



We power  
life's possibilities™

**About  
Our Business**

Our opportunities & challenges.

**Business  
Performance**

The performance of our company.

**Technology  
& Innovation**

Ingenuity for a modern grid.

**Customers  
& Communities**

Customer service & community support.

**Our  
Work Force**

Engaging our employees.

**Reports  
& Fast Facts**

Facts & figures about our company.

# Building the utility of the FUTURE



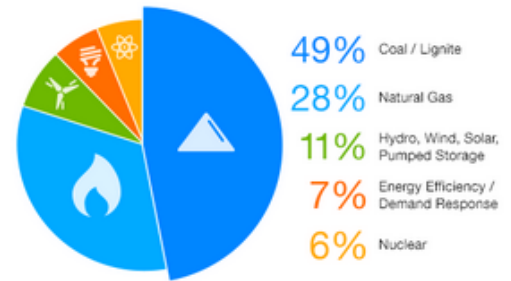
American Electric Power  
2014 Corporate Accountability Report

## We Have the Future in Focus

Safe, reliable and affordable energy has long been the backbone of America's economy, delivering comfort to customers, a competitive edge to businesses and a quality of life that others emulate. To ensure a secure energy future, we need a diverse resource mix.

At AEP, we have the future in focus.

2026 Projected AEP Owned Generating Capacity by Fuel



### Performance

In many ways, the electric grid is a social safety net. Our strategy will strengthen this safety net to improve quality of life, customer satisfaction and system reliability, and provide our employees with a safe and engaging workplace.

[Learn More](#)

### People

To grow our business, enhance the experience our customers have with AEP, and build, maintain and operate a modern grid, we rely on our employees to carry us forward.

[Learn More](#)

### Utility of the Future

We are fundamentally changing how we operate and manage our business. Substantial technological and structural shifts within the energy landscape are driving us to build a new model for the future.

[Learn More](#)

#### AEP's Plan for Sustainable Growth



Play Video

#### The Value of Electricity



Play Video

#### Building the Utility of the Future



Play Video



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# About Our Business

Message from the Chairman

Who We Are

Corporate Governance

Strategy for Growth

Managing Risk

Utility of the Future



About Our Business



## Leadership Message

“The production, distribution and use of electricity are changing dramatically as our industry undergoes a challenging but exciting transformation.”

- Nick Akins, Chairman, President and Chief Executive Officer



### AEP's Board of Directors

From Left to Right:

Lionel L. Nowell III, Linda A. Goodspeed, Stephen S. Rasmussen, Richard L. Sandor, Thomas E. Hoaglin, Sara Martinez Tucker, Ralph D. Crosby, Jr., Nicholas K. Akins, John F. Turner, Richard C. Notebaert, David J. Anderson, Sandra Beach Lin, Michael G. Morris, J. Barnie Beasley, Jr., Oliver G. Richard III.

## AEP's Values

In collaboration with employees, we redefined our values in 2013 to better reflect our culture and who we are today as we set a course for the future. Our new purpose statement - We **power** life's possibilities<sup>SM</sup> – defines what we do and why we are here.





# Message from the Chairman: The State of Our Business

Dear Friends,

I welcome this opportunity to review our 2013 performance, discuss our plans and projections for 2014, and share AEP's vision for the future. The production, distribution and use of electricity are changing dramatically as our industry undergoes a challenging but exciting transformation. We have reshaped parts of our business, strengthened our financial position and sharpened our plan for sustainable growth to meet these challenges.

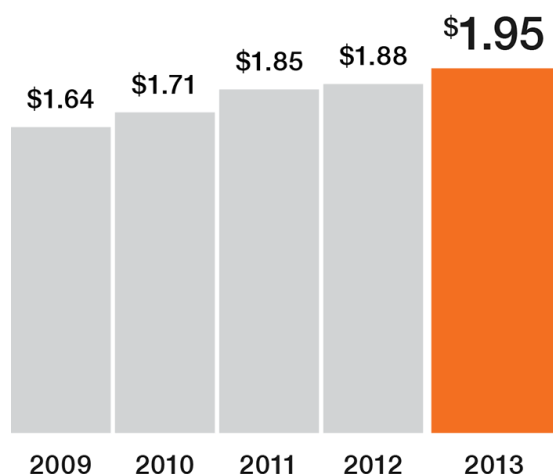
Our shareholders have been rewarded for our performance. AEP has paid over a century of consecutive quarterly common stock cash dividends. Our investments in employees and infrastructure, our focus on continuous improvement and our fiscal discipline provide a solid foundation as we build the [utility of the future](#).

We provide a vital service that keeps people safe, supports the economy and sustains quality of life. But the pace of change is accelerating, and what got us through our first century won't get us through our second. To sustain our targeted earnings growth, we must adapt to the new realities of our operating environment by leveraging our strengths as a regulated electric utility to grow our business for the future. We have more confidence than ever in our strategy to meet the challenges and opportunities before us, and we are taking steps to execute our strategy.



Nicholas K. Akins  
Chairman, President & CEO  
American Electric Power

## AEP Dividend History



As we move forward on this journey of change and adaptation, our values will be our north star. In 2013, we updated our corporate values to reflect who we are today and who we must become if we are to transform into the [utility of the future](#). We worked with our employees to help us shape this vision and we agreed that zero harm, customer focus, integrity and stewardship, and the ability to adapt and achieve are the values that will determine our success. We also worked with employees to articulate our purpose. It's simple and precise – We power life's possibilities<sup>SM</sup>.



## Changes to Our Business

In 2013, we separated our Ohio generation assets from our Ohio distribution and transmission operations and transferred them to a new competitive affiliate, AEP Generation Resources. Corporate separation, as it is called, was required to achieve full market-based pricing of generation for retail customers. Ohio customers can shop for the generator of their electricity and AEP Ohio will continue to deliver energy to them over its distribution and transmission assets.

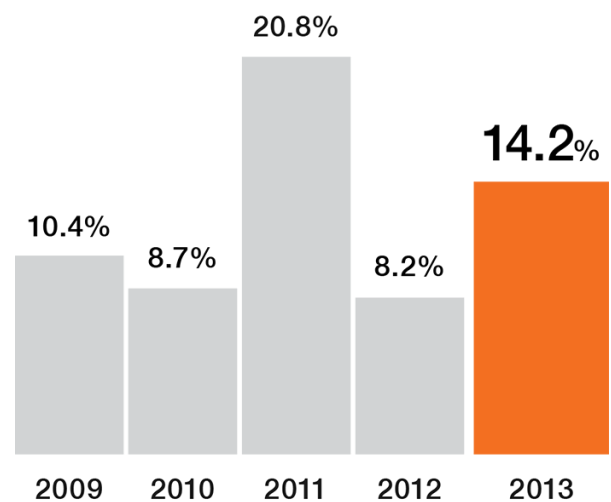
One of the greatest risks to our new competitive generation business is the [PJM Interconnection capacity auction](#), which currently pays the same price for capacity from power plants in the region as it does for demand response programs and imported energy from areas as far away as Louisiana. To keep the grid operating reliably, “steel-in-the-ground” capacity is required to generate electricity during peak demand periods. In addition, the rules provide easy opportunities for financial speculation in the auction, which drives down prices and forces premature retirements of existing plants within the PJM footprint. Together, these inequities create financial risk and fail to properly incentivize long-term investments in generating capacity, which will eventually threaten reliability.

We need to improve the structure of capacity markets and maintain fuel diversity within PJM to meet future energy needs and ensure stable electric prices. We are working with several of our peers and PJM to correct some of the deficiencies in the capacity auction process.

Another significant accomplishment in 2013 was the completion of the largest transmission construction project in AEP’s history. The new transmission lines will carry 18,500 megawatts of west Texas wind



### AEP Total Shareholder Return History



AEP shareholders received a 14.2 percent total return, including dividends, compared with the 7.8 percent total shareholder return of our peers in the S&P 500 Electric Utilities Index

energy to major population areas in the [Electric Reliability Council of Texas](#), supporting the Texas Competitive Renewable Energy Zone (CREZ) initiative. Our approximately \$1.5 billion investment in CREZ reflects our commitment to modernizing the grid, improving reliability for customers and providing a pathway for access to renewable resources.

CREZ is the largest transmission construction project in AEP’s history.

Our regulated businesses provide the largest growth platform for AEP. Our 4 percent to 6 percent targeted earnings growth rate is predicated on regulated capital investment and successful regulatory support. We have a strong balance sheet, excellent credit metrics and ample liquidity. We plan to invest approximately \$3.8 billion to \$4.1 billion annually between 2014 and 2016, primarily in transmission and distribution projects. These investments will replace aging infrastructure, improve reliability, help the grid respond to coal unit retirements, support regional transmission projects and reward investors.

Infrastructure development, combined with positive customer and employee experiences, are the foundation to our future success. Our success will depend on having employees who are entrepreneurial, collaborative, agile, and focused on continuous improvement to meet and exceed customer expectations.

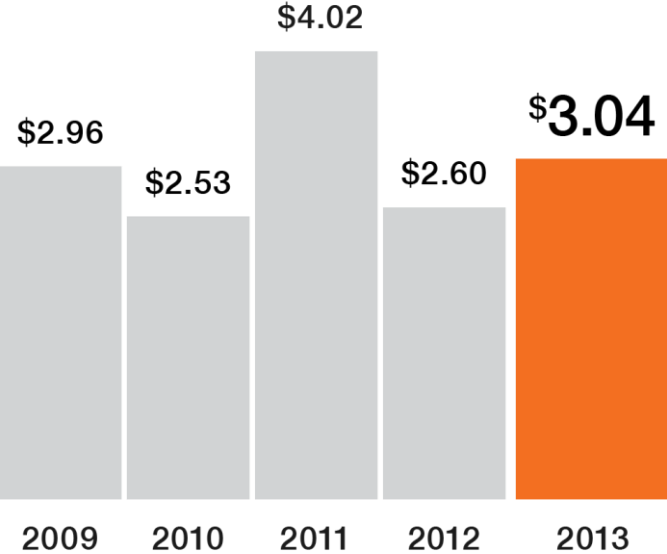
We are working to retain and attract great people and to strengthen our culture to support them. Our culture initiative is focused on leadership, strategic alignment, employee engagement and performance recognition – and in 2013, we advanced in all those areas. We are redesigning our performance management and compensation systems, developing new tools and training for leaders at all levels, and doing a much better job of working together within our organization.

