draft design and do not have air pre-heat. For small process heaters, requiring air pre-heat could add more than 50% to the cost of the new equipment. The additional cost of installing BACT equipment at a small refinery would not provide a commensurate energy savings.

If the EPA uses the NSPS rulemaking to drive GHG limits to statutory limits of 100 and 250 metric tons, it would be orders of magnitude more stringent than the tailoring rule. Since most SBRs are sensitive to capital costs, the additional increase required to meet the stricter limits would make most modifications uneconomical, limiting or precluding growth at the refinery.

The EPA also told the SERs they were considering energy management and intensity benchmarking as additional ways to further reduce GHG emissions through the proposed NSPS rulemaking. In addition, the EPA discussed leak detection programs and benzene reduction could also be targeted in new regulation. There are significant problems with these prescriptive approaches to reducing GHG emissions.

1. **Energy Management:** Energy costs are a very high expense item in a refinery. Economic realities for refineries have already forced operators to undertake energy management programs in order to optimize and reduce energy costs which have already lowered GHG emissions. In 2007, one SBR implemented an energy program where the primary energy savings were achieved from tuning and optimizing excess air in heaters and boilers. Significant investment was made for program implementation, including shared savings in energy reduction. EPA discussed prescriptive requirements for meeting stringent energy management goals. EPA's type of approach would increase compliance costs due to reporting requirements alone. Prescriptive EPA rules do not allow for innovation and consistently cost more to implement than EPA estimates. Any energy management program should be performance-based and flexi-

ble enough to allow existing programs to meet compliance objectives.

**2. Intensity Benchmarking:** Intensity benchmarking would compare every refinery to the same standard developed by the EPA. The problem with EPA setting standards is that no two refineries have the same capacity, complexity and feed stock. Based on past experience with benchmarking programs, the impacts on small refineries are inadequately understood by the EPA's approach. Small refineries do not have the economies of scale. Even on a process by process basis, small facilities have limited opportunities for heat integration. Also, while a large facility has more power demand, their scale provides opportunities for co-generation facilities which also improve efficiency—this is not true in a small facility. Benchmarking has to account for complexity of processing units and power generation. Physical equipment size should be taken into account. Treating small refineries and larger complexes the same is like comparing apples to oranges. A prescriptive approach to benchmarking has the potential to inadvertently drive small business refiners out of business, due to disproportional economic impacts of ignoring facility size in the equation.

**3. Leak Detection and Repair (LDAR):** Many SBRs have significant resources invested in their LDAR program. Existing programs include thousands of monitoring points. Adding the fuel gas system to the leak detection program would increase monitoring points by over 50%. Since many SBRs are located in rural areas, they are hundreds of miles away from the nearest large refinery or refining complex. This provides little opportunity to use the same reputable contractors at a competitive cost. Therefore, our costs are disproportionately greater. Initial estimates by one SBR show that the cost of the current program would increase by a minimum of \$500,000 per year due to increased monitoring requirements.

**4. Total Annual Benzene (TAB):** Changing the wastewater amendment to require controls for less than 10 Mg Total Annual Benzene-in-waste (TAB) would require significant capital for many SBRs. Based on the estimates provided by the EPA, this could be in the millions. Definitive estimates could not be developed at this time because the proposed Benzene floor is not known. The Benzene requirement appears to be driven by the EPA risk review dealing with cancer and non-cancer risks from refineries but could be related to reducing VOC or GHG emissions. Regardless of the driver, this low limit would not exceed a risk related threshold nor should be considered as a potential GHG reduction.

In the end, it appears that EPA is headed toward further restricting GHG emissions from refineries even though the tailoring rule as it now stands would not require dramatic changes for small refiners. A one-size-fits-all approach is clearly inappropriate and, if true, would further damage SBR's ability to stay in business. EPA's approach outlined in the SBAR panel meetings presents uncertainty as to how the EPA will further reduce the threshold for

GHG permits requiring BACT. Implementing BACT for small sources would have diminishing returns since the cost would be high but the incremental reduction would be very small. EPA even admitted in the SBAR panel meetings that reductions from refinery process heaters and boilers would only be in the 1–3% range. With the entire refining industry only contributing 5.7% of GHG emissions, stringent requirements for process heaters would only reduce national GHG emissions by 0.17%. This begs the question as to why require additional expense, which will threaten our existence, for minimal returns?

### **V. Conflicting Requirements**

EPA's Clean Air Highway Diesel rule and Non-road Diesel rule requires that only 15 parts per million (ppm) of sulfur diesel fuel be sold on and off-road. To achieve compliance with this requirement and continue to stay in business, SBRs were required to construct and start-up Distillate Hydrotreating Technology. One SBR completed this project which included construction of sulfur recovery facilities for a total cost of approximately \$50 million. The annual operating cost for this complex is \$4.4 million.

