



# Industrial Energy Consumers of America

*The Voice of the Industrial Energy Consumers*

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1200 Pennsylvania Avenue, NW  
Washington, DC 20460

## **CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS**

### **1. IDENTITY OF THE INDUSTRIAL ENERGY CONSUMERS OF AMERICA (IECA)**

This letter is sent on behalf of the Industrial Energy Consumers of America (IECA), a nonpartisan association of leading manufacturing companies with \$1.0 trillion in annual sales, over 2,900 facilities nationwide, and with more than 1.4 million employees. It is an organization created to promote the interests of manufacturing companies for which the availability, use and cost of energy, power or feedstock play a significant role in their ability to compete in domestic and world markets.

IECA companies are energy-intensive trade-exposed (EITE), which means that relatively small changes to the price of energy can have significant negative impacts to competitiveness. Energy-intensive trade-exposed (EITE) companies are major stakeholders in this debate. EITE industries consume 73 percent of the entire manufacturing sector's use of electricity (26% of U.S.) and 75 percent of the natural gas (29% of U.S.).

IECA membership represents a diverse set of industries including: chemical, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, building products, brewing, independent oil refining, and cement.

Manufacturing consumption of energy has basically not increased in over 40 years, using about 40 quads of energy per year. Over that same time period, manufacturing has more than doubled output, a tremendous success story. Because of investment in productivity, including consistent improvements in energy efficiency, greenhouse gas (GHG) emissions are 22 percent below 1973 levels, while all other sectors of the economy have significantly higher emissions. The point is obvious that the industrial sector is not the problem, yet with the Clean Power Plan (CPP) we are going to pay for about one-third of all its costs.

### **2. POSITION ON THE CLEAN POWER PLAN**

IECA does not support the CPP as released. IECA does not believe that the EPA has the authority to regulate GHG emissions outside-the-fence line. We urge the EPA to withdraw the proposed rule and resubmit, providing guidelines for regulating existing electric generating units (EGU)

GHG emissions from inside-the-fence line. EPA also improperly justifies this rule on the basis of social cost of carbon estimates that were not developed in accordance with federal law and regulatory policy.

Unfortunately, EPA's unilateral domestic application of its arbitrary estimates of the global 'social cost of carbon' (SCC) to justify this proposed rule are contrary to law and federal policy. EPA must correct its errors prior to finalizing this rulemaking by:

- Complying with current law and allow for independent, external peer review of the apparent revisions that it has made to the Office of Management and Budget's (OMB) Circular A-4;
- Subjecting its SCC valuation to independent, external peer review to comply with requirements of the Information Quality Act (IQA) and EPA's peer review handbook; and,
- EPA's SCC Estimates must comply with guidance for developing influential policy-relevant information under the IQA.

EPA's SCC Estimates are the product of an opaque process and any suggestion of their accuracy (and therefore usefulness in policymaking) are unsupported. The models with inputs used for the SCC Estimates and the subsequent analyses were not subject to peer review, as appropriate. The SCC Estimate integrated assessment modeling does not offer a reasonably acceptable range of accuracy for use in policymaking. EPA has failed to disclose and quantify key uncertainties to inform decision makers and the public about the effects and uncertainties of alternative regulatory actions. For example, by presenting only global SCC Estimates and ignoring domestic SCC Estimates, the EPA has severely limited the utility of the SCC for use in benefit-cost analysis and policymaking.

We find that the CPP is incompatible with numerous practical and technical aspects of America's electricity system, and would represent a vast expansion of the agency's regulatory reach into the authority held by states and other federal regulatory agencies. In effect, the CPP dictates environmental, and energy and economic policy, something the authors of the Clean Air Act never intended.

For this reason, IECA expects that there will be extraordinary challenges within states to coordinate an acceptable plan in a timely fashion. It is also widely understood that the proposed rule will be heavily litigated. Because of this certainty, we urge the EPA to allow states to file their State Implementation Plans (SIPs) once the litigation is resolved. By so doing, unnecessary costs would be avoided, which are costs consumers would not incur. Thank you for giving this consideration.

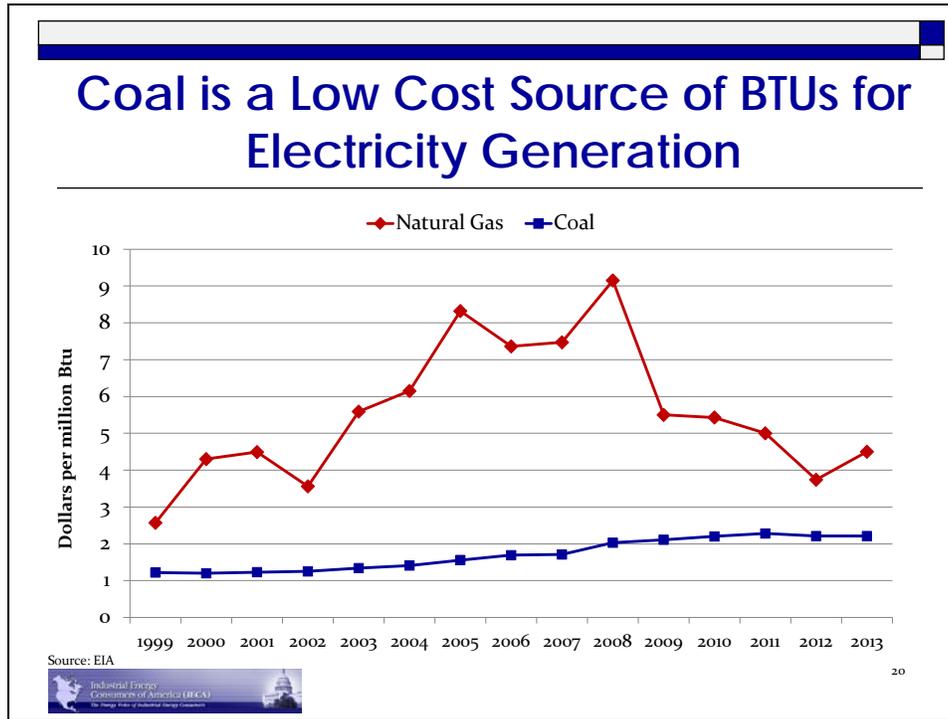
In the event that the courts support the CPP, and EPA can regulate GHG emissions outside-the-fence line, then EPA should utilize maximum flexibility of carbon reduction options outside-the-fence line to lower the cost of compliance.

**As currently proposed, the CPP would directly harm IECA members in the following ways:**

- Dramatically reduce use of coal, an abundant resource of low-cost energy that has helped to keep electricity and natural gas costs low. Coal is needed in the mix of generation energy alternatives to provide diversified, stable, and reliable base load energy, to provide voltage

support, to provide one of the few sources of on-site “stored” energy in the supply mix, and to compete economically with natural gas. With a significant reduction of coal in the mix, as natural gas prices rise, it will substantially drive up electricity prices. Figure 1 below illustrates the significant cost benefits provided by coal that have helped to keep U.S. electricity prices low.