## 2013 In Review

### Financial Performance

We achieved excellent financial results in 2013. Our total shareholder return for the year was 14.2 percent, compared with an average of 7.8 percent for the S&P 500 Electric Utilities Index. Our debt-to-capitalization ratio also improved, ending the year at 54.3 percent – the lowest percentage in more than a decade.

### AEP Earnings Per Share History – GAAP (\$/share)



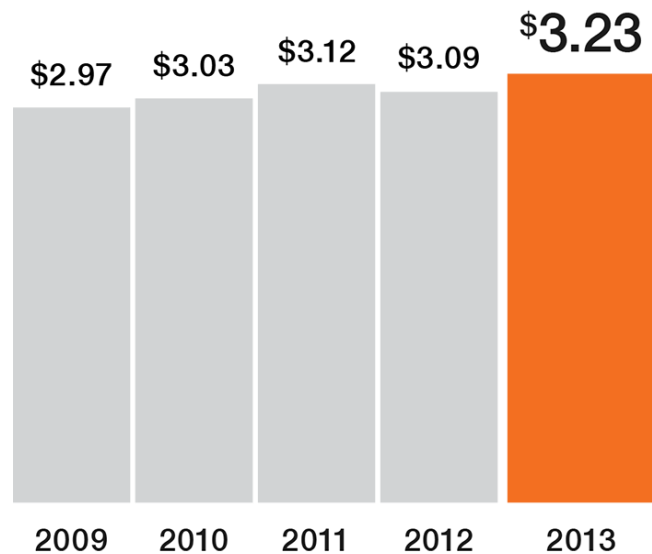
We ended 2013 with Generally Accepted Accounting Principles (GAAP) earnings of \$1.48 billion or \$3.04 per share, compared with \$1.259 billion or \$2.60 per share in 2012. For the year, operating earnings were \$93 million or \$0.19 per share higher than GAAP earnings due to the following items (net of tax): plant impairments of \$124 million, or \$0.25 per share; a \$25 million, or \$0.05 per share, regulatory disallowance resulting from a Virginia State Corporation Commission order related to the ownership transfer of Amos Plant Unit 3; a \$19 million, or \$0.04 per share, reversal of a storm cost deferral in Virginia; and a \$5 million, or \$0.01 per share, restructuring charge. These negative items were offset partially by the effects of a U.S. Supreme Court decision

resulting in a favorable \$80 million, or \$0.16 per share, United Kingdom (U.K.) windfall profits tax credit.

Several factors contributed to our success: approvals for and completion of \$647 million in securitizations in West Virginia and Ohio; inclusion of the John W. Turk, Jr., Plant and other assets in rates in Texas; regulatory support in Michigan and Indiana for the Donald C. Cook Nuclear Plant's life cycle management plan; and sustainable savings and enhanced revenue sources identified through employee-led continuous improvement efforts.

Analysts and investors took note of our success. Our stock is now trading in line based on the S&P 500 Electric Utilities Index's forward price-to-earnings ratio. During 2013, our share price was up 9.5 percent, far outpacing the index, which was up 3.3 percent, and closed 2013 at \$46.74.

## AEP Operating Earnings Per Share History (\$/share)



### Engaging Our Work Force

[Safety](#) is a core value and top priority at AEP and is of utmost importance to me and to all employees. We are pleased to report that in 2013, for the second year in a row, we had no employee fatalities at AEP. Regrettably, two contractors working for AEP were fatally injured on the job. During the past two years, we also achieved the best recordable incident rate in more than a decade, which means fewer employees were injured while performing their jobs. Our contractors also outperformed their recordable incident targets during the past two years.

This is a significant achievement for AEP, and I am enormously grateful to all of our employees who worked conscientiously, every day, to achieve these great results. It makes me very proud that AEP employees look out for each other and work together to prevent harm and to accomplish our business objectives. Teamwork will continue to be the cornerstone of our culture efforts.

Unfortunately, the workplace accidents that did occur kept employees off the job for longer periods of time in 2013 than in 2012. We also had 27 percent more preventable vehicle accidents across the AEP system. These are troubling and unacceptable trends, and we will work to reverse them in 2014. Any injury hurts everyone: our employees, their families and the communities in which we live.

Our safety culture is based on the deeply held belief that all workplace injuries can be prevented, and I have challenged our employees to recommit to our goal of zero harm. Every one of us should go home safe and healthy each day. It's the most important thing we can accomplish and it must be top of mind, every minute of every day.

Our employees are contributing directly to our financial health. We launched several employee-led initiatives in 2013 that will be instrumental in meeting our financial targets in the next few years, including an employee-led effort to improve processes, increase efficiency, and reduce waste and costs.

In 2013, to improve our business and increase employee engagement, we conducted a one-year gain-sharing program whereby we split with employees the proceeds of savings in excess of \$200 million. Our employees submitted hundreds of ideas for sustainable cost savings, enhanced revenue sources and process improvements. I am pleased to report that every AEP employee (excluding senior management) received the maximum \$1,000 benefit due to the success of the initiative.

Investing in our employees goes beyond their active time with AEP. In 2013, AEP's qualified pension funding increased to 99 percent. We have aggressively funded this plan to benefit our employees, retirees, customers and investors.

As an electric power company, AEP provides an essential service, and our social responsibilities extend beyond our employees to our customers, communities and the general public. We must make the electric grid more secure, resilient and capable of handling modern-day electricity demands. We are redesigning power lines to better withstand stress from ice and wind to make the grid more resilient in general. We have a team in place working to improve our emergency preparedness and strengthen the physical infrastructure of the grid.

## **Environmental Performance**

2013 was a great year for AEP in terms of [environmental performance](#) – perhaps our best year ever. We did not receive any significant enforcement actions last year, despite 188 regulatory inspections. We are proud that 48 million gallons of fuel oil were transferred to our boats in our River Operations business without a single spill in the river. And, our voluntary Environmental Performance Index, an internal measure to drive continuous improvement in our generation business, recorded its lowest number of incidents since it was created in 2003.

AEP has invested approximately \$10 billion in environmental controls and new generation over the past decade. As we complete the next phase of environmental controls and fuel conversions, we will be able to redirect capital to the growth areas of our company. In 2013, we redirected about \$150 million from across the company to invest mainly in transmission projects. This is how we are optimizing all of our resources and working as a team – a major thrust of our culture change initiative.

Changes in our fuel mix and the retirement of coal-fueled plants will continue to have a positive effect on our carbon footprint. In 2013, our carbon dioxide (CO<sub>2</sub>) emissions were approximately 115 million metric tons – a 21 percent decrease from 2005 emissions of approximately 145 million metric tons. We will become less carbon-intensive as our generating capacity shifts from 61 percent coal and 23 percent natural gas in 2014, to 49 percent coal and 28 percent natural gas in 2026. Our use of renewable energy will continue to increase during that timeframe. Additionally, our 14 percent reduction in CO<sub>2</sub> emissions since 2010 has already exceeded our 10 percent reduction target we previously set for 2020.

We are concerned about the U.S. Environmental Protection Agency's (EPA) proposed New Source Performance Standards to regulate greenhouse gas emissions, including CO<sub>2</sub>, from new electric generation units and its intent to issue rules governing existing plants. We are committed to a balanced fuel portfolio that includes coal, and we will continue to work with regulators as they develop these rules so that coal is considered a vital part of the energy mix. We also believe in a wide variety of CO<sub>2</sub> reduction strategies, including advanced coal technologies. AEP's ultra-supercritical Turk Plant in Arkansas demonstrates the viability of advanced coal technology that the EPA should consider.



600-MW John W. Turk, Jr., Power Plant in southwestern Arkansas exemplifies our commitment to the responsible use of coal as a fuel source

I believe that a combination of issues – the emerging EPA regulations, the questions around capacity markets, and the physical and cyber threats that our facilities face – are significant challenges to our business that must be dealt with. We continue to work with regulatory and government officials to ensure that any regulations achieve the right balance between environmental protection, fuel diversity and cost to our customers. At the same time, we are actively engaged in securing our facilities from physical and cyber-attack.

Having a national energy strategy would help us to achieve the balance we need on these issues. Electricity impacts people's lives deeply, and so does the lack or unreliability of it. The electric grid is a safety net, and uncoordinated government policies and actions can strain that safety net. We are concerned that the government does not fully consider the social and economic ramifications of the rules and regulations it imposes. As a country, we must address how we deal with the social safety net of our electric power grid. AEP will continue to be actively and positively involved in developing sound public policy for the benefit of our customers and the country.

As with our social and financial performance, we could not have accomplished our environmental objectives without our employees' dedication to high standards and a strong sense of doing what is right. We are very proud of our safety, financial and environmental accomplishments in 2013, which are strong indicators of the preparedness and well-being of our company and bode well for the future.

## **2014 and Beyond**

Our outstanding performance in 2013, along with the organizational and culture initiatives we started, have set the stage for the future. 2014 will be an important year for AEP as we continue to execute our growth strategy. Transmission will play a key role in our growth. We will focus on growing our regulated businesses, advancing our competitive segment, improving the customer experience, engaging with our various stakeholders and working with our employees to help achieve our goals.

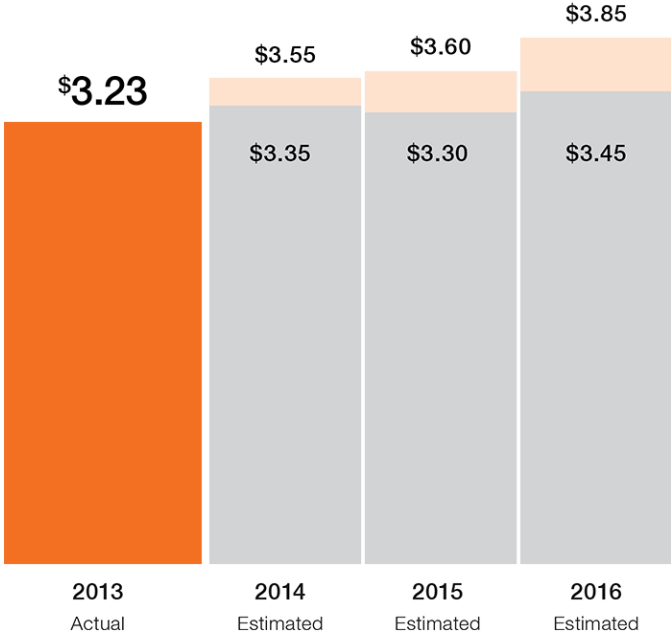


Our disciplined approach to allocating capital, controlling costs and successfully working through regulatory proceedings will continue to strengthen our financial position. We project an operating earnings range of \$3.35 to \$3.55 per share in 2014, \$3.30 to \$3.60 per share in 2015 and \$3.45 to \$3.85 per share in 2016. We will keep operations and maintenance expenses in check as we continue to make significant capital investments in our regulated businesses. Transmission will be an important earnings contributor. In 2013, AEP Transmission Holding Company contributed \$0.16 per share to operating earnings; it is expected to contribute \$0.29 per share in 2014.