EPA's Tier 2 Gasoline rules required that gasoline sulfur be reduced to 30 ppm. To comply, SBRs constructed additional sulfur removal capacity for gasoline in order to continue to sell product and stay in business. For one SBR, this project cost \$33 million and has an annual operating cost of \$1.8 million per year.

Now The EPA has proposed Tier 3 gasoline regulations that would further reduce sulfur in gasoline from 30 ppm to 10 ppm. One SBR has estimated that complying with this additional requirement has potential capital costs of \$15 million and increased operating costs of over \$200,000 per year.

Removing sulfur from diesel fuel and gasoline takes hydrogen and energy, which in turn, significantly increases GHG emissions. Prior to installing desulfurization capabilities, some SBRs purchased minimal amounts of natural gas for combustion. Instead, excess hydrogen produced by reforming was burned in process heaters resulting in minor GHG emissions. This hydrogen is now required to remove sulfur from diesel fuel and gasoline. Many SBRs now purchase natural gas for combustion in process heaters and to produce hydrogen needed for removing sulfur. Hydrogen is produced by reforming natural gas which essentially strips away hydrogen from the molecule and discharges carbon as carbon dioxide—a GHG. In addition, desulfurization takes energy which requires additional process heaters and increased steam production. Therefore, the energy intensity of the refinery has increased, due to additional fired sources. These effects combined have increased GHG emissions at some small refineries by 10–15%.

One SBR spent or will spend nearly \$100 million over a ten year period to comply with EPA's low sulfur fuel requirements just to stay in business. These changes have increased GHG emissions. Now with GHG reductions looming on the horizon, SBRs will be penalized through GHG regulation for complying with other EPA requirements. Even with the increased GHG emission due to remov-

ing sulfur from fuels, SBRs still only contribute an infinitesimal fraction to the nation's GHG emissions.

## **VI. Renewable Fuels Standard**

The decision to blend renewable fuels should be driven by customer demand and economics. The marketplace was working to drive the use of these fuels. The Renewable Fuels Standard (RFS) changed the natural progression of these fuels by mandating that obligated parties either purchase and blend ethanol and biodiesel or purchase Renewable Identification Number (RIN) credits. This flawed regulatory regime was partially driven by reducing GHG emissions. Even though there are four distinct categories of renewable fuels required, ethanol and biodiesel are the only products in commercial volumes that can be used to comply with this complicated rule. Cellulosic biofuels are not commercially available; therefore, obligated parties are required to purchase cellulosic waiver credits from the EPA for compliance.

Many SBRs became obligated party under the RFS in 2011. Thirteen small business refiners were granted an additional 2-year extension for compliance based on economic hardship due to the RFS. As an obligated party, an SBR can calculate the cost of compliance by using the current RIN credit pricing and estimated annual standard requirements. RIN prices are at record high levels. Under the current rule and pricing, one SBR estimated compliance costs of \$50 million in 2013 which increases to \$94 million in 2022. The average cost of compliance for this period is \$70 million per year. Even though some SBRs received hardship exemptions, since these costs increase over time, the hardship will only increase. As of today, we predict these costs will eventually drive some SBRs out of business.

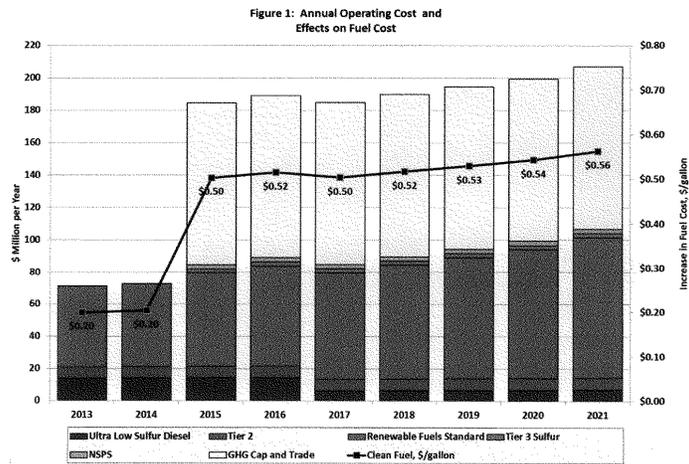
## **VII. Cap and Trade**

In addition to those issues outlined in previous sections, the specter of implementing potential limits on GHG emissions through a cap and trade regime is still within EPA's power. A GHG regulatory regime of the variety discussed in Congress in 2009 would be devastating to all SBRs. The first year compliance costs could exceed annual income, as was the case with some prior legislative proposals. SBRs would not be able to absorb the high compliance costs and remain economically viable. Therefore, the industry would need to pass those additional costs on to consumer in the market or go out of business.