FIGURE 1



- Dramatically increase dependence upon a single fossil fuel, natural gas. Natural gas availability and prices have a long history of volatility. According to the Energy Information Administration (EIA), coal has a 300-year supply. Natural gas on the other hand, has only a 59-year supply at 2025 demand, according to the AEO 2014. EIA says that proven reserves are only 9.6 years of supply at 2025 demand. It is also troublesome, that EIA forecasts Henry Hub prices to increase by 76 percent by 2025 as compared to 2013, which means that our electricity prices will also rise substantially.
- Increase electricity and natural gas prices, which will decrease manufacturing competitiveness and increases the competitive advantage of our offshore competitors, decrease U.S. jobs, and increase imported manufactured goods and cause a larger trade deficit. This is exactly what has happened to the EU, whereby the average industrial electricity price for 20 EU countries is 103 percent above the U.S. industrial average price, according to the International Energy Agency (IEA).<sup>1</sup> EU residential prices are 116 percent higher than U.S. residential rates.
- Increase electricity costs on a state-by-state basis which will force industrials with multiple manufacturing facilities to immediately shift production to states with lower electricity

<sup>1</sup> Key World Energy Statistics, 2013, International Energy Agency, p. 43.

costs, creating state-by-state job winners and losers, and shift GHG emissions to other states.

- Reduce electric and gas reliability that could result in the temporary or permanent shutdown of manufacturing facilities which could result in costs starting from tens of millions of dollars to \$100 million per day.
- Result in industrial GHG leakage, .i.e., the shifting of manufacturing jobs offshore and to countries that have less stringent laws and regulations governing the emissions of greenhouse gases and other pollutants. This is a serious lose-lose result that entails the deterioration of domestic employment and economic activity, as well as increased overall emissions worldwide.
- Cost consumers tens of billions per year and reduce the global temperature by no more than 0.006 of a degree in 90 years, an insignificant and costly improvement. In rulemaking documents from April 2010, EPA writes, “Based on the reanalysis the results for projected atmospheric CO<sub>2</sub> concentrations are estimated to be reduced by an average of 2.9 ppm [parts per million] (previously 3.0 ppm), global mean temperature is estimated to be reduced by 0.006 to 0.0015 °C by 2100.”<sup>2</sup>

### 3. POSITION ON CLIMATE ACTION

IECA supports cost-effective action to reduce GHG emissions in a manner that will not impair manufacturing competitiveness. Climate change is global in scope and requires meaningful global action. IECA companies compete globally and seek a level playing field. Offshore competitors, who import product into the U.S., must be held to the same environmental standards as domestic manufacturers. The CPP must include a policy that holds our offshore competitors to the same environmental standards in order to ensure a level playing field.

Many IECA companies have had energy efficiency programs that reduce GHG emissions for decades. They include chemicals, iron and steel, petroleum refineries, aluminum, paper, glass, and cement. IECA companies are active participants in both DOE and EPA energy efficiency programs, including EPA’s Energy Star. Numerous IECA companies have received awards and special recognition by federal and state government agencies for excellence in energy efficiency performance. Plus, industrial companies provide the majority of all combined heat and power generation the U.S.

Unfortunately, the CPP will impose billions of dollars in costs and in 2030, offset an insignificant amount of carbon, equal to just 13.5 days of CO<sub>2</sub> emissions from China.<sup>3</sup> Since 2005, U.S. emissions have fallen by 13 percent, while China’s have grown 69 percent and India’s have increased by 53 percent.<sup>4</sup>

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<sup>2</sup> <http://www.cnsnews.com/news/article/epa-estimates-its-greenhouse-gas-restrictions-would-reduce-global-temperature-no-more>.

<sup>3</sup> “The EPA is More Concerned with What Sounds Good than What Actually Works,” Count on Coal, September 16, 2014, <http://www.countoncoal.org/2014/09/16/the-epa-is-more-concerned-with-what-sounds-good-than-what-actually-works/>.

<sup>4</sup> International Energy Statistics, Energy Information Administration, <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=90&pid=44&aid=8>.

Based upon the various cost estimates by several organizations (NERC, PJM, ERCOT, and MISO), the CPP will cost a great deal more than any of EPA's estimated costs. The IECA recommendations suggested below could reduce the costs of implementation.

#### **4. RECOMMENDATIONS**

IECA does not believe that the EPA has the authority to regulate GHG emissions outside-the-fence line. However, if the courts determine that EPA has the authority, many of the below recommendations would support GHG reductions cost-effectively and avoid reliability problems.

##### **a. Do not require states to file State Implementation Plans (SIPs) until there is judicial review and regulatory clarity.**

It is well understood that the CPP will likely become the most litigated proposed rule in history. And, given that it is costly for states to develop SIPs, and that those costs will be passed unto us, the consumer, we urge the EPA to not require states to develop their SIPs until there is regulatory clarity.

##### **b. Do not set GHG reduction targets from outside-the-fence line. Instead, set GHG reduction targets from inside-the-fence line, but support use of outside-the-fence line GHG reduction options to reduce compliance costs.**

Electric generating units (EGUs) should be required to reduce GHG emissions only from inside-their-fence line, and the level of required reduction should reflect the limits of technology, equipment, fuel choices, and best practices in the sector being regulated. Manufacturing could be directly and severely impacted. For example, if the EPA were to go beyond-the-fence line, manufacturing companies could be facing state mandates to reduce electricity consumption by 1.5 percent or more per year, forcing a reduction in manufacturing output.

The electricity industry is complex, very integrated over multiple states, and tuned to dispatch electricity based upon "marginal costs." Going outside-the-fence line forces an "environmental dispatch" based upon the marginal cost of carbon. Environmental dispatch results in windfall profits and higher costs for consumers. This is exactly what happened in Europe with the EU ETS and why manufacturing in the EU continues to struggle.<sup>5</sup>

##### *Marginal Cost of Carbon Example:*

In a deregulated electricity market scenario, the cost of carbon will be marginal, meaning the least efficient unit will set the price and all other generators will benefit. Stated in reverse, all customers will overpay. Imagine a single hour where wind, solar, nuclear, hydro, and finally the marginal gas units set the price. Rather than just paying for the price of carbon on the gas unit's emissions, the market's marginal price mechanism will pay that price of carbon to "all" generators. This is a windfall profit for generators, especially to all non-fossil generators and a wealth transfer from consumers to producers that cannot be allowed to take place. Please

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<sup>5</sup> [http://www.cimeur.com/Cem\\_warehouse/1-ENERGY%20INTENSIVE%20INDUSTRIES-JANUARY%202004.PDF](http://www.cimeur.com/Cem_warehouse/1-ENERGY%20INTENSIVE%20INDUSTRIES-JANUARY%202004.PDF); "Emissions Trading and its Possible Impacts on Investment Decisions in the Power Sector," International Energy Agency; and "CO2 Allowance and Electricity Price Interaction – Impact on Industry's Electricity Purchasing Strategies in Europe," International Energy Agency.

review the testimony of Sonny Popowsky, the former Consumer Advocate of Pennsylvania, on the marginal cost of carbon in PJM.<sup>6</sup>

**c. Make clear that the CPP does not set precedent for regulation of the industrial sector. Be proactive to prevent industrial GHG leakage.**

Regulating GHG emissions outside-the-fence line sets a troubling, if not impossible precedent, for the manufacturing sector. The electric generation sector is significantly different than the industrial sector. The electric sector does not face international competition, all costs are almost automatically passed onto the consumer and some generators will actually benefit financially from the CPP, because they will be able to secure a return on investment on all new capital spent on compliance. The electric sector is highly regulated such that there is a legal obligation to serve the public with either monopoly control or certainly, limited competition. Electric generators and their transmission systems are regularly used by state and federal policymakers to implement public policy. Examples include: delivering energy efficiency services (especially to low-income households) and increasing renewable energy use through mandates.