Despite a solid foundation, the path forward will not be easy. We are facing a significant financial challenge in 2016 due to the outcome of forward capacity auctions and the lack of growth in demand for our product. However, we have a plan that will maintain our earnings growth beyond 2016. Our employee-led continuous improvement and cost-control initiatives will play a big role. We are confident, based on what our employees have achieved already, that we will succeed.

We will also focus attention to decrease injury severity and preventable vehicle accidents in 2014. We are launching a new initiative in 2014 called “See Something, Say Something, Do Something” to encourage employees to speak up about unsafe practices without fear of retaliation, even if a more senior worker is involved. We need to be focused and fair when unintended events occur to ensure fairness, consistency and shared accountability in analyzing events. We will continue to work relentlessly toward our goal of being a top performer in safety and health by 2016. More important than statistics, I want our employees to stay safe and healthy.

**Forecasted Operating Earnings Per Share**



## Board of Directors Transitions

The [AEP Board of Directors](#) is losing three long-standing directors this year – Richard Sandor, John Turner and Mike Morris. We will miss their contributions greatly, and we wish them well in the years ahead.

Richard Sandor, who was elected to the board in 2000, has served longer than any other current board member. He is the founder of the Chicago Climate Exchange, which administered a voluntary, legally binding greenhouse gas reduction and trading system. His experience with environmental financial products has proved extremely beneficial to AEP.



John Turner joined the board in 2008. His background in environmental stewardship has served us well. He formerly headed the Conservation Fund, and was assistant secretary of the U.S. Department of State and the director of the U.S. Fish and Wildlife Service.

Mike Morris began his service as AEP's chairman, president and chief executive officer (CEO) in 2004. He served as chairman through 2013, as CEO until November 2011, and as president through 2010. Mike left his stamp on our company in so many ways: our commitment to zero harm; an emphasis on open communication; his support for the successful operating company model we have in place today that has enhanced local relationships and regulatory outcomes; and his vision for our transmission business to be a catalyst for earnings growth. Mike also built upon AEP's history of innovation by advancing pioneering technologies, such as ultra-supercritical advanced coal technology at our Turk Plant. As we build our model of the [utility of the future](#), we begin with a strong foundation, due in large part to Mike's integrity, commitment, influence and perseverance. It is a challenge and a privilege to succeed him as CEO and chairman.

While we will miss these retiring directors, we are confident that our continuing slate of directors has the expertise, talents and perspectives needed to ensure successful oversight of our company.

In February 2014, the board welcomed J. Bernie Beasley, Jr., as a new director. He retired in 2008 as chairman, president and CEO of Southern Nuclear Operating Co., a subsidiary of Southern Co. His nuclear operations expertise and insights into our industry will make our board stronger. His addition to the board, along with two other new members who joined in 2013, completes this evolution of the AEP board. We are grateful for their service to AEP.

## **A Sustainable Future – The Utility of the Future**

AEP is fundamentally changing the way it operates and manages its business. This business has become one of optimizing resources and focused capital allocation in the midst of substantial structural and technological shifts within the energy landscape.

The [utility of the future](#) has seven key characteristics: a balanced, more diverse and less carbon-intensive resource portfolio; an entrepreneurial and engaged work force committed to continuous improvement; a modern, efficient grid that can handle new technologies; the ability to constructively influence regulatory and public policies; customers whose needs are met or exceeded; investors who seek consistent dividends and earnings growth; and strong, trusting relationships with the communities it serves and other stakeholders with whom it works.

AEP's inclusion in *Fortune* magazine's 2014 World's Most Admired Companies list in the electric and gas utilities sector is a strong indicator that we are working on being a model for the future. *Fortune* measures nine attributes



related to financial performance and corporate reputation. It is humbling and extremely gratifying to be so honored. This recognition reflects our commitment to our customers, communities, employees and shareholders as we transform our company to meet the energy needs of the future.

Our blueprint for the future is not final; it's a work in progress. We accomplished a great deal in 2013 to secure our future and we have certainty about who we are and know where we are headed. I am confident we are on the right path, and I believe our investors agree. We have much to accomplish in 2014 and in the years ahead. My strong confidence in our future lies in the knowledge, strength, experience and determination of the men and women of AEP. They continue to carry us forward, into the future.



Nicholas K. Akins  
Chairman, President & Chief Executive Officer  
American Electric Power

## Who We Are

“Our job is generating electricity and getting it to where it's used. We're in this business because it is concerned with the supply of a fundamental requirement of modern living, because it's an honorable one, because we like it, and because we want to earn a living at it.

‘We aim to give one kind of service to everyone... the best that's possible. That means supplying our customers with what they want when they want it. It means being courteous at all times and maintaining attractive, easy-to-do-business-with offices.



‘It means doing everything we can to keep complaints from arising, and it means prompt and fair handling of those that do.

‘We are a citizen of each community we serve and take an active part in its affairs. Like any other citizen, we want our neighbors to think well of us. Besides, it makes good business sense. We prosper only as the community prospers; so we help it thrive in every way we can.

‘Such is our job as we see it. We are trying to do it well and to do it better all the time.’”

*Our commitment to our customers and our contributions to society as described by George N. Tidd, president of American Gas & Electric, in 1934. The company was renamed American Electric Power in 1958. This philosophy continues to guide us today and keeps us grounded in a fast-changing environment.*

AEP has been in business for more than a century. We are dedicated to delivering safe, reliable and cost-effective electricity to our customers and value to our shareholders – that’s our business. Our history is rich with ingenuity and technology breakthroughs that have enhanced the quality of life for our customers, significantly reduced our environmental impacts and developed a highly skilled work force. Our industry is experiencing a renaissance and the future is looking much different than it did a few years ago. The business model that made us so successful during the first 107 years is undergoing its own transformation. We continue to navigate these changes and build a new model for the future.

Although we are still at the beginning of this transformation, our vision is clear: We will be a cleaner, stronger regulated utility that invests in the grid to modernize it and make it more resilient. We will enable new technologies and deliver superior service to our customers through an engaged and entrepreneurial work force. We will continue to be a solid investment choice for investors. We don’t yet have all the signposts identified, but we know we are on the right path. Our increasing share price indicates investors’ confidence that our strategic direction is sound – for AEP it is all about discipline and execution.

We adopted a revised set of values this year that better reflect our culture and who we are today as we set a course for the future. We also articulated our purpose more clearly. Fundamentally, our values have not changed. Rather, we redefined what they mean in this new business environment. They also shape our culture.

Our new purpose statement – We power life’s possibilities<sup>SM</sup> – defines what we do and why we are here as a company. Our employees are proud to work for AEP and they wanted the purpose statement to reflect their pride and speak to the noble business we are in. Our employees took part in focus groups to help us create this purpose statement and to provide feedback as we redefined our values.

### AEP Values



## How We Are Structured

Our principal business is the generation, transmission and distribution of electric power. We serve more than 5.3 million customers in our regulated businesses and approximately 215,000 through our retail

energy unit. AEP’s business was restructured in 2013 to accommodate an expansion of our competitive business segment required by the Public Utilities Commission of Ohio and to better execute our strategy for growth in our regulated companies. We completed the restructuring as we continued to navigate the major transformation our industry is undergoing.

## Regulated Operations



**AEP Material Issue**  
[Learn More](#)

Our regulated businesses have well-defined service territories, customer rates and return-on-equity rates for capital investments approved by state and federal regulators. Our operating company presidents have primary responsibility for their companies’ balance sheets, earnings, capital allocation, rate base growth, regulatory relationships and overall performance. They work collaboratively with other business units and with each other to meet the needs of their customers. This local approach also strengthens relationships with the communities they serve and provides a better understanding of what local regulators will support.

This is important as we make significant capital investments to comply with environmental regulations, invest in our transmission and distribution infrastructure and maintain the operational integrity and reliability of the entire system.



**Vertically integrated public utilities** – AEP owns and operates generation facilities and transmission and distribution lines and other facilities to deliver electric power. These utilities generate, transmit and distribute electricity for sale to retail and wholesale customers through the assets owned by Appalachian Power Company, Indiana Michigan Power Company, Kentucky Power Company, Public Service Company of Oklahoma, Southwestern Electric Power

Company, Wheeling Power Company, Kingsport Power Company and AEP Generating Company (regulated generation properties).

**Transmission and distribution** – This business segment is involved with the transmission and distribution of electricity for sale to retail and wholesale customers in Ohio and Texas. AEP Ohio serves more than 1.4 million retail customers and AEP Texas serves nearly 1 million customers. These companies are often referred to as “wires only” businesses because they do not include the generation function in their business. While 100 percent of AEP Texas customers purchase generation supply from competitive retail electric suppliers, AEP Ohio purchases energy and capacity to serve its remaining generation service customers who have not selected their own supplier.

# Competitive Operations



AEP Material Issue  
Learn More

This business segment includes subsidiaries that have nonutility generating assets, a wholesale energy trading and marketing business, barge operations, and a retail supply and energy management unit. The generation and marketing subsidiaries of AEP are impacted by electricity and fuel prices, new market entrants, construction or retirement of generating assets by others, and technological advances in power generation. Our ability to maintain relatively low-cost, efficient and reliable operations is critical to our competitiveness.

