

Summary of Testimony of Michael G. Morris, Chairman, President, and CEO American Electric Power before the House Subcommittee on Energy and Air Quality

American Electric Power (AEP) is one of America's largest electricity generators, serving 5+ million consumers in 11 states. Although AEP utilizes diverse generation – coal, nuclear, hydroelectric, gas, oil and wind – notably, it is America's largest coal-fired electricity generator. We believe that mandatory cap-and-trade climate legislation can be designed that is compatible with AEP's commitment to provide reliable, reasonably priced electricity to our customers. AEP is one of a handful of companies that have publicly endorsed actual cap-and-trade legislation. We also recognize that Chairman Boucher's Carbon Capture and Storage Early Deployment Act (H.R.6258) is both complementary and essential, but is not a replacement for, mandatory climate change legislation. We commend his initiative, and this specific bill – which we strongly support.

AEP sees great promise in carbon capture and storage (CCS) technology because it will enable our nation's most abundant domestic energy resources – coal – to be used in an even more environmentally beneficial manner than it is today. We also see great promise in cap-and-trade; and we commend Congress for resisting outdated command and control performance standards, which are incompatible with the advantages of a gradual, economy-wide, market-based system that includes effective cost containment and free allowances to the electric sector based upon historic emissions. We also see the need for demonstration/deployment incentives for CCS and other advanced technologies, and use of domestic and international offset credits that are accurately quantified and verified. Finally, legislation must include a provision to encourage rapidly developing countries to also promptly curb their greenhouse gas emissions.

All pending climate bills in Congress, to meet stabilization targets, call for greenhouse gas emissions reductions of 60 to 80% by 2050. Achieving this will require major technological advances to capture and store CO₂ from the burning of coal, which is America's and much of the developing world's most abundant energy source. CCS should not be required through mandatory climate change legislation unless demonstrated to be effective and its costs have dropped to enable widespread commercial availability. Much needs to be done before the large deployment of CCS can occur. AEP is aggressively exploring the viability of CCS technology in several first-of-a-kind commercial projects. AEP is an industry leader in developing and deploying new technologies – from the first high voltage transmission lines to new supercritical and ultra-supercritical powers plants. The costs of such innovations are, by necessity, high.

H.R. 6258 is absolutely essential to prove CCS and other promising technologies in time for an aggressive, mandatory, cap-and-trade program. Regulated utilities need the approval of public utility commissions (PUCs) to include power and technology costs in electric rates. Generally, PUCs only approve costs that are necessary and prudent or in compliance with applicable federal and state requirements. While states may fund limited R&D projects, PUCs generally approve additional costs for environmental controls only when specifically required by statute or regulation. This represents the ultimate “chicken-and-the-egg” climate change paradox. AEP believes that we will face a mandatory federal cap on our emissions, and that this will be enacted into law during the next decade. Many would consider it imprudent to build to build new electric generating plants with anything other than state-of-the-art and advanced technology today in order to assure the achievement of the ambitious GHG emission reduction goals for 2050. We are still operating plants that were built during the Eisenhower, Kennedy and Johnson administrations, and plants built today will be operating during the term of the President who sits in the Oval Office in the 2050s. Thus, utilities and PUCs alike face significant obstacles when constructing advanced technology to meet environmental requirements that are certain to be enacted into law, but that has not yet occurred. Despite this conundrum, AEP proposed to construct an IGCC plant to serve our West Virginia and Virginia customers, since IGCC works more effectively to reduce CO₂ emissions through future CCS applications. Although West Virginia approved, Virginia did not. Despite this outcome, I am hopeful that a means can be found to move forward. We must take the long view, and recognize that some form of cap-and-trade legislation will become law.

This hearing is focusing on potential solutions to this dilemma. Despite early success in clean coal initiatives, the viability of appropriations has been undermined with a succession of appropriations deferrals, delays and reductions, and appropriations are not likely to be of the magnitude required for CCS. The broad remedy to these circumstances is a guaranteed source of funding through a small wires charge. That is the solution proposed in H.R. 6258. The demonstration projects envisioned by this bill are essential to an important public policy goal and must be started as soon as possible. H.R. 6258 represents a new, breakthrough approach to fix our broken system for funding development of advanced environmental technology. America needs H.R. 6258 now – well before actual enactment of any climate legislation. H.R. 6258 presents a vital opportunity to fix the rate recovery system for early deployment of CCS.