Setting a precedent that would require industrial companies to reduce GHG emissions outside-their-fence line, outside their control, would result in increased costs that could dramatically reduce competitiveness and result in GHG leakage to foreign countries. Industrial GHG leakage shifts jobs and the accompanying GHG emissions offshore, achieving nothing environmentally. Unlike electric generators, industrial companies face competition from companies across the country and around the world. U.S. borders are wide-open to trade. Many countries subsidize their manufacturing companies which provide significant competitive advantages. Because of competition, American companies often cannot pass-on costs.

Industrial consumers are concerned that this “outside-the-fence line” precedent could be applied by EPA to the industrial sector as EPA expands its carbon management reach. EPA in the CPP actually regulates the demand or output of a coal-fired power plant. One can imagine a scenario where EPA attempts to regulate the output of a manufacturing plant to control emissions, which is a totally unacceptable outcome and demonstrates how damaging outside-the-fence line management of carbon is for any sector.

If EPA were to regulate the manufacturing sector in the same building block approach, it would result in not only reductions from the manufacturing sector, but also a building block that would require even further reductions from the electric generating sector, an absurd result. If more reductions were not possible in the electric generating sector, then manufacturing would be unreasonably burdened with trying to obtain even more reductions on top of what is required under both the manufacturing rule and what was required under the EGU ESPS rule.

The industrial sector has been reducing its carbon footprint without any regulation of carbon by EPA by investing inside-their-fence line in new equipment, technology, best practices, fuel switching to less carbon intensive fuels, demand response, and shutting down less energy efficient manufacturing processes. As a result, industrial sector GHG emissions are 22 percent below 1973 levels, while all other sector emissions have significantly increased.

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<sup>6</sup><http://www.oca.state.pa.us/Testimony/2009/S.%20Popowsky%20Testimony%20pdf%20version%20%2800109944%29.PDF>.

**d. EPA must complete a manufacturing GHG leakage study to understand the impact on the economy and the environment, including accounting for increased GHG emissions through greater imports of manufactured goods.**

When EPA did its economic analysis of the CPP, it failed to account for industrial GHG leakage. By not including industrial GHG leakage, EPA has overestimated benefits and underestimated costs. IECA urges the EPA to complete a study to understand the impact of the CPP on industrial GHG leakage.

Examining GHG emissions from imported manufacturing products is overdue. To illustrate, 75 percent of the U.S. trade deficit is with one country, China.<sup>7</sup> According to the International Energy Agency and the World Bank,<sup>8</sup> in 2011, China's total manufactured goods value-added were over \$2.3 trillion as compared to \$1.8 trillion for the U.S. However, China's total manufacturing industries' CO<sub>2</sub> were 2.5 trillion tonnes while the U.S. manufacturing sector was only 598 billion tonnes. This means that China produced 29 percent more manufacturing goods, but emitted 317 percent more CO<sub>2</sub> than U.S. manufacturing. This means that U.S. manufacturing produces three times the amount of goods for every one tonne of carbon, as compared to China.

Industrial GHG leakage is an accepted climate policy challenge. For example, the Waxman-Markey legislation, the "American Clean Energy and Security Act," included specific provisions to reduce the impact of industrial GHG leakage. In December 2, 2009, several Senators released the report, "The Effects of H.R. 2454 on International Competitiveness and Emission Leakage in Energy-Intensive Trade-Exposed Industries."<sup>9</sup> And both the EU ETS and the California AB32 carbon cap and trade legislation/regulation acknowledge GHG leakage as a real problem. Despite this, the CPP does not contain provisions to avoid industrial GHG leakage, and it needs to.

Historically, there is an absolute direct relationship between U.S. energy costs and manufacturing employment, and the manufacturing trade deficit. As energy costs rise, manufacturing jobs and investment decrease, and imports increase. The reverse is also true, as U.S. energy costs decline, manufacturing jobs and investment increase, and exports increase.

California is a good example. California's electricity prices in 2013 were the fifth highest in the lower 48 states, and the state has also implemented carbon cap and trade. Figure 2 illustrates that California's electricity prices rose over 76 percent since 1999, and they have experienced a corresponding staggering drop in manufacturing employment of 592,361 high paying jobs. It is important to note that while many states have increased manufacturing jobs since 2010, California has not. Manufacturing companies specifically avoid investing in California because of high electricity costs that are only going much higher because of the carbon cap and trade. Cap and trade adds significant regulatory and cost uncertainty. The net effect is that imports of manufactured products into California have substantially increased. California has forfeited jobs for having implemented cap and trade.

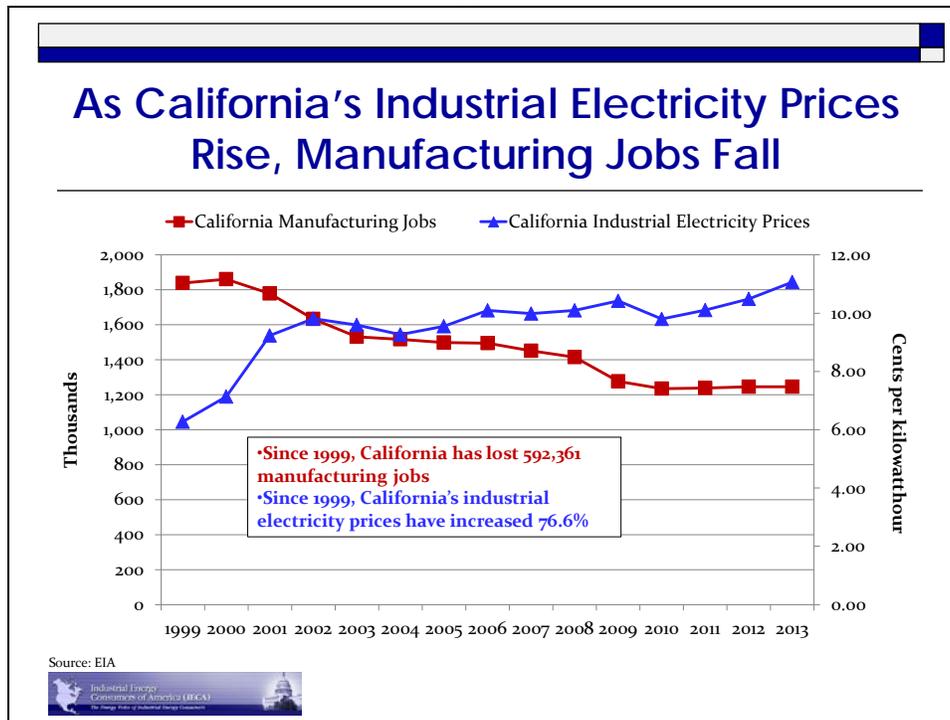
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<sup>7</sup> U.S. Bureau of Labor Statistics.