- **AEP Generation Resources** – This is the largest subsidiary of our competitive businesses. AEP Generation Resources (AGR) is a public utility that owns 10,002 megawatts (MW) of generating capacity with rights to an additional 1,186 MW. AEP completed the separation of its Ohio generating assets from its Ohio distribution and transmission operations, and it transferred most of AEP Ohio’s generating assets to a new competitive affiliate, AGR, as of Dec. 31, 2013. AGR now manages most of AEP Ohio’s former generating assets in the competitive generation market. The initial capitalization was approximately \$3 billion, with roughly two-thirds representing equity and the remainder debt.
- **[AEP Energy](#)** – This is our retail supply and energy management business. AEP Energy is a retail electricity provider that supplies electricity and related services to residential, commercial and industrial customers. AEP Energy has approximately 215,000 retail customers in Ohio, Illinois, Pennsylvania, New Jersey and Maryland and is licensed to operate in several other states. AEP Energy’s challenge, in a very competitive marketplace characterized by low energy prices, is to be profitable and to grow at a rate that delivers superior financial returns in exchange for the associated risk.
- **[AEP Energy Partners](#)** – This is our wholesale energy trading and marketing business. AEP Energy Partners enters into short- and long-term transactions to buy or sell capacity, energy and other services. It operates primarily in the [ERCOT](#), the [MISO](#) and [PJM Interconnection](#). AEP Energy Partners sells power into the market and engages in power, natural gas, coal and emissions allowances, risk management and trading activities.
- **[AEP River Operations](#)** – This business unit transports liquid, coal and dry bulk commodities primarily on the Ohio, Illinois and lower Mississippi rivers. AEP River Operations, one of the largest inland waterways carriers, transported 29 million tons of coal and other consumables to AEP facilities and 37 million tons of coal, grain and other bulk goods for other commercial customers in 2013. Coal





represented 56 percent of tons hauled in 2013, followed by agriculture (22 percent) and steel (12 percent). Total tonnage decreased by more than 8 million tons compared with 2012, primarily due to fewer U.S. coal exports and the lingering effects of the 2012 drought.

We own or lease approximately 3,000 barges, 60 towboats and 25 harbor boats. In 2014, we will add at least 20 10,000-barrel tank barges as we enter the tank barge transport business. This will allow us to serve both current and new customers that transport liquid commodities. The timing correlates with the recent significant growth of barge transportation of oil and gas products.

Transporting liquids, such as petroleum products and chemicals, brings some new risk and additional regulations that must be followed. The liquids market can also produce a greater financial return; we estimate a barge moving liquids can generate up to five times higher return than a barge hauling dry cargo. River Operations' strong safety and environmental record also should help the organization succeed in the liquids market. One of the greatest risks associated with this business line is the state of disrepair of the nation's locks and dams on its inland waterways.

## AEP Transmission Holding Company

AEP Transmission Holding Company (AEPTHCo) is a holding company for all AEP Transmission companies (Transcos) and joint ventures with other utilities. The transcos own and operate transmission assets that are physically connected to AEP's existing system. They are geographically located to align with our utility operating companies and are focused on:

- Local reliability improvements such as upgrades, and rebuilding or replacing existing, aging infrastructure;
- Construction of new facilities to support customer needs, generation connections, new transmission service directed by regional transmission operators (RTO), and new facilities needed to support reliability; and
- Projects assigned as a result of RTO planning initiatives to address regional reliability, reduce congestion and integrate supply-side resources (primarily renewables) and retirements of coal units.

The transcos rates are regulated by the [Federal Energy Regulatory Commission](#) (FERC). The transcos are independent of, but overlay, the service territories of AEP's regulated utility companies. They can separately raise capital and are able to build new transmission without affecting the balance sheet or credit ratings of the operating companies.



AEP Indiana Michigan Transmission Company, AEP Ohio Transmission Company, AEP Oklahoma Transmission Company, AEP West Virginia Transmission Company, and AEP



Kentucky Transmission Company are operational. These companies currently have transmission assets that are in service or under construction. The Appalachian Power Transmission Company has received conditional approval from the Virginia State Corporation Commission, subject to project-by-project review and approval. Applications for regulatory approvals for AEP Southwestern Transmission Company (SW Transco) are pending in Arkansas and Louisiana.

[Electric Transmission Texas](#) (ETT) is a joint venture between subsidiaries of AEP and [MidAmerican Energy Holdings Company](#). ETT will have more than \$3 billion in investments within the [Electric Reliability Council of Texas](#) (ERCOT) over the next decade. ETT operates in ERCOT.

[Transource](#), a joint venture between AEP and Great Plains Energy, develops and invests in new transmission inside and outside of AEP's service territory. It operates primarily in the [PJM Interconnection](#), [Southwest Power Pool](#) and [Midcontinent Independent System Operator](#) (MISO). FERC Order 1000 created new opportunities for competitive transmission investment by giving incumbent and non-incumbent transmission developers similar cost-recovery mechanisms for regional and interregional projects. [Click here for updates on joint venture projects.](#)

[Learn more about AEP's current regulatory activity](#)

## Corporate Governance

At the heart of corporate governance is the role of the board of directors, the highest governing authority within a company. The board is the protector of shareholders' long-term interests with a responsibility to ensure those who invest in the company earn a fair return on their investment. Effective governance is guided by policies and by directors who are informed and engaged. The independence of directors is a hallmark of strong corporate governance. [AEP's Board of Directors](#) is largely composed of independent directors. Nick Akins, who serves as chairman, president and chief executive officer, is the only member of AEP's board that is from management.

Organizations do not change for the better without strong leadership. During this time of significant change and transition for our business, we have a strong management team in place that reflects the breadth and strength of AEP's leadership capabilities and our ability to adapt successfully to change.

## Ethics and Compliance

As an organization, we are guided by high standards of ethics and compliance. Our board of directors abides by a set of Principles of Corporate Governance while management and employees are guided by our [Principles of Business Conduct](#). We hold the board, management and employees to these principles and expect nothing less than the highest level of ethical behavior. We also expect employees to speak up when they see something that falls short of those expectations. However, if employees are unwilling to report an ethics or compliance violation for fear of retaliation, our corporate culture, our reputation and the financial health of the company are at risk.

Therefore, we maintain a confidential 24/7 hotline that allows employees to report concerns anonymously or to seek guidance on ethical, safety or compliance issues. We encourage our employees to feel free to share information or concerns. We provide annual, mandatory training to all employees on the Principles of Business Conduct, specifically detailing how to report concerns and our anti-retaliation policy. All of these efforts are grounded in the belief that the identification and resolution of concerns are critical to sustaining a strong and healthy company.

### Corporate Leaders & Governance

## AEP's Executive Team



From left to right:

David M. Feinberg, Executive Vice President, General Counsel and Secretary; Dennis E. Welch, Executive Vice President and Chief External Officer; Brian X. Tierney, Executive Vice President and Chief Financial Officer; Lisa M. Barton, Executive Vice President, AEP Transmission; Robert P. Powers, Executive Vice President and Chief Operating Officer; Nicholas K. Akins, Chairman, President and Chief Executive Officer; and Lana L. Hillebrand, Senior Vice President and Chief Administrative Officer.

# AEP's Board of Directors



From Left to Right:

Lionel L. Nowell III, Linda A. Goodspeed, Steve Rasmussen, Richard L. Sandor, Thomas E. Hoaglin, Sara Martinez Tucker, Ralph D. Crosby, Nick Akins, John F. Turner, Richard C. Notebaert, David J. Anderson, Sandra Beach Lin, Jr., Michael G. Morris, J. Bernie Beasley, Jr., and Oliver G. Richard III

## Board Statement

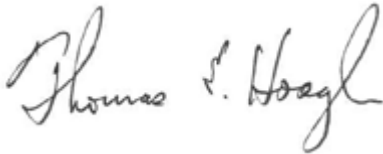
The AEP Board of Directors has assigned responsibility for monitoring and overseeing the company's sustainability initiatives to the Board's Committee on Directors and Corporate Governance. This is the fifth year AEP has integrated its sustainability reporting with financial reporting. The Committee fully supports this approach. Stakeholders have expressed approval and appreciation for AEP's leadership with this integrated approach to corporate reporting.

Throughout the year, the Committee and company management reviewed the company's sustainability objectives, challenges, targets and progress. The Committee reviewed and discussed the final text of this report before recommending its approval by the full Board of Directors.

The AEP Board of Directors receives frequent reports both from management and from the Committee on Directors and Corporate Governance about the company's sustainability initiatives and from management and Board committees about the company's financial reporting and economic performance. Topics in this report have been the subject of active discussion at the Board and Committee meetings.

All members of the Board reviewed the report in detail and at the conclusion of this review process the Board of Directors adopted a formal resolution approving the report.

The Board believes this document is a reasonable and transparent presentation of the company's plans and of its environmental, social and financial performance. The Board has emphasized to management that it will continue to be evaluated by its success in executing the company's strategic plan to meet stakeholders' and the Board's expectations, including being agile in responding to changing circumstances while respecting the commitments in this report.



Thomas E, Hoaglin  
Lead Director of the AEP Board of Directors  
April 7, 2014

## Corporate Separation

The state of Ohio's decision to promote electric market deregulation was the impetus for AEP's recently completed corporate separation process, which required approval from the Federal Energy Regulatory Commission (FERC). Corporate separation is among the main drivers of change in our business and, while it will provide us with significant new opportunities, it carries significant risks as well. At the same time, the vast majority of AEP's operations and earnings remain tied to the regulated segment of our business.

Ohio Power Co. completed the separation of its generating assets from its distribution and transmission operations on Dec. 31, 2013. A new competitive affiliate, AEP Generation Resources (AGR), now owns and/or controls more than 11,000 MW in the competitive, or merchant, generation market. Following anticipated unit retirements through 2015, it is expected that AGR will own and/or control approximately 8,700 MW of generation.

There are risks associated with participating in energy markets, and AEP Generation and Marketing – the umbrella business segment for most of our competitive businesses – has experienced commercial staff to manage these risks.

As part of corporate separation, Ohio Power's two-thirds ownership of 1,300-MW Unit 3 of the John Amos Plant (867 MW) in West Virginia was transferred to Appalachian Power Company. A 50 percent interest (780 MW) in the Mitchell Plant in West Virginia was transferred to Kentucky Power.

In March 2014, we filed with the West Virginia Public Service Commission to propose the acquisition of the remaining 50 percent of the Mitchell Plant by Wheeling Power be approved. There are additional filings we will be making at the FERC in connection with the proposed Mitchell Plant transfer to Wheeling Power.

