

**Testimony**  
**of**  
**Douglas L. Biden**  
**President**  
**Electric Power Generation Association**  
**before the**  
**Pennsylvania House of Representatives**  
**Environmental Resources & Energy**  
**Committee**  
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**Pennsylvania Energy Strategy**

**Electric Power Generation Association**  
**800 North Third St., Suite 303**  
**Harrisburg, Pennsylvania 17102**  
**Phone: 717-909-3742**  
**Fax: 717-909-1941**  
[www.epga.org](http://www.epga.org)  
<http://www.paenergynews.com>

## **Introduction**

Chairman Adolph, Chairman George, distinguished members of the House Environmental Resources and Energy Committee, good morning. My name is Doug Biden and I am President of the Electric Power Generation Association (EPGA). EPGA is a regional trade association of electric generating companies with headquarters in Harrisburg, Pennsylvania. Our member companies include:

Allegheny Energy Supply  
Cogentrix Energy, Inc.  
Edison Mission Group  
Exelon Generation  
FirstEnergy Corp  
Mirant Corporation  
PPL Generation Group  
Reliant Energy and  
UGI Development Company

These companies own and operate more than 122,000 megawatts (MW) of electric generating capacity in the United States. Approximately half of this capacity is located in Pennsylvania and surrounding states. Our comments today represent the views of EPGA as an association of generating companies, not necessarily the views of any particular member company with respect to any specific issue.

At the outset, EPGA would like to express its appreciation to Chairman Adolph and the Environmental Resources and Energy Committee for this opportunity to present its views on development of an energy strategy for Pennsylvania.

## **The Natural Gas Problem**

It may surprise the Committee that most of my remarks today will focus on natural gas. High prices of this fuel constitute one of the most difficult and economically threatening issues we face in the energy industry in the near and long term. It is vitally important that policymakers at the state, local and federal level fully understand this problem, its causes, its implications for the economy, and potential solutions going forward.

As this Committee knows, nearly all new power plants built in the United States (and in PJM and Pennsylvania) in the last 10 to 15 years have utilized natural gas as their primary fuel. Thus, in recent years and in the near to intermediate future, wholesale power prices will be driven more by natural gas prices than by availability of electric generation. Average PJM spot market prices rose by more than 35 percent in 2003, 11 percent in 2004, and more than 32 percent for the first 10 months of 2005, mostly due to the rising cost of natural gas.

I was requested to provide my perspective on the potential effects of ending the utility generation rate caps in 2009/2010. All I can say at this time is it will probably be largely a function of natural gas price movements between now and then, how good utilities are at hedging natural gas price risk, the impact of natural gas prices on prices of other fossil fuels such as coal, the rate of increase in electricity demand, the cost of more stringent environmental requirements, and the net costs vs. benefits of complying with the Alternative Energy Portfolio Standards (AEPS) requirements.

Well before the shocks of Hurricanes Katrina and Rita we were seeing the results of a growing imbalance between supply and demand for natural gas. While public policies, starting with the Clean Air Act Amendments of 1990, had the effect of encouraging the use of natural gas for power generation and for other uses, other policies made it more difficult to develop new natural gas resources to meet this

demand. These policy contradictions were resolved by debilitating rises in natural gas prices that tripled in the last few years.

By now, everyone is aware that millions of homeowners will be shocked by the rise in home heating costs this winter. Fewer know of the debilitating effect of the natural gas crisis on our industrial economy. The United States now has the highest natural gas prices in the world. Many U.S. industries - chemicals, aluminum, plastics, iron and steel, and food processing companies - use large amounts of gas in their processes and, as they find it more difficult to compete with other countries that have cheaper supplies, are beginning to move their facilities abroad, or shut them down. The chemical industry alone closed 70 facilities in the U.S. last year, and have tagged another 40 more for shutdown. Certainly, many of the 185,000 additional manufacturing jobs that were lost in the Commonwealth in just the past five years were due in part to higher natural gas prices.

### **How Did We Get Here?**

PUC Commissioner Shane, in his remarks before this Committee, pointed out that rising power sector demand for natural gas, which usually peaks in the summer, can curtail the gas industry's ability to inject gas into storage in preparation for the winter heating season, creating upward pressure on prices. And because power generation demand for natural gas has risen in recent years more than that of any other sector, generators are sometimes implicated in the natural gas crisis. In a Congressional hearing in October, many U.S. Senators voiced concerns about the decision of generators to build so many gas-fired generating plants over the past decade. Perhaps members of this Committee have similar questions.