<sup>8</sup> International Energy Agency, The World Bank, <http://data.worldbank.org/indicator/NV.IND.MANF.CD>.

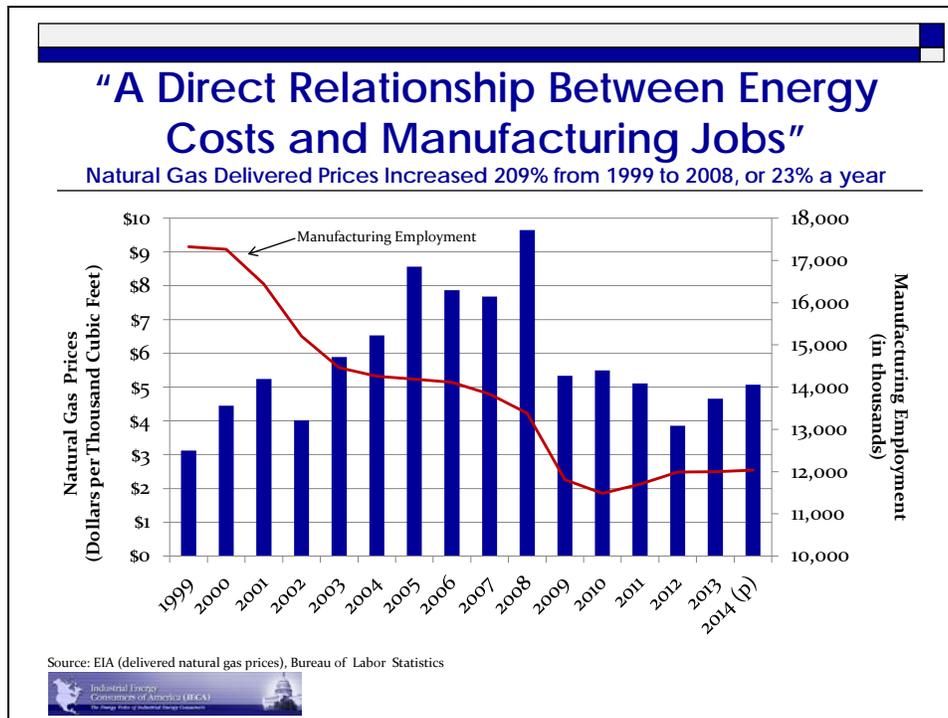
<sup>9</sup> [http://www.epa.gov/climatechange/Downloads/EPAactivities/InteragencyReport\\_Competitiveness-EmissionLeakage.pdf](http://www.epa.gov/climatechange/Downloads/EPAactivities/InteragencyReport_Competitiveness-EmissionLeakage.pdf).

FIGURE 2



Another instructive example is the history of U.S. natural gas prices and their impact on manufacturing jobs. In this case, natural gas is a surrogate for electricity prices. From 1999 to 2008, natural gas prices rose 209 percent and national manufacturing employment fell by almost 5.0 million direct jobs, according to the Bureau of Labor Statistics (BLS), and over 50,000 manufacturing facilities were closed. And now, largely because of lower natural gas costs, the BLS data indicates that manufacturing jobs have increased 466,000 from 2010 to 2013.

FIGURE 3



**e. EPA must ensure that offshore manufacturing competitors are held to at least the same carbon content standard as domestic manufacturers by imposing carbon standards, calculated as a \$/ton of carbon content on imported products.**

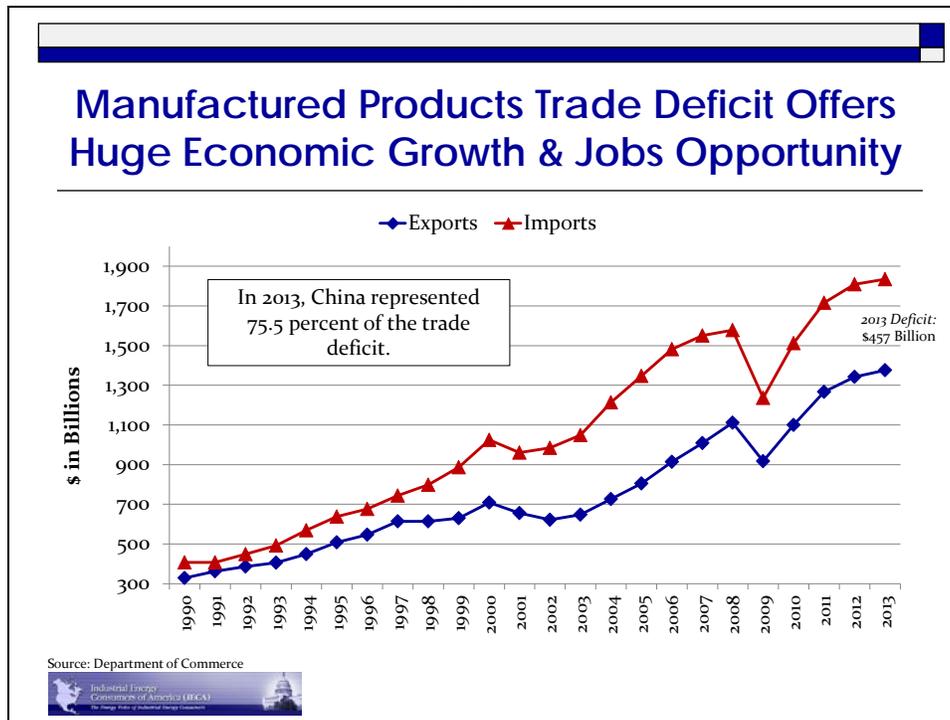
Manufacturing consumes 26 percent of all U.S. electricity and 29 percent of all natural gas, both of which are greatly impacted by the CPP, resulting in higher prices. Imposing costs on domestic manufacturers without imposing at least the same costs on imported manufacturing goods, reduces our competitiveness, jobs, and will increase imports, further accelerating the trade deficit and national economic decline.

EPA must inflict, at least the same economic pain, in dollars per carbon content on imported manufacturing products. The EPA must establish an import carbon fee based upon the carbon content of the imported product.

Figure 4 illustrates the importance of sound climate policy. If the U.S. can keep energy costs low, reduce GHG emissions cost-effectively, there is a great opportunity to displace existing imported products, creating a significant number of domestic manufacturing jobs. To do so, will require the U.S. manufacturing sector to increase the amount of energy it consumes, while reducing GHG intensity long-term. Importantly, this cannot be achieved if the EPA imposes a cap on GHG emissions.