## 2013 AEP Operating Company Profiles

Company	Customers <sup>3</sup>	Revenues (in thousands)	Net Income (in thousands)	Total kWh Sales (in thousands)
AEP Texas Central Company	806,000	\$1,003,515	\$105,298	23,604,000
AEP Texas North Company	188,000	\$311,178	\$36,913	5,221,000
Appalachian Power Company <sup>1</sup>	960,000	\$3,417,406	\$193,211	39,497,000
Indiana Michigan Power Company <sup>1</sup>	587,000	\$2,366,859	\$177,504	28,814,000
Kingsport Power Company	47,000	\$156,122	\$3,123	2,046,000
Kentucky Power Company <sup>2</sup>	172,000	\$826,255	\$8,906	9,934,000
Ohio Power Company <sup>1</sup>	1,464,000	\$4,762,615	\$409,980	57,542,000
Public Service Company of Oklahoma <sup>1</sup>	540,000	\$1,295,522	\$97,796	18,773,000
Southwestern Electric Power Company <sup>1</sup>	526,000	\$1,795,803	\$149,811	27,153,000
Wheeling Power Company	41,000	\$200,720	\$36,670	2,704,000

<sup>1</sup> SEC registrants

<sup>2</sup> Includes retrospective restatement of financial data for Kentucky's ownership of one-half of the Mitchell Plant

<sup>3</sup> Retail customers as of Dec. 31, 2013

## Lobbying and Political Activity



**AEP Material Issue**  
Learn More

We actively participate in the political process to advance our long-term business interests and the interests of our customers, employees, shareholders and other stakeholders. We also lobby and work for what we believe is in the best interests of our customers, shareholders, communities and the nation. We maintain five political action committees (PACs) that are run by our employees – one for federal candidates and separate state PACs in Michigan, Ohio, Texas and Virginia. Approximately 30 percent of the employees eligible to participate in one of our PACs do so. AEP's federal PAC, the AEP Committee for Responsible Government, contributed more than \$509,375 to candidates for public office in 2013. Federal and state laws allow AEP to pay expenses of operating its PACs. We also have a process whereby political contributions are reviewed annually by AEP's board of directors.

In 2013, we spent about \$7.5 million on internal and external lobbying activities at the state and federal level. This includes dues to trade or national associations for which a portion goes toward lobbying. We

maintain an office in Washington, D.C., to address issues involving federal legislation and regulation. Each of our operating companies has lobbyists who work in their respective state capitals.

We belong to or participate in several state, local and national organizations, including the [Edison Electric Institute](#), the [Business Roundtable](#) and the [National Association of Manufacturers](#) (NAM). We do so for a variety of reasons, including staying current on issues, learning best business practices from our peers, and strengthening our relationships with our customers, many of whom are also members. We disclose our political contributions, as well as the portion of membership dues to various organizations that is used for lobbying purposes, on an annual basis. We also post our corporate political contributions policy online. For more information, see our [lobbying policy and our disclosure for 2013](#).

We believe, as a general rule, that it is more beneficial to AEP to remain involved in these organizations, even if we occasionally disagree, than to withdraw. We believe we can be far more effective in shaping the policies of the organizations from within rather than sitting on the sidelines.

From time to time, many, if not most, of the organizations to which we belong reach conclusions or take positions on issues with which we disagree. If we feel strongly enough, we voice our disagreement and work to change the organization's position. Sometimes our views prevail, sometimes they do not. Many times we are able to reach some sort of compromise.

We are firm believers in transparency and active participation in public debate. That conviction is based on our deeply held belief in collaboration, which we practice both internally and externally. Our experience is that open, candid discussion and a good-faith attempt to reach common ground is the best way to do business.

## Strategy for Growth

Discipline, continuous improvement, smart investment decisions and execution underpin our strategy for growth. We are adjusting to a number of new realities – stagnant demand for our product, a slow economic recovery, an abundance of low-cost shale gas, the need for a more resilient grid, retirement of approximately 6,600 MW of our coal units by 2016, new technologies that require greater grid flexibility, and increasing threats of physical and cyber-attacks on the grid. Yet, this is as much an exciting time as it is a challenging time for our business and our industry.

AEP is at a point in its history where it has capital to deploy because our environmental investments are nearly complete, giving us more flexibility to focus on growth areas of the company. We have a firm financial platform and a regulatory compact that supports investments in infrastructure and the customer experience. In addition to refurbishing the grid and building new infrastructure, our plan is to invest in technologies that improve reliability, operational efficiency and customer service. Our strategy is to bring our investments closer to what our customers value.

In many ways, the electric grid is a social safety net. Our strategy will strengthen this safety net to improve quality of life, customer satisfaction and system reliability, and provide our employees with a safe and engaging workplace that rewards entrepreneurship and collaboration.



Although our ability to invest may be hampered by new regulations, our intent is to operate a modern grid that is reliable and adaptable with new and emerging technologies. In addition, our communities will be vibrant, desirable places to live, work and operate a business; our shareholders will consider us a solid investment; we will provide secure, reliable and affordable electricity; we will be leaders in environmental stewardship; our stakeholders will want to stay engaged with us; and our philanthropic investments will lift people up and offer new opportunities. We have laid the foundation for the future and now we're building the infrastructure.

Successful execution of our strategic goals will achieve our objective of 4 percent to 6 percent earnings growth. These strategic goals are the foundation of our growth strategy.

- Optimize regulated utility returns: AEP's financial objectives are to earn fair returns by prudently investing capital for our customers and maintaining our investment-grade credit ratings.
- Grow our transmission business: AEP Transmission's growth strategy is focused on building and maintaining a diversified portfolio of transmission projects. For the year ending Dec. 31, 2014, AEP Transmission Holding Company projects it will contribute an estimated \$0.29 per share to earnings. Our portfolio consists of:
  - AEP Transmission Company – A company for wholly owned transmission companies, or transcos, which have been approved by or have filed for approval from state commissions, or are operating where state approval was not necessary. The transcos develop, own and operate transmission assets that are physically connected to AEP's existing system. They are regulated by the Federal Energy Regulatory Commission (FERC) and can raise capital and build new transmission without affecting the balance sheet or credit ratings of the operating companies.
  - Joint ventures – Joint ventures have been developed with other electric utility companies for the purpose of developing, building, owning and operating transmission assets.
  - Transource Energy – A competitive business started in 2012, Transource focuses on developing projects within and beyond the AEP service territory.
- Transform our generation business: External factors continue to call for significant changes in our generating fleet. We will do this by:
  - Diversifying our fuel mix.
  - Retiring approximately 6,600 megawatts (MW) of coal-fueled generation by the end of 2016 and refueling or retrofitting with environmental controls more than 7,200 MW of regulated and competitive coal-fueled generation. This will affect our regulated and competitive generation businesses between now and 2020.
  - Improving the operational performance of our generation fleet.
- Maximize our competitive business platform: AEP's expanded Generation and Marketing business segment objectives are:
  - Integrating competitive generation with our retail and wholesale businesses.
  - Investing capital conservatively.
  - Mitigating risk and volatility through hedging activity.
  - Adjusting the cost profile to a competitive generation business model rather than a regulated utility model.

- Improve the health of our organizational culture: Culture is a business imperative and the linchpin of a successful strategy, yet it is abstract and subjective. It's our job to reach out to our employees, communicate the strategy and vision, and focus on how each business unit can contribute to AEP's overall strategy and vision so all employees know exactly what their roles are.

We delivered on all of these strategic objectives in 2013. [Read more about our performance.](#)

## Capital Investment Strategy

Our ability to achieve sustainable earnings improvement will be influenced significantly by our capital investment strategy. When we put capital to work, we are improving operational efficiencies, customer reliability and shareholder value.

We are aligning our resources to support our primary pillars of strategic focus: the development of our physical and technological infrastructure, improving the customer experience and improving the employee experience.

### AEP Capital Investments (\$ in millions)

	2013 Actuals	2014 Estimated Spend
Transmission	\$651	\$848
Distribution	\$1,018	\$1,086
Regulated Environmental Generation	\$415	\$465
New Generation	\$21	\$0
Nuclear	\$264	\$201
Regulated Fossil/Hydro Generation	\$287	\$209
Corporate and Other	\$134	\$131
Generation and Marketing	\$0	\$182
AEP River Operations	\$7	\$9
AEP Transmission Holding Co.	\$890	\$919
<b>Total Capital &amp; Equity Contributions</b>	<b>\$3,687</b>	<b>\$4,050</b>

Excludes AFUDC debt and equity and cash flow adjustments

Our sights are on the future. We know tomorrow's utility must be adaptable, agile and ready to embrace new opportunities as they arise. That is why we are putting our capital where it will provide the maximum benefit to customers and shareholders. That means if one business unit needs capital to take advantage of a growth opportunity and another business unit has uncommitted capital available, we transfer those funds where they can do the most good. In 2013, we were able to redeploy about \$150 million, primarily from our generation business, to invest largely in transmission projects. Rather than looking at capital investments at each business unit independently, we examine our needs across the system as a whole and make adjustments as needed.

We are a regulated electric utility, which means the investments we make on infrastructure are generally supported by regulators and earn regulated returns. AEP's infrastructure investments must balance the needs of our customers, the company and our shareholders. Our Investment Review Committee works with our operating companies to understand their capital needs and determine where resources should be deployed for optimum impact for customers and shareholders.

# Transmission Growth

Our transmission business continues to be a major growth engine for AEP as changes in the electric industry present more opportunities for AEP Transmission, inside and outside of our service territory. We have a proven track record of building, operating and maintaining transmission systems and are continuously seeking new ways to do it better. Our employees have developed innovative solutions that reduce our physical and environmental impacts, are more cost effective, increase our operational efficiency and reliability, and support our efforts to make the grid more resilient. We are now building and expanding our transmission business in 13 states.

In 2012 and 2013, our transmission business secured \$3.3 billion of new investment opportunities through the three regional transmission organizations (RTOs) in which we operate. A large portion of



these investments are tied to the retirement of coal-fueled generating units across our system that were announced within the [PJM Interconnection](#) region, as well as the infrastructure to support the integration of large-scale wind resources in the [Southwest Power Pool](#) (SPP) and [Electric Reliability Council of Texas](#) (ERCOT) regions. Many of our coal-fueled plants play a critical role in maintaining regional transmission grid reliability, and without these resources, new transmission is needed to ensure continued reliability.