So, why did the generation industry build more than 200,000 megawatts of gas-fired generating capacity in recent years? The reasons, quite simply, were more stringent emission control requirements to meet stricter air quality standards, which themselves (in the case of ground level ozone and particulate matter) were made more stringent during this capacity expansion period. Also, the piecemeal approach to regulating power plant emissions, focusing on sulfur dioxide (SO<sub>2</sub>), nitrogen oxide (NO<sub>x</sub>), and particulate matter individually, rather than holistically, may have contributed to investor preference for gas over coal. In addition, states, acting individually or as part of regional entities (e.g., the Ozone Transport Commission) oftentimes adopt emission requirements that are more stringent than federal standards, creating additional uncertainty and investor preference for gas. Also, the potential threat of carbon dioxide (CO<sub>2</sub>) controls on coal-fired power plants made investors less willing to invest in baseload coal generation of any kind. And in the case of nuclear generation, failure to resolve the used nuclear fuel storage issue and the ongoing development of a new generation of nuclear reactors meant that nuclear was not a near term option (but one that could hold promise in the future).

Natural gas burns cleaner than any other fossil fuel. It does not create significant SO<sub>2</sub> or particulate emissions. Some NO<sub>x</sub> is produced, but can be controlled by combustion modifications and the use of exhaust treatment. Because of its high hydrogen content, CO<sub>2</sub> emissions from natural gas combustion are the lowest of the fossil fuels. All of these factors, coupled with lower capital costs, ease of permitting, shorter construction times, and the need for peaking as opposed to baseload generation, made natural gas fired plants the clear choice of investors prior to the recent price increases.

As the multitude of environmental regulations were promulgated over the last decade (generators in Pennsylvania were subject to four rounds of NO<sub>x</sub> controls alone), some, including EPGA (and its predecessor - the Pennsylvania Electric Association)

expressed concern over the power sector's growing dependence on natural gas. However, representatives of the natural gas industry, who were lobbying in favor of tighter NO<sub>x</sub> controls on power plants, assured regulators that supplies would be adequate, and prices moderate, into the foreseeable future. In December 1999, the National Petroleum Council, an industry group that advises the energy secretary, said that there were "sufficient resources ... to meet growing demand well into the 21st century." The Council projected average prices through 2010 wouldn't rise much beyond \$3 per million BTUs. Obviously reality turned out to be quite different.

Here is a more recent quote from the Council dated September 25, 2003: "Current higher gas prices are the result of a fundamental shift in the supply and demand balance. North America is moving to a period in its history in which it will no longer be self-reliant in meeting its growing natural gas needs; production from traditional U.S. and Canadian basins plateaued."

Forecasts of plentiful future supplies and associated low prices were major factors in the generation sector's expanded use of natural gas. To the surprise of many that situation has changed dramatically. Gas production in the U.S. now appears to be in permanent decline. Imports from Canada (from which the U.S. gets approximately 15 percent of its supply) are expected to decline as that country uses more of its own natural gas resources to meet its commitments under the Kyoto protocol. Imports of liquefied natural gas (LNG) currently provide only 3 percent of the U.S. supply. So the U.S. is essentially on its own to address this problem. It's clear that the natural gas chickens have come home to roost, and we are paying a dear price for it.

And even though we continue to be concerned about our increasing reliance on natural gas, natural gas does and can play an important role for addressing peak demand growth.

## **Factors that will Affect Gas Use**

### **Environmental Issues**

When the "Clear Skies" legislative initiative failed to get out of Committee in the U.S. Senate, EPA promulgated the Clean Air Interstate Rule (CAIR), Clear Air Mercury Rule (CAMR), and Clean Air Visibility Rule (CAVR) earlier this year. These are significant and tough new regulations imposed on our industry that we stand ready to implement. CAIR requires an additional 65 percent reduction in SO<sub>2</sub> emissions, and approximately a 70 percent reduction in NO<sub>x</sub> emissions in two phases, with phase 1 in 2010 and phase 2 in 2015. Nationwide, CAMR requires a 20 percent reduction in mercury emissions by 2010, and a 70 percent reduction by 2018. For Pennsylvania, however, CAMR requires a 64 percent reduction in mercury emissions by 2010, and an 86 percent reduction by 2018.