Testimony of
Michael G. Morris
Chairman, President, and Chief Executive Officer
American Electric Power
Before the House Energy and Commerce
Subcommittee on Energy and Air Quality
July 10, 2008

Good morning Mr. Chairman and distinguished members of the Subcommittee on Energy and Air Quality of the House Committee on Energy and Commerce.

Thank you for inviting me here today. Thank you for this opportunity to offer the views of American Electric Power (AEP) on H.R. 6258, the Carbon Capture and Storage Early Deployment Act.

My name is Mike Morris, and I am the Chairman, President, and Chief Executive Officer of American Electric Power (AEP). Headquartered in Columbus, Ohio, we are one of the nation's largest electricity generators – owning nearly 38,000 megawatts of generating capacity -- and serve more than five million retail customers in 11 states in the Midwest and south central regions of our nation. AEP's generating fleet employs diverse sources of fuel – including coal, nuclear, hydroelectric, natural gas, and wind power. But of particular importance for the Subcommittee members here today, AEP uses more coal than any other electricity generator in the Western hemisphere, and is an industry leader in developing advanced technology. We support H.R. 6528 because of our strong interest in carbon capture and storage (CCS) technology as an important mitigation option for reducing greenhouse gas emissions,

while continuing to support the generation of electricity from our nation's most abundant domestic energy resource – coal – in an environmentally beneficial manner.

AEP Support for Federal Climate Legislation

Over the past decade, AEP has implemented a broad portfolio of voluntary actions to reduce, avoid or offset greenhouse gas (GHG) emissions. These actions include participation as a founding member the Chicago Climate Exchange through which AEP has made legally binding commitments to achieve a 6% reduction in our 1998-20001 GHG emission levels by 2010. AEP expects to achieve 46 million metric tons of GHG emission reductions through measures – just to name a few – that improve efficiency of our power plants, manage forests and agricultural lands for carbon sequestration, implement energy conservation and efficiency measures, and deploy renewable energy and clean power projects. In addition, we continue to invest in new clean coal technology plants and demonstration projects that will enable AEP and our industry to meet the challenge of significantly reducing GHG emissions over the long term. These undertakings include efforts to demonstrate and deploy new advanced coal technologies and the application of CCS technologies.

However, our commitment to addressing climate change does not end there. AEP also is committed to working with you to pass mandatory cap-and-trade federal legislation that is well thought-out, achievable, and reasonable. A well-designed federal regulatory program will allow AEP to obtain recovery of our costs for the commercialization and deployment of advanced technology to reduce our greenhouse gas emissions. We believe legislation can be crafted in a manner that does not impede AEP's ability to provide reliable, reasonably priced electricity to support the economic well-being of our customers, and includes mechanisms that foster international participation and avoid creating inequities and competitive issues that would otherwise harm the U.S. economy.

AEP is one of a small handful of companies that have publicly endorsed mandatory cap-and-trade legislation, as introduced in the Congress, to reduce greenhouse gas emissions across the U.S. economy. AEP supports reasonable legislation, and is not calling for an indefinite delay until advanced technology such as CCS is developed. However, as the requirements become more stringent and we move beyond the ability of current technology to deliver those reductions, it is essential that requirements for deeper reductions coincide with the commercialization of advanced technology. Although the technologies for effective CCS from coal-fired facilities are developing, they are not yet commercially prepared to meet America's sustained production needs, and cannot be artificially accelerated through unrealistic reduction mandates. For these reasons, we do not believe that applying performance standards on new sources is compatible with our needs or the needs of our customers, regulators, and the nation. Such standards have the potential to eviscerate the economic efficiencies of a cap-and-trade program and would significantly undermine the essential genius of this proven least-cost concept. Rather, AEP strongly supports federal policies for accelerating development of CCS technologies, like H.R. 6258, that are complementary, but not intended to be a replacement for a federal cap-and-trade program.

A sound national policy for reducing GHG emissions, based on a cap-and-trade type approach, should include the following design elements:

- The cap should apply to all sectors of the economy and cover all greenhouse gases.
- A comprehensive cap-and-trade framework should be used to maximize flexibility and minimize the costs of the program.
- The reduction levels should be gradually phased in over time to reflect the lead-time necessary for demonstrating and deploying new low-and zero-emitting technologies on a broad commercial

scale. Setting reasonable and achievable emissions caps is critical to ensure that the power industry can still provide reliable and affordable electricity and ensure continued economic competitiveness for U.S. workers and industries.