Please note that 75 percent of the trade deficit is with China, a country very dependent upon coal and whose manufacturing processes, at large, are significantly less energy efficient than comparable facilities in the U.S.

FIGURE 4



**f. EPA should extend the interim 2020 target to 2030.**

According to the Congressional Research Service report, “EPA’s Clean Power Plan Proposal: Are the Emission Rate Targets Front Loaded?” the median GHG emission reduction target in 2020 is 66 percent. Arizona has the highest reduction requirement at 90 percent.<sup>10</sup> Reductions that severe in such a short time frame are not a “glide-path,” but rather a cliff. Reports by the North American Electric Reliability Corporation (NERC), MISO, PJM, and ERCOT all confirm that the interim 2020 target poses significant concerns to reliability and unnecessary high costs that we, the industrial consumers, would preferentially pay. It is for this reason that IECA recommends that the EPA eliminate the interim target and only set a final target in 2030.

The NERC, MISO, PJM, and ERCOT reports make absolute common sense. Electric generation, transmission, and natural gas pipelines are capital-intensive and there are lengthy permitting, planning, and construction time frames necessary to get the facilities in place in a timely fashion. Giving states more time to comply would have the impact of lowering total costs of compliance while still achieving the GHG reductions.

**g. EPA should include a reliability safety valve.**

Brownouts or blackouts are not acceptable to the public. In addition, IECA member companies are directly affected by blackouts. Blackouts resulting in unplanned shutdowns of manufacturing facilities can result in equipment damage, production losses, and outages extending well beyond the blackout periods.

<sup>10</sup> “EPA’s Clean Power Plan Proposal: Are the Emission Rate Targets Front-Loaded?” Congressional Research Service, November 3, 2014, <http://www.fas.org/sgp/crs/misc/IN10172.pdf>.

For this reason, the EPA should include a process to support effective management of electric system reliability issues that may arise due to the implementation of the CPP. States should have the flexibility to request a compliance extension deadline if they can make the case that reliability is threatened.

**h. EPA should include a cost safety valve.**

As previously described above, if electricity and natural gas costs rise because of a state's implementation plan, industrial GHG leakage will shift GHG emissions to either other states or to a foreign country, resulting in a lose-lose for the environment and the economy. This unintended consequence must be avoided. An EPA cost safety valve would allow states the flexibility to complete a cost impact analysis on an annual basis. For example, if large industrial consumers delivered energy rates, including power and natural gas, increase by a factor greater than 2 percent in any given calendar year, then the state will be required to hold a hearing to review the SIP and determine what revisions are necessary to limit cost increases to less than 2 percent in future years. According to the EIA, from 1990 to 2013, the annual average industrial electricity price increase was 1.66 percent.

**i. Support ratable GHG emission rates.**

Ratable GHG emission rates allow for economic growth, while a mass-based emission reduction slows and then stops economic growth. Ratable GHG emission rates can usually be achieved by technology investments, best practices, and changes to capital stock over a long period of time. Ratable GHG reductions will also deliver low compliance costs. The CAA has a history of emphasizing technology and best practice solutions. We encourage the EPA to stay the course of supporting technology best practices as solutions.

**j. Support credit for actions already taken, and use 2005 as the baseline.**

2012 was remarkable in that natural gas prices were so low that fuel switching from coal to natural gas was at its maximum in years prior and since. In choosing 2012, EPA is therefore setting the baseline at an extremely aggressive level. That said, EPA needs to remember that all costs of the CPP will be paid for by us, the consumer, not the generator. By choosing 2012, EPA is directly imposing higher costs on us, unfairly and unnecessarily, threatening jobs. We urge the EPA to do better, to be more responsible than this.

Furthermore, generators should not be penalized for having taken early action to reduce GHG emissions. Any such action taken after 2005 should be credited into the baseline. And, all reductions taken and GHG emissions reductions achieved after the June 18, 2014 proposal date, including end-use energy efficiency enhancements, generation retirements, new capital investments in existing or new generation to include nuclear, natural gas and renewable, should be counted against future GHG reduction targets.

**k. Outside-the-fence line energy efficiency should be an option for compliance – but the focus should be on non-industrial sectors; industrial companies should have the ability to “opt-out” and not be punished for implementing energy efficiency-based GHG emissions reductions.**

Industrial companies have the most successful energy efficiency record of any sector in the economy. The EIA, for example, has noted that the industrial sector has reduced its energy

intensity by 41 percent since 1987. This has been achieved largely through energy efficiency improvements funded by industry. But other sectors of the economy have lagged far behind these industrial improvements. As we stated in our November 11, 2011 letter to President Obama, there are tens of millions of under-insulated homes that are poor energy performers that could benefit from cost effective energy efficiency investments.

“Existing buildings consume 40 percent of our nation’s electricity, and thus offer a huge opportunity for energy savings and attendant reductions in indirect emissions. Simple low-cost options like insulation for attics and walls, insulated doors and windows are a common sense priority. These measures are literally of-the-shelf technologies made and installed by American workers and improve the health and comfort of Americans. Energy efficiency in this area, including the retrofitting of the tens of millions of under-insulated American homes, will reduce demand for power, decrease power plant emissions and help reduce electricity costs. And lower electricity demand will help delay expensive new conventional electric power generation facilities. These types of indirect energy efficiency measures should be part of the suite of options available for demonstrating reductions in greenhouse gas emissions.”<sup>11</sup>

Clearly, the residential sector is a more appropriate focus for energy efficiency measures designed to reduce GHG emissions at power plants.

If energy efficiency is utilized as an outside-the-fence line option, industrial companies should be allowed to participate, such that they could sell their own, energy efficiency-based GHG reductions to achieve a BSER emission reduction requirement. However, there are two critically important caveats. First, industrial companies must have the ability to “opt-out” of any utility-based programs. Second, we urge the EPA and states to recognize that when an industrial company sells its energy efficiency-based GHG reduction, it simultaneously reduces its own GHG baseline. If the company is ever regulated on GHG emissions, that early reduction must be credited to any GHG emission reduction required under any such future regulation.

That said, IECA believes that EPA’s energy efficiency cost estimate is too low. For example, a recent study by Policy Navigation Group examined the cost-effectiveness of federal energy efficiency investments by examining over 9,000 energy conservation measures at 760 federal facilities. The average cost-effectiveness of projects that measured electricity savings is \$0.83 per kWh avoided. Verified electrical energy savings at federal facilities is ten times more expensive. Even the likely optimistic estimates at federal facilities have a medium cost of 30 percent higher than EPA’s claimed value.<sup>12</sup>

#### **I. CHP/WHP facilities should be exempt from the rule.**

EPA should provide broad exemptions for all CHP/WHP (waste heat to power) units to encourage the efficiencies and environmental benefits of CHP/WHP systems. The basis for such an exemption is clear – the use of power generated by CHP/WHP units will always be more efficient than the standards EPA is setting for non-CHP/WHP facilities.