Achieving these emission reductions will be challenging, particularly the mercury reduction requirements, as they are steeper for Pennsylvania under CAMR than for any other state. However, the federal rules, employing a cap and trade program similar to the successful acid rain program, gives individual power plants the flexibility to adopt new technology as it becomes available and determine the best way to meet new emission limits in the most cost-effective way possible. It also sets a timetable that will minimize the forced retirement of coal fired power plants, allow for the orderly replacement of those units that are retired, and, most importantly, not unnecessarily accelerate the economically destructive use of scarce natural gas as a replacement fuel for coal.

Unfortunately, before we even know the energy market price impacts of CAIR and CAMR, in this time of surging energy prices, some states, including Pennsylvania, have already announced intentions to adopt their own mercury rules. And the Northeast

Ozone Transport Commission (OTC), of which Pennsylvania is a member, has announced its intention to develop a multi-pollutant model rule next year called "CAIR-Plus", that will require power plant emission reductions well beyond CAIR, and on a faster timetable. We believe both of these potential developments would constitute unwise public policy for Pennsylvania as both would contribute to more retirements of coal fired generating capacity and greater use of scarce natural gas by the power sector at the worst possible time.

EPGA and some of its members have been participating in the Department of Environmental Protection mercury stakeholder meetings. To date, we have heard no compelling evidence presented as to why the Commonwealth should adopt its own mercury rule, particularly given the steep reductions required of Pennsylvania under the federal rule. The Pennsylvania DEP has said that we need a Pennsylvania rule to protect Pennsylvania coal related jobs. Yet the Pennsylvania Coal Association, the United Mine Workers, the International Brotherhood of Electrical Workers and EPGA (as well as other industry groups) remain opposed to a Pennsylvania rule because we believe the state rule will only compound and make worse the competitive disadvantages for Pennsylvania inherent in the federal rule.

We believe the electric power sector is doing more than its fair share under CAIR to assist states in meeting both the new ozone and particulate standards. By 2010, the power sector's share of the ozone precursor emissions inventory is projected to decline to 9 percent. The additional "CAIR-Plus" NO<sub>x</sub> and SO<sub>2</sub> controls would not facilitate the OTC region's ability to demonstrate attainment with the 8-hour ozone standard, and are not needed to attain the particulate standard. It is said that you cannot get blood from a stone. With regard to our industry, that will not stop OTC regulators from trying. We have written to the Commission (and to the Pennsylvania Department of Environmental Protection) and raised many of the same economic issues mentioned in this testimony. To date, our arguments have fallen on deaf ears.

#### **Nuclear Power**

Nuclear generation provides a substantial amount of Pennsylvania's electricity supply and currently contributes approximately 36% of our state's electricity generation. Many of the nation's reactors are filing for the renewal of their current operating licenses for an additional 20 years. Pennsylvania's nuclear plants have received approvals or will be submitting their license renewal applications with the U.S. Nuclear Regulatory Commission (NRC). It is important from both an electricity supply and air quality perspective that these plants continue to operate and contribute to Pennsylvania's electricity mix.

The federal government recognized the current and future potential for nuclear and included financial incentives for the research, development and deployment of a new generation of reactors. We think it is important to support those national efforts. Wholesale market prices have benefited from the efficient and reliable operation of our nuclear units. New plants will need to be safe, economic, and have both regulatory and political support for new construction to take place. In the interim, it is important to pursue research and development opportunities so that new nuclear construction can once again be considered as a viable generation option. Finally, we must have a workable solution to the used nuclear fuel issue.

#### **Advanced Coal-fired Technology**

Coal is clearly our most abundant domestic energy resource, and is particularly important to Pennsylvania. Although coal generation is the largest contributor to Pennsylvania's electricity portfolio, as previously referenced in my testimony, it continues to confront ever-tightening emission control requirements. In order to provide the most efficient and cleanest application of coal-fired generation, it is important to develop and

deploy new, cleaner, coal-fired technologies. One such technology is the Integrated Gasification Combined Cycle (IGCC) system that gasifies, as opposed to burning coal directly. The end result is that in the combustion process used in the generation of electricity, the ability to more efficiently capture sulfur and nitrogen oxides is enhanced. The federal Energy Policy Act of 2005, and the recently announced Pennsylvania EDGE initiative, include several financial incentives to promote IGCC development.