- An effective cost containment mechanism related to the price of allowances to ensure the U.S. is not harmed by a transition to a carbon-constrained economy. Such a mechanism assures that consumers will not be excessively burdened, especially as environmental markets are developing.
- An appropriate allocation of allowances, at no cost, to the electric power sector in order to blunt otherwise inevitable electricity price spikes to customers. Allowances should be allocated based on historic emissions without cost to the electric power sector. At most, only a small number of the allowances (less than five percent) should be distributed through auctions or set-asides for general public benefit purposes. Cost-of-service utilities must pass through the benefit of such an allowance allocation to their retail and industrial customers. This approach is essential to minimize the cost burden to retail consumers, to safeguard competitiveness of U.S. industries, and to avoid harm to the U.S. economy. If, however, allowances are distributed primarily through an auction, electric utilities will directly pass through the cost of allowances that they are required to buy through an auction, thus significantly increasing costs to consumers. For this reason, the auction requirement in many bills is the most costly provision in that legislation.
- Adequate federal incentives to support the demonstration and deployment of CCS and other advanced technologies for reducing greenhouse gas emissions from existing and new generating capacity. Given the enormity of this technology challenge, federal incentives for the electric power sector must be substantial and should include the distribution of bonus allowances and auction revenues to further the rapid deployment of such advanced technologies.
- Full use of domestic and international offset credits in addition to the allowances allocated under the emission cap, so long as those offsets are accurately quantified and properly verified.

How these and other aspects of the program are crafted is also critical for ensuring the design of a cost-effective federal program that will not impose disproportionate or excessive costs on consumers, or particular regions of the country.

Finally, it is essential that federal climate change legislation includes a provision to encourage rapidly developing countries to also curb their greenhouse gas emissions. This matter has profound ramifications for our global environment, and huge consequences for our national economy. As I have previously testified before this subcommittee, this long-standing concern inspired my friend, Mr. Edwin D. Hill, International President of the International Brotherhood of Electrical Workers (IBEW), and I to develop what we believe to be an effective policy response to the international aspects of federal climate change legislation.

Why is Development of Advanced Technology Necessary?

This Subcommittee, and the Congress, is increasingly focused on issues related to climate change, and how we can address the challenge posed by global warming. AEP is at the forefront of this issue. While AEP has done much and will do much more, to voluntarily mitigate GHG emissions from its existing sources, we – as noted above – support reasonable and achievable mandatory cap-and-trade legislation.

Changing consumer behavior by buying efficient appliances and cars, by driving less, and other similar steps, is helping to reduce the growth of GHG emissions. However, these steps will never be enough to significantly reduce CO₂ emissions that result from the use of fossil fuels. Such incremental steps, while important, will never be sufficient to stabilize greenhouse gas concentrations in the atmosphere at a level that is believed to be capable of preventing dangerous human-induced interference with the climate system, as called for in the U.S.-approved U.N. Framework Convention on Climate Change (Rio agreement). All of the pending climate bills in the Congress, to meet stabilization targets,

call for a reduction in greenhouse gas emissions by 60 to 80 percent by 2050. As you know, stabilization will require that other countries also take significant steps to reduce their greenhouse gas emissions.

To achieve that end, we need major technological advances to effectively capture and store CO₂, particularly from the burning of coal. Coal is the most abundant energy source in America, with 250 years of reserves at current consumption rates. The same is true for developing nations like China and India, who are even more dependent on their domestic coal reserves. What are the other alternatives if CCS is not commercially available in time to meet aggressive climate targets? Current coal-fired electricity production would have to be replaced with nuclear and natural gas. However, it must be understood that natural gas, although roughly 50 percent of the CO₂ emissions from coal, still represents a significant carbon footprint. Natural gas generation alone will not meet the aggressive climate targets. Increased use of natural gas for electricity production has even more serious repercussions for the chemical and agriculture sectors, which utilize natural gas as a feedstock. The Congress and indeed all Americans must begin to recognize the gigantic undertaking and significant sacrifices that this enterprise – the development of CCS and advanced technology to burn coal -- is likely to require.