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<sup>11</sup> [http://www.ieca-us.com/wp-content/uploads/11.11.11\\_LettertoObamaJacksonreEnergyEfficiency.pdf](http://www.ieca-us.com/wp-content/uploads/11.11.11_LettertoObamaJacksonreEnergyEfficiency.pdf).

<sup>12</sup> “The Cost-Effectiveness of Federal Energy Efficiency Investments,” Policy Navigation Group, [http://www.ieca-us.com/wp-content/uploads/The-Cost-Effectiveness-of-Federal-Energy-Efficiency-Investments\\_Policy-Navigation-Group\\_11.25.14.pdf](http://www.ieca-us.com/wp-content/uploads/The-Cost-Effectiveness-of-Federal-Energy-Efficiency-Investments_Policy-Navigation-Group_11.25.14.pdf).

Federal statutes and rules have recognized the environmental benefits of CHP/WHP through regulatory exemptions since the 1990 Amendments to the Clean Air Act. These existing exemptions have already significantly reduced CO<sub>2</sub> emissions over the past three decades. The GHG rules for new and existing sources should expand upon, and not contract, regulatory exemptions for CHP/WHP.

Any new rule that might result in the decommissioning of an existing CHP/WHP unit would increase CO<sub>2</sub> emissions, as facilities would replace power from CHP/WHP with power from the grid. EPA recognizes that the potential for increased renewable energy production is greatly limited by the problem of transmission congestion, and any reduction of existing CHP/WHP units would likely increase transmission congestion, as well as transmission losses.

Additional units should be exempt from GHG rules for the following reasons:

- In view of the commercial and environmental importance of CHP/WHP units, and the practical difficulties and costs of retrofitting older units, existing CHP/WHP units should be categorically exempted from any new rule;
- EPA's proposal to add an additional regulatory exemption for CHP/WHP in the GHG rules for new EGUs based on actual use in addition to the exemption based on construction purpose is laudable, but does not go far enough. The case for exempting CHP/WHP generation from GHG rules is even stronger than in other regulatory contexts because CHP/WHP offers both significant reductions in CO<sub>2</sub> emissions and vitally important alleviation of transmission congestion problems;
- Existing CHP/WHP units that are not currently exempt from Subpart Da because they were constructed for the purpose of providing half, rather than one third, of their power to the grid may shutdown if they are now forced to comply with new GHG emissions limitations;
- Broadening regulatory exemptions for CHP/WHP in the GHG context may stimulate development of additional CHP/WHP units that would result in decreased CO<sub>2</sub> emissions and less transmission congestion; and
- The negative effects from GHGs are global, not local. As was acknowledged in the recent debate over potential cap and trade legislation, GHG regulation carries a risk of "leakage" of jobs and emissions. Overly stringent or costly GHG rules could hasten the export of American industrial capacity beyond the reach of American regulation to locations with relatively higher GHG emissions. An even broader exemption for CHP/WHP in the GHG rules would help prevent export of jobs and likely net increase of GHG emissions.

Exemptions for CHP/WHP in the GHG rules and otherwise should be broad and Non-discriminatory:

- Existing CHP/WHP units are as diverse as American industry. Regulatory exemptions for CHP/WHP that discriminate based on technology, efficiency, or fuel source will likely lead to the shutdown of existing CHP/WHP units and risk increasing CO<sub>2</sub> emissions, transmission congestion, and transmission loss;

- Exemptions for existing CHP/WHP units should be broad and nondiscriminatory. The exemptions should be designed to cover all existing CHP/WHP units and should not discriminate on the basis of efficiency, technology, or fuel source;
- The breadth of regulatory exemptions for CHP/WHP in the GHG rules is particularly important because the shutdown of even the least efficient existing CHP/WHP units will increase CO<sub>2</sub> emissions, transmission congestion, and transmission loss. EPA should accordingly err on the side of breadth;
- The use of CHP/WHP is beneficial no matter what fuel is used to create heat because fuel selection is dominated by other regulatory and economic considerations. Because exemptions for CHP/WHP in the GHG rules will have no impact on fuel selection, fuel source discrimination is unnecessary;
- Traditionally, CHP/WHP exemptions have been broad, nondiscriminatory, and successful in achieving emissions reductions. For example, the acid rain provisions in the 1990 Clean Air Act Amendments included independent exemptions based on construction purpose and actual use. Under this exemption, a unit is exempt either if the unit is constructed with the purpose of providing no more than one-third of its potential electric output capacity to the grid or if the unit actually supplies no more than one-third of its potential electric output capacity to the grid. This broad and nondiscriminatory statutory exemption is responsible for significant emissions reductions, including greenhouse gas emissions, and also decreased transmission congestion and transmission losses; and
- EPA erred in failing to maintain broad and nondiscriminatory exemptions when it issued the Clean Air Interstate Rule and the Clean Air Transport Rule by adopting the narrow Public Utility Regulatory Policies Act definition of cogeneration that discriminated based on efficiency. At the time, EPA believed that most existing cogeneration units would be covered by this definition. See 70 Fed. Reg. 10000 (2005) (“will meet the proposed efficiency standard.”) But as it turned out, many older units fell outside of the efficiency based definition even though these older units offered significant environmental benefits. EPA’s use of a narrow and discriminatory definition in the Clean Air Interstate Rule and the Clean Air Transport Rule was counterproductive and may have decreased CHP/WHP utilization and thereby increased emissions, transmission congestion, and transmission loss. EPA should not repeat this mistake in the GHG rules.

Recognition of benefits from existing CHP/WHP units should be even broader than those in EPA’s proposed rules for new EGUs.

EPA’s proposed GHG rules for new EGUs made available on September 20, 2013 contained some useful recognition for CHP/WHP units, but those conditions should be expanded to include existing CHP/WHP units, and adopts a framework for existing sources similar to the proposal for new sources, the conditions should be expanded:

- In order to be subject to the rule, a CHP/WHP unit should have to be designed to sell, and actually sell, more than half of its potential electric output to the grid;

- The period for determining applicability should be no less than three years on a rolling average basis;
- Facilities that are exempt from the rule should only be required to maintain reliable information sufficient to establish their exemption, and should not be subject to extensive monitoring, record-keeping, reporting, and requirements; and
- Clarify that any unit that was exempt from Subpart D will also be exempt from the Proposed Standards.

**m. EPA should specifically designate combined heat and power (CHP)/waste heat to power (WHP) as a “eligible compliance option”; allow industrial CHP air emission permit budgets to apply against the EGU emission budget; provide CHP with full thermal credit; and increase line loss credit. EPA should provide advantages to greater use of existing and new CHP and WHP generation from industrial and commercial facilities.**

IECA member companies are exclusively from the industrial process industries, which mean, we use large amounts of steam and electricity. We are “steam hosts,” the companies who would actually build and use the CHP/WHP units. While installed CHP capacity represents about 82 GWs, the actual output is underutilized. And since 2005, the rate of building new capacity has been relatively low. The primary reason for this is regulations and costs that burden industrial CHP/WHP projects.

Use of CHP technology to generate power is significantly superior to even natural gas combined cycle power plants. Harnessing the use of waste heat from manufacturing facilities, where it is economically viable, would generate power without GHG emissions. And such CHP/WHP facilities would be distributed energy facilities, which would help support grid reliability.