AEP Transmission Holding Co.'s (AEPTHCo) contribution to company earnings in 2013 totaled \$80 million, exceeding a \$66 million target. On an earnings-per-share basis, that equates to \$0.16 per share vs. a target of \$0.14 per share. AEPTHCo's \$890 million in capital spending and joint venture equity contributions in 2013 exceeded a target of \$747 million.

AEP Transmission's growth strategy focuses on four types of projects built by its Transcos, joint ventures and operating companies:

**Regional projects:** The retirement of an unprecedented number of coal-fueled power plants across the United States over the next few years will have a significant impact on the performance of the transmission grid. As AEP prepares to retire approximately 6,600 MW of its own coal-fueled units, we will make significant investments to support the grid by reconfiguring and enhancing regional transmission assets to ensure continued reliability. In addition, both SPP and ERCOT have launched major initiatives to enhance the capacity and capability of their transmission grids.

**Local reliability plans:** Local transmission facilities that are 100-kV and lower account for the majority of AEP Transmission facilities. This infrastructure tends to be older and more susceptible to reliability threats. Local reliability projects are focused on reducing the frequency and duration of customer outages served by these facilities

**Aging infrastructure:** Addressing aging infrastructure is another focus, as 65 percent of AEP’s transmission lines were built more than 40 years ago. This can result in significant operations and maintenance costs and reliability issues as these physical assets reach the end of their useful life. AEP Transmission plans to evaluate and prioritize the targeted replacement of these assets, resulting in a potential \$9 billion to \$11 billion investment over time.

**Customer-driven projects:** In addition to addressing the aging infrastructure and improving reliability, AEP Transmission is responding to the accelerated demand for service from shale gas customers. Our transmission system is surrounded by major shale plays, such as the Marcellus and Utica shale formations in the East and Eagle Ford in the West. Oil and gas processing facilities are rapidly being developed that require quick, reliable transmission service. AEP Transmission’s technology strategy has supported this growth by accelerating the execution of infrastructure projects, enabling oil and gas customers to begin operations in as short a time as six weeks.

Based on approved projects, the infrastructure improvements our transmission business will make between 2014 and 2018 will result in approximately 280 new or enhanced stations, more than 1,000 line miles of new transmission lines and 2,700 miles of rebuilt transmission lines.

## Joint Ventures

We continue to support the joint ventures we formed with other utilities to build new transmission assets within and outside of our service territory. These partnerships allow us to leverage both expertise and financial assets. Many of them modernize the grid and improve reliability, alleviate congested power corridors and facilitate the development of renewable generation.

### *Electric Transmission Texas (ETT)*

[Electric Transmission Texas](#) (ETT), a 50/50 joint venture between subsidiaries of AEP and MidAmerican Energy Holdings Co., completed the largest transmission construction project in AEP’s



history in 2013. ETT operates in ERCOT and is an operating utility with a growing rate base. In 2013, ETT finished seven new 345-kilovolt (kV) transmission lines (approximately 460 miles) and other infrastructures, marking the conclusion of an approximately \$1.5 billion investment to support the Texas Competitive Renewable Energy Zones (CREZ) program. CREZ reflects the state of Texas’ commitment to renewable energy.

In December 2013, ETT energized the last of seven 345-kV transmission line projects under the CREZ banner.

In addition to CREZ, ETT is currently working on projects totaling more than 320 miles of transmission lines and upgrading nine company-owned substations with various in-service dates through 2023. The total of ETT investment is an estimated \$1.5 billion.

### ***Electric Transmission America (ETA)***

[Electric Transmission America](#) (ETA) is a 50/50 joint venture between subsidiaries of AEP and MidAmerican Energy Holdings Co. ETA has a 50 percent ownership interest in Prairie Wind; Westar Energy holds the remaining 50 percent. The SPP approved the project in April 2010. The project consists of 345-kV double-circuit transmission lines, running from an existing substation in Wichita, Kan., to a new substation northeast of Medicine Lodge, Kan., and then south to the Kansas/Oklahoma border. The approximately \$170 million line is needed to enhance the delivery of electricity in Kansas and to support the state's expansion of renewable energy. In June 2011, the Kansas Corporation Commission approved the route. Construction began in August 2012 and the project is scheduled to be in service by the end of 2014.

### ***Pioneer Transmission***

[Pioneer Transmission](#) is a joint venture between AEP and Duke Energy to build and operate transmission lines and related facilities in Indiana. In December 2011, the approximately 70-mile Reynolds-to-Greentown segment of the Pioneer project was approved by the Midcontinent Independent System Operator (MISO). Pioneer and Northern Indiana Public Service Company are jointly developing the approximately \$330 million segment.

## **Competitive Regulated Transmission**

In April 2012, AEP became the first traditional regulated utility to form a competitive business for transmission with the launch of [Transource Energy](#), a joint venture between [AEP](#) and [Great Plains Energy](#) (GPE). Expanding Transmission's growth strategy portfolio, Transource is a subsidiary of AEP Transmission Holding Company, the holding company for the transcos and joint venture projects. Transource proactively positions AEP to pursue projects that result from FERC Order 1000 within the PJM Interconnection, SPP and MISO, as well as additional projects.



On Jan. 2, 2014, two projects in Missouri – representing an approximately \$398 million investment – were transferred from Great Plains Energy to Transource. The projects were approved by the Missouri Public Service Commission and the SPP. FERC also approved the establishment of a base rate formula and incentives

for the projects. The larger of the two projects is a \$333 million 175-mile line with an expected in-service date in 2017. The other is a \$65 million project that is expected to be in service in 2015.

The main driver behind AEP's competitive transmission business is FERC Order 1000, which was issued in 2011. It fundamentally changed how transmission facilities will be developed, owned and operated as well as how costs will be supported. We are encouraged by and supportive of FERC's decision to consider public policy in the transmission planning process, including economic and reliability considerations, the facilitation of the integration of renewable energy into the grid, and environmental regulations. The order mandates that the regional and inter-regional cost allocation methodologies follow a set of principles and requires RTOs and transmission providers to offer evidence in their compliance filings. The key principles require cost allocation methodologies to be closely tied to the benefits that are calculated as part of the transmission planning process.

## Working with Stakeholders

As the demand for energy grows, so do the expectations of our stakeholders. We try to be as transparent and inclusive as possible when projects are in process. In mid-2013, AEP Transmission developed an outreach program to proactively communicate and engage with customers and communities about proposed transmission projects. With a focus on face-to-face engagement, we have the opportunity to meet with landowners and concerned citizens to discuss details of the projects and gather feedback and concerns. This effort included launching a new transmission website – [www.aeptransmission.com](http://www.aeptransmission.com) – to give stakeholders easier access and more timely information on current projects. The site provides information such as the purpose, location and benefits of the project; the physical structures that will be used, and project timelines.



## Economic and Business Development



**AEP Material Issue**  
Learn More

Developing and investing in the local communities where we operate and provide service has become increasingly important to us and our communities. Our [Economic and Business Development](#) (E&BD) team works with local communities and state officials to attract and retain businesses and jobs.



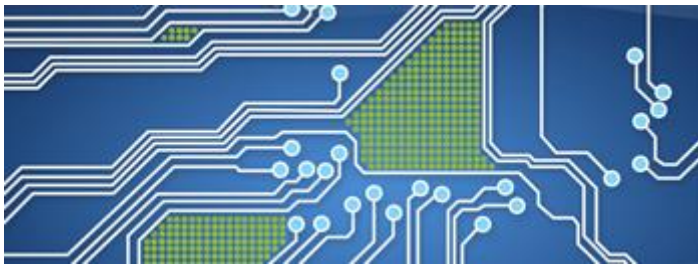
In 2013, the E&BD team helped to bring nearly 25,000 jobs and more than \$3.5 billion of investment to our communities, including announcements from such companies as BAE Systems, Inc. in Fort Wayne, Ind., Toyota in Buffalo, W.Va., Verizon and Macy's in Tulsa, Okla., and Tenaris in Bay City, Texas. In 2013, AEP was named one of the top 10 utilities in economic development by *Site Selection* magazine for the second year in a row.

*Site Selection* focuses on corporate real estate strategy and economic development. The recipients were chosen based on an analysis of corporate end-user activity in 2012 in the company's territory. This includes website tools and data; input from site location decision-makers; innovative programs and incentives for business, including energy efficiency and renewable energy programs; and the utility's own job-creation infrastructure and facility investment trends.



### **Data Center Qualification Program**

The [E&BD team](#) provides comprehensive assistance such as property searches and screening; custom research on demographics, work force, incentives and geographic information system (GIS) mapping; electric service plan and rate design; site visits; design, build and maintenance services for electrical facilities; local economic development training; and introductions to state, regional and local government officials and business leaders.



AEP provides economic development training and assistance to the communities we serve to collaboratively improve our success rate at recruiting and retaining business and industry.

In 2013, AEP hosted 10 educational forums across our service territory attended by more than 400 community partners, including local, regional and state economic developers and elected officials.

AEP continues to focus on building a portfolio of job- and development-ready sites in our service territory to meet the needs of expanding companies. This gives us an edge when we are marketing to prospective customers. One industry we focus on for site development is the data center industry because of its strong potential for growth. Globally, according to research by Gartner, big data demand and data storage will exceed availability by 2015. AEP's 11-state territory includes locations that have in place those factors that are critical to data center operations, such as access to strong fiber networks and reduced risk of natural disasters and other hazards.

To capitalize on this market opportunity, AEP commissioned Biggins Lacy Shapiro & Co. (BLS), a location economics and site selection firm, to qualify nine locations in seven states as ready for data center development. The qualification process includes an assessment of market conditions, selection of

potential sites, and a detailed analysis at the site level of factors that are most critical to the operation of data centers. The central Ohio region, in particular, has seen several recent data center investments, including project announcements from Compass Datacenters, Discover Financial Services, TJX Corporation and IBM.

## Energy Policy

Many factors can affect the price and reliability of energy throughout the country. AEP has long advocated the need for a national energy policy to serve as a road map for how our country will generate and deliver electricity in a reliable, cost-effective manner over the long term.