Significantly, today's costs of new clean-coal technologies with carbon capture and storage are much more expensive than current coal-fired technologies. For example, carbon capture and storage using current monoethanolamine (MEA) technology is expected to increase the cost of electricity from a new conventional pulverized coal fired power plant by about 60 to 90 percent. Even the newer chilled ammonia carbon capture technology we plan to deploy on a commercial sized scale by 2012 at one of our existing coal-fired units will result in significantly higher costs of electricity.

Additionally the MEA technology has limitations under existing plant retrofit conditions. The capture of CO₂ emissions requires a large volume of steam to regenerate the amine used for the CO₂

process. Preliminary design reviews at several existing pulverized coal units indicates that steam from the power generation cycle can be used to regenerate the amine necessary to capture only about 50 percent of the CO₂, without a large detrimental effect on the steam cycle.

It is only through the steady and judicious advancement of these applications during the course of the next decade that we can start to address these technical challenges and bring these costs down, in order to avoid substantial electricity rate shocks and undue harm to the U.S. economy.

CCS cannot be deployed until it has been demonstrated to be effective and the costs have significantly dropped so that it becomes commercially available and deployable on a widespread basis. Until that threshold is met, it would be technologically unrealistic and economically unacceptable to require the widespread installation of carbon capture equipment. The use of deep saline geologic formations as primary long-term CO₂ storage locations has not yet been sufficiently demonstrated. There are no national standards for permitting such storage reservoirs; there are no widely accepted monitoring protocols; and the tools to effectively manage the risks and potential liabilities are currently unavailable.

Outstanding technical questions for CO₂ storage include: What is the optimal number of injection wells? What is the injection well lifespan? What is the recommended proximity between injection wells? What measurement, monitoring, and verification of storage in geologic formations are needed? What is the time frame of post-injection monitoring? Answers to these questions are largely site-specific due to the natural variability of geologic conditions such as target formation capacity and caprock integrity. Much work needs to be done to ensure that the potential large and rapid scale-up in CCS deployment will be successful.

Underscoring these realities, industrial insurance companies point to this lack of scientific data on CO₂ storage as one reason they are disinclined to insure early projects. In a nutshell, the institutional infrastructure to support CO₂ storage does not yet exist and will require time to develop. In addition, application of today's CO₂ capture technology would significantly increase the cost of an Integrated Gasification Combined Cycle (IGCC) or a new efficient pulverized coal plant, calling into serious question the likelihood of regulatory approval for the costs of such a plant by state regulators. Further, recent studies sponsored by the Electric Power Research Institute (EPRI) suggest that application of today's MEA-based CO₂ capture technology would increase the cost of electricity from an IGCC plant by 40 to 50 percent, and boost the cost of electricity from a conventional pulverized coal plant by 60 to 90 percent, which would again jeopardize state regulatory approval for the costs of such plants.

Despite these uncertainties, I believe that we must aggressively explore the viability of CCS technology in several first-of-a-kind commercial projects. AEP is committed to help lead the way, and to show how this can be done.

AEP's Technology Development

Over the last 100 years, AEP has been an industry leader in developing and deploying new technologies beginning with the first extra high voltage transmission lines at 345 kilovolt (kV) and 765kV, to new and more efficient coal power plants starting with the large central station power plant, progressing to supercritical and ultra-supercritical powers plants. We are continuing that today. We have deployed 14 selective catalytic reactors (SCRs) for reducing NO_x, and 10 Flue Gas Desulphurization units for reducing SO₂ and other air pollutants, with others currently under construction, and we are a leader in developing and deploying mercury capture and monitoring technology. In addition, we continue to invest in new clean coal technology plants and demonstration projects that will enable AEP and our

industry to meet the challenge of significantly reducing GHG emissions in future years. AEP continues its efforts to build two new generating plants using IGCC technology in Ohio and West Virginia, as well as highly efficient new generating plants using the most advanced (ultra-supercritical) pulverized coal combustion technology in Arkansas in 2006. IGCC technology, for example, integrates two proven processes – coal gasification and combined cycle power generation – to convert coal into electricity at least as efficiently and cleanly as the most advanced coal combustion-based power plant today. Not only is it cleaner and more efficient than today’s installed power plants, but IGCC has the potential to be retrofit in the future for carbon capture at a lower capital cost and with less of an energy penalty than traditional coal combustion-based power plant technologies. However, the integration of these technologies along with the use of a hydrogen combustion turbine must still be fully developed and demonstrated before widespread deployment. Our IGCC plants will incorporate a CO₂ storage feasibility study and will reserve space to capture and compress CO₂ for sequestration.