### **Renewable Energy**

Although renewable energy comprises a small percentage of our current electricity supply mix, recent state and federal legislative initiatives provide both incentives and mandates for its expansion. Pennsylvania must continue to support the improved performance and cost competitiveness of renewable energy technologies. Renewable energy can take the form of wind, solar, biomass, hydroelectric, and other sources. Continued investment in and support of renewable generation will enhance our understanding of both its operational benefits and limits.

### **Energy Efficiency and Demand Response**

While as an association, EPGA's primary interest and focus has been on the development and utilization of various electricity supply alternatives, it would be remiss for me not to stress the importance of the efficiency in which we use electricity, and other energy resources. Although Pennsylvania has been one of the leaders in building energy efficiency requirements, it should continue to examine the need for appliance efficiency and increased building energy efficiency standards.

Also, an important component of a complete state and regional energy plan, is the recognition of the value that demand response can have to meeting peak load growth. PJM already has an Active Load Management (ALM) program that realizes the capacity value of demand related responses and investments. It also has an emergency and an economic demand response program. EPGA members are committed to integrating those programs into the PJM markets.

### **Recommendations**

Others addressing the Committee today are more qualified than I am to provide specific recommendations regarding our options to improve the natural gas supply picture. Let me just say in passing that EPGA fully supports increased access to more natural gas supplies - whether from Alaska, the state and federal offshore regions, onshore public and private lands (including here in Pennsylvania), and imports of LNG - and wants to see this done within reasonable constraints to protect the environment.

Regarding the development of the Pennsylvania mercury rule, since we are still participating in the stakeholder process, and do not know what the Pennsylvania rule might look like, it may be inappropriate at this time to request any immediate action by this Committee relative to that initiative. However, we do welcome your involvement and believe you should play a key oversight role in this process. If Pennsylvania is to adopt its own mercury rule, we believe the General Assembly should be fully involved in the process up front. There should be full evidentiary hearings with the costs and benefits of a Pennsylvania only rule versus a federal rule fully explored before a rule is developed. This matter involves energy, environmental and economic issues far too complex and important to the welfare of this state to be left to a petition process before the Environmental Quality Board with input from the General Assembly relegated to the back end of the regulatory review process.

Regarding the "CAIR-Plus" proposal, my primary purpose in raising this issue was to alert the Committee to this development before it becomes a regulatory initiative next year. It is possible that the "Clear Skies" initiative, which would essentially establish the CAIR requirements in federal legislation, could be reconsidered in Congress this

year. If that occurs, we would appreciate the Committee's support with the Pennsylvania Delegation in passing that legislation. Also, it is important to remember that DEP's efforts to meet National Ambient Air Quality Standards must include all sources contributing to nonattainment, including mobile sources, not just power generators.

Finally, EPGA participated in Representative Bard's Energy Policy Task Force three years ago that resulted in a number of recommendations, one of which was to grant tax credits for investments in power plant emissions control equipment. Most of the Task Force members approved this recommendation and it appeared in early versions of House Bill 2751 (2001/2002 session) and House Bill 121 (2003/2004 session). For reasons that are not altogether clear to us, this provision was omitted from the version of House Bill 121 that was eventually passed by the House. We believe the energy, environmental, and economic policy arguments in favor of this policy are as persuasive today as they ever were. Accordingly, we recommend it for Committee consideration as a possible amendment to House Bill 1964 introduced in the current term.

I'm sure this Committee knows that hearings similar to this one are being held in Washington and in other states. The energy situation has rattled nerves and everyone is looking for answers. Generally, there is a stunned recognition that we are facing a very difficult situation that does not lend itself to quick fixes or short-term legislative solutions. Rather, it is important to recognize that electric generators, because they are one of the most capital-intensive industries in the nation, need a more stable and predictable environment in which investment decisions are made, including environmental investment decisions.

We are hopeful that as more and more policymakers understand the link between generators' decisions, particularly regarding increased use of scarce natural gas, and the overall health of the economy, that they will come to understand the need for a more reasoned, predictable, and holistic approach to regulating power plant emissions, such as that inherent in the current federal proposals, going forward.

In closing, EPGA would like to say that while we have serious concerns about some policies currently being pursued in Pennsylvania, we appreciate the Administration's and the General Assembly's oft-stated commitments to supporting Pennsylvania energy sources and fuel diversity in our energy mix. And we are committed to advancing policies which will do just that.

Thank you.