We believe a national energy policy must recognize regional differences and needs. The best approach would be a national framework that gives each region the flexibility to make choices and investments based on what makes the most sense for that state or region. For example, wind power in some western states, such as Oklahoma, is cost competitive with traditional fuel sources because these regions have excellent wind resources. In other states with a greater proximity to coal and a lack of wind resources, a different mix of energy



investments may be more appropriate. Regional transmission organizations and state utility commissions are already approaching the issue this way, and we support this approach. However, absent a cohesive national energy policy to stitch the pieces together, companies have little incentive to make strategic long-term investment decisions, such as building new generation capacity.

There are some important aspects of an energy strategy that also need to be addressed:

- **Preventing overdependence on one fuel source and maintaining fuel diversity:**  
Maintaining reliable service requires a diverse fuel portfolio. We need every resource at our disposal – coal, natural gas, renewables, nuclear, hydro, energy efficiency and demand response.
- **Infrastructure investment and transmission development:**  
In addition to environmental compliance costs, the electric utility industry will need to invest as much as \$2 trillion over the next two decades to refurbish and replace existing infrastructure and to build new facilities to meet the nation’s future energy needs. With investments this large, it is easy to see why we need a national energy policy to allow our industry to plan with more certainty over the long term.
- **Establishing the right pricing models:**  
Developing pricing models that recognize the total value of energy services, including use of the grid by distributed generation resources and the value of energy efficiency services.
- **Rational energy and environmental regulations:**  
Because Congress has not been able to enact legislation based on a rational environmental and

energy policy, the [U.S. Environmental Protection Agency](#) (EPA) is using its authority under existing environmental laws to adopt new rules that will impact this industry over the near and long term. Our industry will make a huge investment through the end of this decade to comply with new EPA regulations affecting power plants. Our comments on EPA's initiatives often include information essential to full consideration of the collateral impacts of new regulatory programs and revised environmental standards. We are also working with our state regulators to assure that they have adequate information to seize any new opportunities for flexibility in their implementation plans for the new regulations. Although we have already made significant investments to reduce emissions at our coal-fueled plants, more investment is needed. For AEP alone, to comply with existing EPA regulations, we will need to invest approximately \$3 billion to \$3.5 billion between now and 2020 in our remaining coal units.

### ***Gas/Electric Market Harmonization***

Energy has been the backbone of this nation's economic growth and prosperity for decades. It is common for the natural gas and electric utility industries to work together, as they have done for years. Today, the electric utility industry consumes more than 30 percent of the natural gas consumed in the United States to generate electricity. Coal unit retirements and the development of abundant shale gas reserves, are pushing the electricity sector to rely even more heavily on natural gas.

This growing interdependency presents challenges as well as opportunities. From an environmental perspective, natural gas is a more favorable fuel. But the misalignment of the gas day and the power day for purchasing and scheduling supplies to ensure reliability is the largest challenge for AEP as we increasingly rely on gas for power generation. Under the current market design, AEP has to commit the availability of its natural gas generating units to the regional transmission operator before we even know whether gas supplies or transportation capacity are available on the interstate pipelines. The alternative is for AEP to purchase and schedule the gas before we know whether the generating unit will be selected by the regional transmission operator to generate. Neither option is optimal for reliability. This issue has lingered for two decades but has only recently come to the forefront of energy policy discussions.

At one time, fuel oil was often used as a back-up for gas plants in the event natural gas supplies were not available. But a combination of cost and environmental regulations has limited the use of that option. As we depend more on gas to generate electricity in the wake of impending coal unit retirements, it is more urgent to better align the gas and power industries in terms of supply logistics.

Today, to expand the pipeline capacity to deliver gas supplies for power generation when needed, the gas industry typically requires a firm financial commitment to reserve the capacity for the required volume on a 24 hour/7 days a week basis, each day of the year and over an extended contract term. This would require us to reserve and pay for firm transportation costs to serve our plants, whether we need it or not, on a regular basis. Electric generating units do not operate on that schedule, especially gas peaking units that may operate only a few hours of the day or a few days of the year when electricity demand is high. This is particularly problematic for merchant generators who do not have a mechanism to recover firm transportation costs when the plant is not operating.

In an effort to better understand the interdependency of the electric and natural gas industries, the [Federal Energy Regulatory Commission](#) (FERC) asked both industries to provide information, particularly regarding the role the agency should play in coordinating the two markets. AEP has been actively engaged in the FERC initiative that began in 2012. In March 2014, FERC issued a notice of proposed rulemaking to better align the natural gas operating day and scheduling practices by interstate pipelines with the electric industry. The commission is seeking to address the incongruities between the gas and electric industries.

An example of potential reliability issues during peak demand periods occurred in January 2014. PJM Interconnection reported that at one point during a period of extreme cold that month, more than 9,000 MW of gas-fueled generation was off line due to an inability to deliver gas to the facilities. This extreme cold significantly boosted demand for natural gas for both electricity generation and heating purposes. In this case, power generators are not considered priority customers in terms of human needs; local gas distribution companies that have long-term contracts to meet their winter peak demands for heating are given priority status on the pipelines. With demand so high and supply constrained, one of AEP's gas plants was limited in its availability when it was needed most.

## Fueling the Future



**AEP Material Issue**  
Learn More

While our use of coal to produce electricity is declining, coal remains vital for a reliable and secure energy future. That said, we must have a diverse fuel mix to reduce the potential exposure of our company and customers to fluctuations in market prices, costs, regulations and electric demand. Too great a reliance on any one energy source – particularly those with a history of price volatility – creates significant risk exposure to rising prices and supply disruptions.

AEP has added approximately 5,000 MW of natural gas-fueled generation to our resource portfolio since 2004, enabling us to switch between fuel sources based on price changes over time. An attractive



characteristic of natural gas is that it produces significantly lower CO<sub>2</sub> and other emissions when burned than does coal.

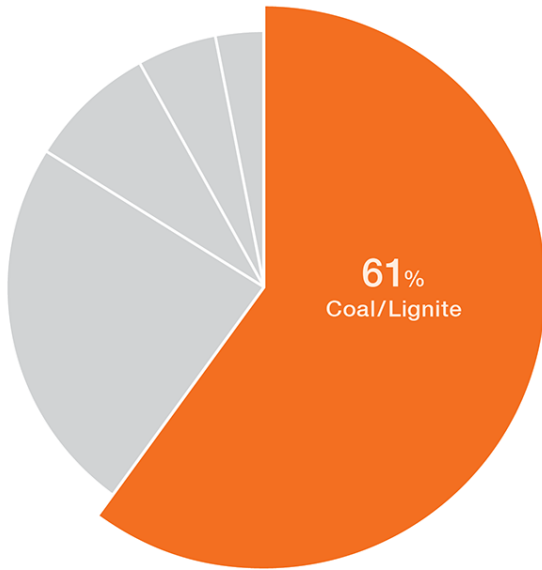
We project AEP's generating capacity to shift from approximately 61 percent coal and 23 percent natural gas in 2014 to approximately 49 percent coal and 28 percent natural gas in 2026. The remainder of our resource needs will be supplied by renewable energy, nuclear, hydroelectric and pumped storage, energy

efficiency and demand response programs. Transmission expansion and smart grid technology deployments are other tools that can help us address the changes in generating capacity.



In 2013, AEP consumed over 158 billion cubic feet (bcf) of natural gas to generate electricity. This was 28 percent less than in 2012 and reverses an upward trend that began in 2010. The decrease was driven primarily by higher natural gas prices. In some regions of the country, the pipeline infrastructure also constrains capability to expand the use of natural gas.

**2014 AEP Owned Generating Capacity\* by Fuel (42,146 MW)**

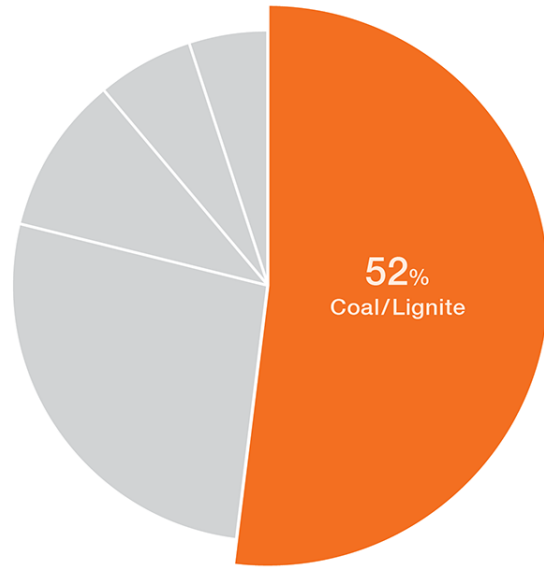


- 23% Natural Gas**
- 8% Hydro, Wind, Solar & Pumped Storage**  
Includes installed capacity, not the actual output
- 5% Nuclear**
- 4% Energy Efficiency/Demand Response**

\* Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity. Winter Net Real Power Capability as of January 2014.

Due to rounding, may not equal 100 percent

**2016 Projected AEP Owned Generating Capacity\* by Fuel (38,295 MW)**

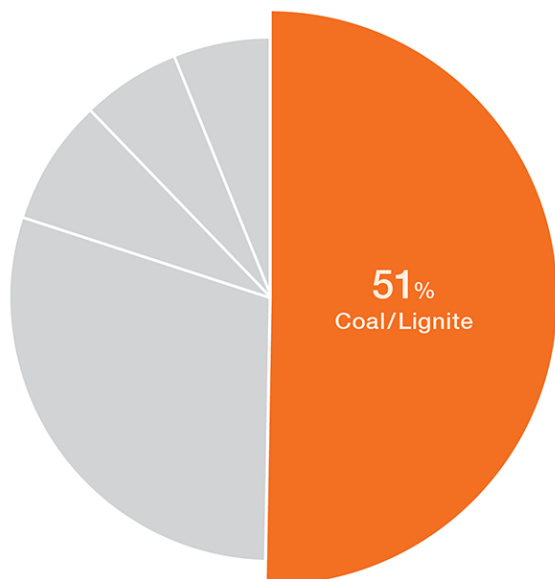


- 27% Natural Gas**
- 10% Hydro, Wind, Solar & Pumped Storage**  
Includes installed capacity, not the actual output
- 6% Nuclear**
- 5% Energy Efficiency/Demand Response**

\* Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity. Winter Net Real Power Capability as of January 2014.