The cost of constructing these plants will be high, resulting in a cost of generated electricity that would be 20 to 30 percent greater than that from traditional combustion technology. As more IGCC plants are built, the costs of construction are expected to come into line with the cost of PC plants. Unfortunately, as explained below, our experience with IGCC has underscored the need for a funding mechanism to develop advanced technology. We are also working to advance carbon capture and storage technology.

AEP’s Major Initiative to Reduce GHG Emissions through CCS

In March 2007, AEP announced several major new initiatives to reduce AEP’s GHG emissions and to advance the commercial application of carbon capture and storage technology and Oxy-coal combustion. Our company has been advancing technology for the electric utility industry for more than

100 years. Technology development needs are often cited as an excuse for inaction. We see these needs as opportunities for action.

AEP has signed a contract with Alstom, a worldwide leader in equipment and services for power generation, for post-combustion carbon capture technology using Alstom's chilled ammonia system. It will be installed at our 1300-megawatt Mountaineer Plant in New Haven, West Virginia as a 20-megawatt electric commercial performance verification project by late 2009. Once installed, this project is projected to capture and store up to 150,000 metric tons of CO₂ per year. We will store the CO₂ emissions in an existing deep saline aquifer using an injection well at the Mountaineer site that AEP had previously developed in conjunction with the Department of Energy (DOE) and Battelle. Working with Battelle and with continued DOE support, we will use this injection well and develop others to store and further study CO₂ injection into deep geological formations.

Following the completion of commercial verification at Mountaineer, AEP plans to install Alstom's system on a commercial scale at one of our power plants in the AEP system. This is more likely in the West where the CO₂ captured can be used for enhanced oil recovery.

AEP hopes to begin commercial operation very soon – in the 2012 time frame. As explained below, H.R. 6258 is absolutely essential if AEP and other electric utilities are to move forward with CCS in that time frame. Such a federal policy is what is required if we are to get started and prove CCS technology, and have it commercially available, in the likely time frame of the implementation of mandatory cap-and-trade legislation.

Funding the Development of Costly Advanced Technology

Regulated utilities are required to obtain the approval of public utility commissions (PUCs) to include the cost of power plants and similar technology projects in electricity rates. While the legal standards governing PUCs vary from state to state, they generally require that PUCs only approve the cost of such plants, and an increase in electricity rates, to the degree that is necessary and prudent to ensure adequate electricity supplies and the transmission and delivery of power in compliance with all other applicable federal and state requirements. While states may fund discrete, limited research and development projects, state PUCs generally approve additional costs for environmental controls when these controls are specifically required by state or federal statutes or regulations.

Utilities therefore face significant obstacles with regards to funding the construction of advanced technology to meet future environmental regulations before those standards are known. This represents the ultimate “chicken-and-the-egg” climate change paradox. AEP believes that we will face a mandatory federal cap on our emissions, and that this will be enacted into law during the next decade. Current proposed legislation calls for huge reductions in GHG emission levels, in the range of 60 to 80 percent by that same time frame. Many would consider it imprudent to build to build new electric generating plants with anything other than state-of-the-art and advanced technology today in order to assure the achievement of these ambitious GHG emission reduction goals. Any power plant constructed today will have a lifetime of at least 50 years. We are still operating plants that were built during the Eisenhower, Kennedy and Johnson administrations, and plants built today will be operating during the term of the President who sits in the Oval Office in the 2050s.

On the other hand, state PUCs generally base their decisions on existing federal laws, rather than a projection of possible emission caps or other control requirements under future but not yet enacted federal

legislation. State PUCs are therefore hesitant, if not unwilling, to approve of the construction of more expensive IGCC plants, let alone CCS.

This poses a huge dilemma for both utilities as well as state regulatory agencies. Any increase in rates must be based on what is prudent and necessary to meet current and projected demand based on existing state and federal environmental requirements. Yet we can all agree the likelihood of mandatory federal GHG emission caps is high in just the next few years, and such legislation will very likely be enacted into law by 2015.