We urge the EPA to support the following:

- EPA should provide clear guidance to the states that compliance should not impose regulations on CHP/WHP facilities.
- EPA should specifically designate CHP and WHP as an official compliance option/strategy. While CHP is mentioned in the proposed rule as an example of demand-side energy efficiency, WHP is not mentioned at all. We urge explicit recognition of both CHP/WHP.
- EPA should issue a simply policy guidance memorandum from EPA HQ to the regional offices and states that allows new industrial CHP facilities to perform air quality impact analyses that takes credit for regional air quality improvements due to offsetting emissions from EGUs. Specifically, EPA should allow the CHP units to reduce its modeled emission rates by the relative amount of avoided emissions when compared to electric grid emissions within the nearest sub-region of EPA’s E-GRID database.
- Ability to obtain air permits is a major determinant as to whether industrial CHP units are built. Industrial companies’ primary business is making manufacturing products, not electricity. As such, and given that air permits are getting harder to get, building a CHP unit and any resulting increase in emissions (albeit less emission per MWH than regional EGUs) can be a significant challenge to a manufacturing company.

- Provide a full thermal credit (100%) for CHP units. The proposed rule would credit all of the electricity produced from a CHP unit, but only 75 percent of the useful thermal output. The EPA has already set a precedent in support of 100 percent through the NSPS for Stationary Combustion Turbines<sup>13</sup> and several states have adopted it as well.<sup>14</sup> The proposed rule limits eligibility to CHP systems where 20 percent of the total gross useful energy output consists of useful thermal output, which would eliminate the potential for “sham” CHP projects. Providing 100 percent of the thermal credit will help the economic viability of the CHP unit be financed and constructed.
- EPA should increase line loss credit from 5 percent to 6 percent. The EIA says that the national average transmission and distribution line loss is six percent.<sup>15</sup> Secondly, it is very important that EPA bring clarity to the applicability of the line loss credit. It appears that the credit is only applicable to CHP systems that are directly affected by the CPP. We urge the EPA to emphasize the benefits of distributed energy in reducing transmission and distribution costs and increasing reliability to states and extend the 6 percent credit to both affected units and non-affected units.
- Selling industrial CHP/WHP carbon credits, should apply against potential future industrial GHG reduction obligations. IECA urges the EPA and states to recognize that when an industrial company sells its energy efficiency-based GHG reduction, it simultaneously reduces its own GHG baseline. If the company is ever regulated on GHG emissions, that early reduction must be credited to any GHG emission reduction required under any such future regulation.
- Lastly, we urge that when comparing CHP emissions to affected EGUs, that you not compare it to a regional rate, but instead, compare it to a more realistic estimate of the GHG reduction in dispatch of base load/intermediate/peaking (coal and gas), plus credit for avoided transmission and distribution losses.

**n. EPA must redo its energy efficiency assumptions and state targets.**

The EPA assumed that without the CPP, incremental energy efficiency does not occur. This is an incorrect assumption and has led to a much higher target for energy efficiency by state. The EPA assumption grossly overstates the benefits of the CPP. According to the EIA, for example, the industrial sector has reduced its energy intensity by 41 percent since 1987. This has been achieved largely through voluntary energy efficiency improvements. The industrial sector has demonstrated that it does not need a regulatory framework to improve energy efficiency.

The EPA should rethink its approach to energy efficiency. Industrial companies have firsthand experience nationwide on electric utility delivered energy efficiency programs. A better way forward is to drive energy efficiency through the residential sector and through improved appliance standards, heating and cooling systems, and better building codes.

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<sup>13</sup> <http://tceq.state.tx.us/permitting/air/rules/federal/60/60hmpg.html>; and

<http://www.epa.gov/airtoxics/nsps/turbine/turbnsps.html>.

<sup>14</sup> <http://www.epa.gov/chp/documents/accounting.pdf>.

<sup>15</sup> <http://www.eia.gov/tools/faqs/faq.cfm?id=105&t=3>.

**o. EPA should rethink nuclear.**

Keeping existing nuclear electricity generation operating and building new facilities is vital. The units under construction should count toward future compliance. The decision to recognize only 6% of the existing fleet as “at risk” is too general and too conservative, and puts those utilities that own nuclear units at more risk of future compliance problems.

**p. Since FERC has responsibility for reliability, we urge the EPA to work with them to avoid high costs and reliability problems.**

EPA fails to give adequate consideration to infrastructure changes that will be needed to accommodate the increase in natural gas combined cycle capacity. Unlike coal-fired plants, natural gas facilities have virtually no onsite storage, and rely on real-time delivery of natural gas through pipelines. The impacts of overreliance on gas were seen during the first quarter of this year. As an example, on January 7, PJM experienced an outage rate of 22% of generation capacity, 25% of which was due to the inability to deliver natural gas. This is not acceptable, and certainly not the level of reliability required for manufacturers to operate facilities safely and economically.

**5. ECONOMIC IMPACTS**

a. EPA’s carbon regulations could cause serious harm to the U.S. economy, raising energy prices, and costing jobs. Independent studies and analyses are being conducted, but EPA’s own estimates project that the rule will cause nationwide electricity price increases averaging between 6 and 7 percent in 2020, and up to 12 percent in some locations.<sup>16</sup> EPA estimates annual compliance costs between \$5.4 and \$7.4 billion in 2020, rising up to \$8.8 billion in 2030. These are power sector compliance costs only, and do not capture the subsequent spillover impacts of higher electricity rates on overall economic activity.

b. The United Mine Workers of America have estimated that the rule will result in 187,000 direct and indirect job losses in the utility, rail, and coal industries in 2020, and cumulative wage and benefit losses from these sectors of \$208 billion between 2015 and 2035.<sup>17</sup>

c. Higher energy prices disproportionately harm low-income and middle-income families. Since 2001, energy costs for middle-income and lower-income families have increased by 27 percent, while their incomes have declined by 22 percent.<sup>18</sup> EPA’s rule will only exacerbate this trend.

d. In late July, the Center for Strategic and International Studies (CSIS) released a preliminary analysis of the EPA proposal.<sup>19</sup> This analysis found that the EPA proposal could result in:

- Nationwide costs of up to \$32 billion per year; and
- Average electricity rate increases of up to 9.9 percent per year.

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<sup>16</sup> EPA, Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants, June 2014, available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf>.

<sup>17</sup> <http://environmental.pasenategop.com/files/2014/06/Trisko-Testimony.pdf>.

<sup>18</sup> [http://americaspower.org/sites/default/files/Trisko\\_2014\\_1.pdf](http://americaspower.org/sites/default/files/Trisko_2014_1.pdf).

<sup>19</sup> Rhodium Group and Center for Strategic and International Studies, Remaking American Power: Preliminary Results, July 24, 2014.

e. The Wall Street Journal called EPA's rule a "huge indirect tax and wealth redistribution scheme that the EPA is imposing by fiat [that] will profoundly touch every American."<sup>20</sup> The paper further noted that "it is impossible to raise the price of carbon energy without also raising costs across the economy. The costs will ultimately flow to consumers and businesses."