## **VIII. Summary**

In summary, the cumulative effect of current and proposal EPA regulations as estimated has significant current and future financial impact on SBRs. Figure 1 provides the cumulative impact of increased operating costs (left vertical axis) and their potential impact on clean fuels (gasoline and diesel) prices to the consumer (right vertical axis). The data provided in Figure 1 is based on actual cost provided by one SBR. The annual operating cost includes a capital recovery factor which over time extinguishes when the

capital is recovered. However, the timing of current and proposed regulations overlap each other resulting in cumulative increases in cost when viewed in total. This is not to say that all of these costs will be passed to the consumer in every area. Fully integrated oil companies or larger refiners may be able to absorb these incremental costs and continue to maintain profitability. However, for Small Business Refiners these increases cannot be absorbed, they must be recovered. If the market does not bear the additional costs with high prices, eventually marginal refiners will go out of business. Jobs are then lost and gasoline and diesel prices go up. Refinery shutdowns due to lack of profitability are not new to our industry—117 refiners (nearly half the industry) have shutdown since 1982 according to the Energy Information Agency.



## IX. Conclusion

SBRs operate in a highly competitive commodity market, where oil prices and refining margins are influenced by global events beyond our control. Regulation and mandates increase capital requirements, operating costs and product costs, which in turn, make refiners, especially Small Business Refiners, less competitive. When refiners cannot pass on these costs to the consumer, or absorb these costs, they go out of business. The result is reduced domestic refining capacity and consequentially higher gasoline and

diesel costs for the consumer. If domestic refining capacity is reduced, EPA regulations will actually increase U.S. demand for imported fuels and consumer prices will increase.

Currently, EPA reviews and analyzes each regulation separately to determine the impacts on the industry. The current regulatory regime forces our industry to comply with a new rulemaking seemingly about every year or two. The new rules keep coming regardless of environmental improvements that have been made. New rules that pile onto existing rules appear to be proposed before adequate time to determine the benefits of a current rule has occurred.

Regulation of GHG poses a significant threat to all refiners and especially small business refiners. The refining industry as a whole only contributes 5.7% of the nation's GHG emissions reported from stationary sources. The EPA admits that regulating the refining industry will only lower GHG emissions by 1-3%. For the example, let's assume that refinery GHG emissions could be reduced by 5%. According to published reports, the United States contributes approximately 18% of global GHG emissions. Doing the math, regulating GHG for refineries has the potential to reduce  $(5.7\% \times 5\% \times 18\%) = 0.00051\%$  of global GHG emissions. The potential cost of compliance is high for very small impacts on global GHG.

Industry must analyze every aspect of the business including regulation in total. It is critical to understand what the cumulative effects of regulations and mandates are on the business and the timeline over which they will occur. Capital and expense that is spent on regulatory compliance cannot be spent on growth opportunities that lead to higher employment. If these costs cannot be absorbed or passed on to the consumer, refiners will shut down. Either way, costs will increase in the long term as refining capacity is rationalized.

The following SBRs endorse this testimony and would welcome participating in the legislative process that would stop or limit EPA's ability to regulate GHG emissions from the refinery industry and especially small business refiners.

Respectfully submitted:

Countrymark Cooperative Holding Corporation, Indianapolis, IN  
and Mt. Vernon, IN

Petro Star, Inc., Anchorage, AK

Placid Refining Company, LLC Dallas, TX and Port Allen, LA

Wyoming Refining Co. Denver, CO and New Castle, WY

Table of Acronyms

ABT	Average, Banking, and Trading programs
BACT	Best Available Control Technology
CAA	Clean Air Act
EIA	Energy Information Agency
EPA	Environmental Protection Agency
FCC	Fluidized Catalytic Cracking
GHG	Greenhouse Gases
LDAR	Leak Detection and Repairs
LSG	Low Sulfur Gasoline
MACT	Maximum Available Control Technology
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NSPS	New Source Performance Standard
NSR/PSD	New Source Review Prevention of Significant Deterioration
PPM	Parts per Million
PSI	Pounds per Square Inch
PSD	Prevention of Significant Deterioration
RVP	Reid Vapor Pressure
RFS	Renewable Fuels Standard
RIN	Renewable Identification Number
SBAR	Small Business Advocacy Review
SBR	Small Business Refiner
SBREFA	Small Business Regulatory Enforcement and Fairness Act
SER	Small Entity Representative
TAB	Total Annual Benzene-in-waste