The other issue facing both state PUCs and utilities is that a utility that chooses to build an early commercial scale project to demonstrate and prove advanced technology must pay a high premium for being among the first to deploy advanced coal technologies such as IGCC and CCS. However, the utility and its customers do not directly benefit from the financial return created by the sale of the next and cheaper generation of the same technology. Those benefits flow to the developer of the technology. The shareholders of the developer will likely benefit from the future sales -- after the utility, the state PUC and utility customers paid higher rates for the construction of the first generation of the technology.

What should a utility do? Should we wait, and not build anything for the next 5 to 10 years, until federal mandates are in place? That would likely be considered imprudent as we look at future load growth and increasing demand for electricity during the next decade. AEP's solution to this dilemma was to propose to construct an IGCC plant that would serve our customers in West Virginia and Virginia, and another for our customers in Ohio. The deployment of these IGCC facilities is intended to provide the platform for then reducing CO₂ emissions through future CCS applications

What should a PUC do when reviewing a requested increase in rates for the construction costs of such a plant? While the West Virginia Public Service Commission approved the project, the Virginia State Corporation Commission (SCC) ruled that the AEP proposal was neither "reasonable" nor "prudent." It explained that because the capital costs for the IGCC plant would be much higher than reported costs for other traditional coal-fired power plants alternative, lower-cost capacity should be pursued.

AEP was deeply disappointed by the decision of the Virginia SCC. AEP believes that IGCC power generation technology is the best way to meet the growing demands of our customers in our eastern service territory and to ensure future energy supplies by allowing us to continue to use abundant eastern bituminous coal supplies with less environmental impact. AEP continues to investigate other options and is hopeful that a means can be found to move forward with this IGCC plant, as well as our proposed IGCC in Ohio.

What is the lesson to be learned from our experience? In part it is that the current regulatory system, in many states, may not allow for rate recovery for full scale generation plants using advanced technology. State PUCs, such as the Virginia SCC, are already operating under the constraints of rapidly rising energy and commodity prices. PUCs must balance what is reasonable and prudent in light of their mandate to ensure affordable and adequate electricity supplies, against existing federal statutes and environmental requirements.

Fixing the System – Guaranteeing the Funding and Development of Technology

This hearing is focusing on potential solutions to this chicken-and-egg dilemma on the federal level. Allow me to first comment on several alternatives that have historically not fully met the test of advancing the development of technology.

With regards to the development of advanced technology, the main focus of the DOE has been on funding research, development and deployment through the various clean coal programs, such as the Clean Coal Power Initiative (CCPI) or projects such as FutureGen. The clean coal programs have successfully contributed to the development of advanced technology over the last 30 years. On the other hand, the early successes depended in part on the use of “advance appropriations” where billions of dollars were appropriated in advance and then provided a guarantee to pay for the development and construction of advanced technology. However, in the modern period of budget deficits and a high level of fiscal uncertainty from one year to the next, let alone from one administration to the next, new advanced appropriations have fallen by the wayside and therefore are not a political option – and certainly not at the same level of funding or magnitude. Today, even when funds are appropriated, they are often deferred or delayed from one year to the next. Developers of technology, and utilities, are increasingly reluctant to count on the appropriations process as a guaranteed source of funding for these necessarily very expensive, multi-year projects. The decision by DOE to no longer fund FutureGen vividly underscores this concern.

The remedy to unreliable annual appropriations is a guaranteed source of funding through a wires charge – a small charge that is added to each utility bill. In the longer term, this small wires charge will save our ratepayers billions of dollars by ensuring faster deployment of CCS, rather than having to rely on more costly strategies to reduce CO₂ emissions. That is the solution proposed in H.R. 6258, the Carbon

Capture and Storage Early Deployment Act. Critical to the success of this undertaking in a timely manner is an assurance of cost recovery by utilities of the funds contributed to the Corporation.

I understand that state utility commissions have legitimate concerns that the Corporation uses these funds properly. From my perspective today, this is best accomplished by having a transparent process for the Corporation's research and funding decisions, with the participation of the National Association of Regulatory Utility Commissioners (NARUC). Going forward, we must work together to find a suitable solution to these concerns. In the end, however, the RD&D activities envisioned by this bill are essential to accomplishing an important national public policy goal and need to get started as soon as possible. If these activities are to be undertaken, cost recovery is extremely important. This is all that Section 8 of the bill attempts to accomplish by providing certainty to utilities that they will be able to recover through rates the funds that they contribute to the Corporation. I look forward to working with NARUC and others to address these challenges.