## **6. LEGAL ISSUES**

### **a. The CAA expressly prohibits EPA from using Section 111(d) to regulate GHG emissions in power plants because EPA already regulates these sources under another section of the Act.<sup>21</sup>**

EPA cannot regulate EGUs under § 111(d) because those sources are subject to regulations under § 112. Section 111(d) prohibits establishing standards "for any existing source for any air pollutant ... emitted from a source category which is regulated under [§ 112]." The Supreme Court confirmed "EPA may not employ [§ 111(d)] if existing stationary sources of the pollutant in question are regulated under" § 112. *AEP v. Connecticut*, 131 S. Ct. 2527, 2537 n.7 (2011).

### **b. EPA can regulate GHGs, but only within the narrow limits of what Congress has authorized under the CAA.**

Congress created a number of different regulatory programs with carefully defined limits. Some of these programs can be used to regulate GHGs, but EPA may only do so in a way that complies with the limits established by Congress.

The recent Supreme Court decision makes this point quite clearly. On June 23, 2014, the Court issued its *UARG v. EPA* decision.

### **c. The *UARG v. EPA* decision informs that EPA's proposed rule is an overreach of its authority.**

The Supreme Court's June 23, 2014 decision in *UARG v. EPA*, a case challenging EPA's re-interpretation of Clean Air Act statutory criteria for regulating emissions through the Title V permit program and the Prevention of Significant Deterioration (PSD) program, provides a strong caution against the kind of expansive interpretation of the Clean Air Act that pervades the Clean Power Plan proposed rule.

The Clean Power Plan's natural gas redispatch, energy efficiency, and renewable energy "building blocks" are clear instances of overreaching into areas traditionally reserved to the sovereign authority of the states. Congress itself has been unwilling to develop national renewable energy standards, recognizing the wide diversity of state laws in existence which speaks to the disparate capabilities to deploy renewable resources among states.

### **d. EPA has failed to follow CAA requirements for addressing international pollution.**

Section 115 of the CAA requires EPA to formally notify state governors with emissions that impact public health and welfare in foreign countries; and to develop plans under Section 110;

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<sup>20</sup> <http://online.wsj.com/articles/carbon-income-inequality-1401752504>.

<sup>21</sup> State petitioners argued in a 2007 lawsuit concerning the Clean Air Mercury Rule (CAMR). "Subsection (d) of Section 111 provides authority for regulation of existing sources, but is explicitly limited to those air pollutants that are not 'emitted from a source category which is regulated under section 7412 of this title.'"

and under reciprocity requirements of Section 115, if the foreign country is preventing air pollution from similar sources to the same degree it is being prevented in the U.S. The EPA has not done any of the above.

**e. The CPP violates state sovereignty principles under the 10<sup>th</sup> Amendment.**

By proposing binding state emission rate limits, EPA is violating cooperative federalism principles on which the CAA is based and violating state sovereignty principles under the 10<sup>th</sup> Amendment.

**f. EPA fails to exclude units with “limited remaining useful life.”**

Despite the CAA granting states explicit authority to do so, EPA’s proposal unlawfully prohibits states from considering remaining useful life and other factors on a case-by-case basis to adjust standards of performance for existing sources. For example, EPA fails to appropriately account for, at a minimum, the more than 70,000 MW worth of facilities that either have already been retired (i.e., since the 2012 baseline), or have already been scheduled for retirement prior to the interim compliance period (e.g., due to inability to comply with other EPA rules like MATS), or may be scheduled to retire during the interim compliance period or shortly thereafter.

Moreover, EPA’s November 13, 2014 notice providing additional information regarding the conversion of emission rate-based CO<sub>2</sub> state targets to mass-based equivalents states is unlawful and severely distorted by EPA’s failure to exclude capacity with limited remaining useful life. While it is certain that EPA has no authority to set statewide emission caps under 111(d), it is even more certain that EPA cannot approve state caps that are based on a methodology that fails to exclude, at a minimum, all of the aforementioned 70,000+ MW of units either already retired (since 2012) or scheduled to be retired. By failing to exclude these units, EPA impermissibly has inflated the number of covered units and is requiring a significantly higher total amount of statewide emission reductions than are allowable under 111(d).

**g. The proposed rule is a violation of federal law and is counter to the public’s interest.**

Executive Order (EO) 12866 clearly states, that among other things, agencies should assess all costs and benefits. “Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measure of costs and benefits that are difficult to quantify, but nevertheless essential to consider.”

First, EPA has incorporated OMB draft estimates of the Social Cost of Carbon (SCC) for use in the CPP, but they have yet to go through either public or peer review. This means that they have not legally complied with the law, nor officially completed the cost analysis. Despite this, EPA is moving forward with the CPP.

Secondly, the SCC failed to include any consideration of industrial GHG leakage, a well known, well-documented fact that if energy costs rise in a given country, manufacturing companies become uncompetitive, leaving them no survival alternative but to move their production facilities offshore. When they do, they move the jobs, and the GHG emissions with them. The Waxman-Markey legislation, the EU ETS, and the California AB32 all gave recognition to the fact that GHG leakage is real. Given that GHG leakage is not included, the costs are greatly under-

estimated and the benefits are overstated. Thus, EPA has not complied with EO 12866, among other things.

Thirdly, the EPA does not have the authority to impose the Social Cost of Carbon (International carbon-related costs) on domestic industrial companies. What is different about the power sector is that it is a highly regulated business with public obligations to serve. Because of that, almost all costs of doing business are passed onto the customer, including the cost of environmental regulation. Since about 30 percent of the increased electricity costs and about 25 percent of the increased natural gas costs will be passed onto the industrial sector, the EPA is imposing the equivalent of an international tariff, a cost unilaterally, on U.S. companies, thereby directly damaging competitiveness and dictating trade. The CAA does not authorize the EPA to pick international industrial winners and losers or determine trade policy.

## **7. SUMMARY**

IECA has serious concerns about the impacts of the CPP on the cost and reliability of energy, and therefore the profitability of all U.S. manufacturers, but especially EITE industries. It is clear that the CPP as proposed will dramatically increase the costs of power and natural gas, while providing our offshore competitors an advantage, and creating GHG emissions leakage with a harmful effect on jobs, the economy, and the environment. This will negatively impact reliability of both power supply and natural gas delivery to our manufacturing facilities, and result in emissions reductions that are insignificant when compared to the increases in emissions that will occur in countries with which we compete.

If the CPP is finalized, it must include a safety valve for cost, reliability, and leakage. If we are to achieve a win-win for jobs, the economy and the environment, the CPP requires a sister policy that places a significant value on manufactured products with a low carbon footprint that will level the playing field for domestic products against imports of foreign produced products.

IECA and its member companies are willing participants in aiding EPA in reducing GHG emissions cost-effectively. Member companies have top performing energy management teams with the in-depth knowledge necessary to design sound policy for decision making.

Sincerely,

Paul Cicio  
President