AEP applauds the leadership demonstrated by Chairman Boucher in introducing this important legislation that represents a new, breakthrough approach to fix our broken system for funding the development of advanced technology. I also commend those who have joined as cosponsors, many of whom are from districts served by AEP, and some of whom are members of the Subcommittee and present today -- Mr. Upton, Mr. Murtha, Mr. Barton, Mr. Rahall, Mr. Whitfield, Mr. Costello, Mr. Shimkus, Mr. Matheson, Mr. Doyle, Mr. Holden, Mr. Ellsworth, Mr. Hill, Ms. Wilson, Mr. Towns, and Ms. Pryce.

AEP strongly supports the Carbon Capture and Storage Early Deployment Act introduced by Chairman Boucher. This bill creates a critically important bridge to the future, by providing for funding for CCS for the next 10 to 15 years. The early commercial demonstration of CCS technology is essential

if coal is to remain economically viable under mandatory carbon reduction constraints. But more is at stake than just the future of coal. Coal powers the American economy, and maintaining America's future standard of living therefore depends on proving the technical and economic feasibility of CCS.

Climate legislation likely will include various funding mechanisms for CCS. But this legislation may not be enacted for at least two or three years, and the promulgation of regulations for a domestic cap-and-trade program could take an additional three to five years. Therefore, we may be at least 8 to 10 years away from a guaranteed funding source for CCS as part of climate change legislation.

America can't wait that long. We need to get started now to develop and prove CCS. The Carbon Capture and Storage Early Deployment Act provides the means to do so. It utilizes a very small charge added to the bills of consumers who benefit from electricity generated from fossil fuels. The charge amounts to only about \$5 to \$10 per year for the average household. But it will raise about \$1 billion annually over the next 10 years to jump-start the deployment of CCS.

AEP also commends the United Mineworkers of America (UMWA) and the International Brotherhood of Electrical Workers (IBEW) for their development of this very important legislation in collaboration with Mr. Boucher. AEP, the IBEW and the UMWA share a commitment to building the bridge to the future for coal-fired electricity, both through this important bill and by the enactment of cost-effective and achievable climate legislation.

H.R. 6258 is not the solution for the entire challenge posed by climate change. It is not a replacement for mandatory cap-and-trade legislation. As I explained above, AEP supports mandatory climate change legislation that would establish a reasonable and achievable cap for greenhouse gases, and

also reduce costs through the use of various market mechanisms. H.R. 6258 does not cap or limit emissions. That is not the goal or legislative intent of this bill.

The Carbon Capture and Storage Early Deployment Act provides an essential bridge to the future, and a means to guarantee funding for the development of CCS in the early years, so it can be demonstrated and proven to work, to protect the environment, and to be safe to the areas in which it is deployed. Chairman Boucher and the cosponsors have provided an important public service for their constituents and for the nation, for the reality is that CCS is not just necessary – it is essential. Without CCS it will be impossible to burn coal and reach the cap levels posed in most legislation from 2020 through 2050 and beyond for the remainder of the century. That is not only true in our own country, it is the case for the rest of the world as well since nations like China and India possess huge coal reserves and are already rapidly expanding their existing fleet of coal plants.

In closing, it is also important to note that H.R. 6258 solves only part of the climate and technology puzzle for utilities, by providing initial funding for early deployment of CCS technologies. It does not address the need to construct IGCC plants and other advanced technology to burn coal. CCS has the potential to operate in an efficient and cost effective manner when used in conjunction with the cleaner emission gas of IGCC. IGCC and CCS represent the natural pairing of two technologies – IGCC to use coal, and CCS to capture and store the CO₂. Other CCS technologies also need to be developed for use with other combustion technologies, both at new and existing generating units.

Chairman Boucher's bill represents an absolutely critical step forward for advancing CCS technologies. However, this step is part of broader set of reforms that are necessary to fix our funding system for electric utilities. Chairman Boucher has wisely decided to not try to solve all problems, or

claim that his bill is the solution to the entire climate change issue. That will have to wait until reasonable and achievable cap and trade legislation is enacted by the Congress.

AEP looks forward to working with Chairman Boucher and others to fix the rate recovery system so that it is not a disincentive for early development and deployment of CCS technology.