Includes approx. 5,600 MW coal retired (Glen Lyn Units 5 & 6, Muskingum River Units 1-5, Clinch River Unit 3, Tanners Creek Units 1-4, Picway Unit 5, Phillip Sporn Units 1-4, Kammer Units 1-3, Kanawha River Units 1-2, Beckjord Unit 6 and Big Sandy Unit 2) by mid-year 2015, and 710 MW of coal converted to natural gas between 2013 and 2016 (Big Sandy Unit 1, Clinch River Units 1 & 2).

**2020 Projected AEP Owned Generating Capacity\* by Fuel (37,703 MW)**



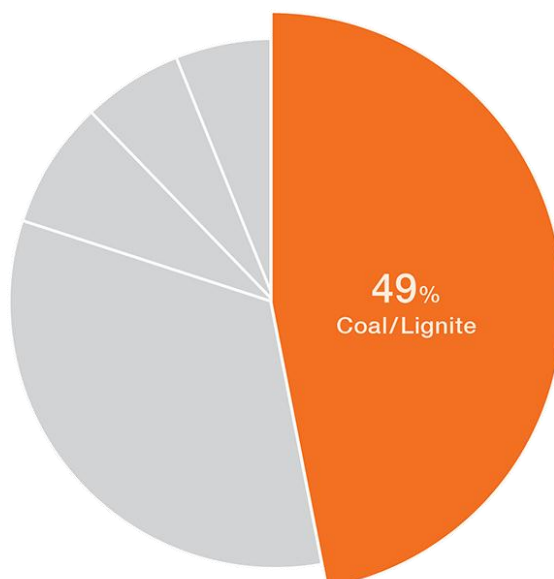
- 27%** Natural Gas
- 11%** Hydro, Wind, Solar & Pumped Storage  
Includes installed capacity, not the actual output
- 6%** Energy Efficiency/Demand Response
- 6%** Nuclear

\* Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity. Winter Net Real Power Capability as of January 2014.

Includes retirement of Northeastern Unit 4 (470 MW) and Welsh Plant Unit 2 (528 MW) between 2016 and 2020

Due to rounding, may not equal 100 percent

**2026 Projected AEP Owned Generating Capacity\* by Fuel (37,565 MW)**



- 28%** Natural Gas
- 11%** Hydro, Wind, Solar & Pumped Storage  
Includes installed capacity, not the actual output
- 7%** Energy Efficiency/Demand Response
- 6%** Nuclear

\* Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity. Winter Net Real Power Capability as of January 2014.

Includes retirement of Northeastern Station Unit 3 between 2020 and 2026

Due to rounding, may not equal 100 percent

## Coal Unit Retirements

Transformation of AEP's generating fleet through unit retirements, environmental retrofits and refueling of units with different fuel sources is being driven by changing environmental regulations, changing fuel supply opportunities and changing customer demand. The age of our plants is also a factor in unit retirements, as they near the end of their useful life. As the operating environment has changed, so too has our generation planning.



By continuing to explore more cost-effective alternatives for compliance with current, pending and proposed regulations, we reduced our original compliance estimate. More than \$7 billion was spent on compliance from 1990 through 2011 to reduce emissions from coal-fueled plants. We estimate that the cost of complying with new regulations will be an additional \$3 billion to \$3.5 billion between 2013 and 2020. Our plan is designed to meet the needs of our customers, maintain grid reliability, further diversify our fuel sources and comply with new regulations. And by reducing our estimated capital investment for environmental compliance, we are able to redeploy resources to growth areas of the company, such as our transmission business.

We plan to retire 4,063 megawatts of regulated power generation in 2015 and 2016 and retrofit or refuel another 6,100 MW. Additionally, 2,523 MW of competitive generation is scheduled to be retired in 2015 and 1,155 MW is earmarked for retrofitting with environmental controls.

The changes to our fleet will naturally result in CO<sub>2</sub> reductions as natural gas and renewables account for a larger portion of our fuel mix. We also are continually seeking opportunities to improve the overall efficiency of our generating units, which will improve the CO<sub>2</sub> emission rate of these units.

### Planned AEP Generating Unit Retirements (in MWs)

Company	Plant Name and Unit	State	Generating Capacity	Expected Retirement
Appalachian Power	Clinch River Plant Unit 3	Virginia	235	2015
Appalachian Power	Glen Lyn Plant	Virginia	335	2015
Appalachian Power	Kanawha River Plant	West Virginia	400	2015
Appalachian Power/AEP Generation Resources	Philip Sporn Plant Units 1–4	West Virginia	600	2015
Indiana Michigan Power	Tanners Creek Plant Units 1–4	Indiana	995	2015
Kentucky Power	Big Sandy Plant Unit 2	Kentucky	800	2015
AEP Generation Resources	Beckjord Generating Station	Ohio	53	2015
AEP Generation Resources	Kammer Plant	West Virginia	630	2015
AEP Generation Resources	Muskingum River Plant Units 1–5	Ohio	1,440	2015
AEP Generation Resources	Picway Plant	Ohio	100	2015
Public Service Company of Oklahoma	Northeastern Station Unit 4	Oklahoma	470	2016
Southwestern Electric Power Company	Welsh Plant Unit 2	Texas	528	2016
<b>Total</b>			<b>6,586</b>	

### ***Reliability Concerns***

Risks related to the plant retirements include service reliability and the loss of those units during periods of extreme demand. We are concerned about what will take the place of those units during extreme events once they are retired next year. We saw how critical those units are to the system during severe cold events in January 2014, when prolonged periods of sub-zero temperatures led to a sharp ramp-up of coal-fueled generation in the PJM Interconnection's 13-state mid-Atlantic and Midwestern territory.

During that time, most of AEP's coal units slated for retirement operated, keeping people warm and safe during dangerous weather events. By mid-2015, those units will no longer be available to fill that demand and once they are retired, they are gone forever. Unfortunately, regulations have not given proper consideration to the resilience and reliability that are required of the electric system during extreme times.

We have always been concerned about this prospect, and the winter of 2014 was an early warning sign of serious issues ahead with electricity supply and reliability if we don't take action now. We must ensure there are adequate power plant capacity, fuel diversity and grid investments after the retirement of significant amounts of coal-fueled generation in mid-2015.

### ***Plant Decommissioning***

As coal units are taken off line, a new chapter in plant decommissioning begins. A plant decommissioning team within our Generation business unit will manage the process of retiring coal units and will assure that they are done safely and in a manner that complies with environmental requirements. In addition to the environmental monitoring that will be required at the plant sites well into the future, and the demolition of buildings and equipment, there will be social and community impacts.

Hundreds of AEP employees will be affected by the unit retirements. Some will retire while others will move to new jobs within AEP. But a significant number of employees will be displaced. We're working to help these employees find jobs at other AEP plants or elsewhere in the company. It is unlikely all displaced employees will secure positions, and we are providing resources to help them prepare for that transition. Despite the impending job losses, we are proud of the unwavering commitment by those working at affected plants to operating them safely and efficiently, every day.

Our plants also make up a large part of the tax base in the communities where they're located, and the loss of tax revenue will be felt in those communities. Learn more about how our Economic & Business Development team is working and investing in communities to promote economic growth.

There also are financial ramifications for AEP resulting from coal unit retirements. We expect to recover the remaining book value of our retired regulated generating assets through the normal regulatory process. However, we will not be able to recover the full cost of the retiring units in our competitive generation business and took pretax impairment charges totaling \$441 million for 2012 and 2013.

## **Shale Gas**

Shale gas development provides another opportunity for economic growth and a secure energy future. Several major shale gas formations are located, in part, across eight of 11 states in AEP's service territory, including two of the fastest growing: the Utica in Ohio and West Virginia and the Eagle Ford in Texas. Extraction of gas from shale formations is changing the fuel mix across the industry by making gas more competitively priced with other fuel sources. Shale gas is abundant in much of our footprint, and extraction with more efficient technologies, such as horizontal drilling and hydraulic fracturing (also

called fracking), is boosting local economies and creating growth opportunities for many of our customers and communities.

Energy companies operating in Ohio extracted 10 times as much from horizontal drilling in the Utica shale formation in the third quarter of 2013 as they did in all of 2012, according to figures released by the state. The Utica shale lies in and near parts of our service territory.

### Natural Gas – AEP System Plants

	2011	2012	2013
Total Delivered (billion cubic feet)	166.8	220.0	<b>158.3</b>
Average Price Per MMBtu of Purchased Natural Gas	\$4.48	\$3.01	<b>\$4.01</b>

Drilling on the Eagle Ford shale formation in Texas has created higher demand for and the need for quick access to, electricity. Our [Economic & Business Development](#) teams across areas with active shale plays provide expertise and tools for oil and gas companies and suppliers to explore opportunities for relocation and help identify the most cost-effective locations. Resources include a one-stop location online to get the services they need. [AEP Texas](#) and [AEP Ohio](#) also have online resources dedicated to the development needs of the oil and gas industries in those states. This collaboration creates mutual benefits, including job creation and an accessible and efficient supply chain, as well as electricity demand growth.



Our Economic & Business Development teams across areas with active shale plays provide expertise and tools for oil and gas companies and suppliers to explore opportunities for relocation and help identify the most cost-effective locations.

Being innovative and delivering good customer service positions AEP to take advantage of emerging business opportunities across our service territory.

AEP Transmission installed its first “station in a box” in Catarina, Texas, in 2012, a unique pre-packaged substation design that can be built in about half the typical construction time frame of a traditionally built permanent station. The shale gas development in Oklahoma, West Virginia, Texas and Ohio has companies racing to extract the fuel deep beneath the earth’s surface, sometimes in very remote locations. Natural gas companies cannot wait the typical 12 to 18 months for the completion of a traditional substation. To serve these customers’ needs quickly, AEP Transmission developed a “skid station” – a portable station on a skid that can be installed in a matter of weeks before the station in a box can be built for permanent service. By creating a basic yet high-tech skid-mounted substation, we can deliver power in just four to eight weeks.

It is clear that shale gas is changing our industry and contributing to overall lower and more stable natural gas prices. AEP supports development of shale gas resources provided it is done in an environmentally responsible manner.

## The Future of Coal

Our decision to build the 600-MW John W. Turk, Jr., Power Plant, in southwestern Arkansas, is a testament to our continued commitment to the responsible use of coal. The plant, which began commercial operation in late 2012, is the first coal-fueled plant AEP has built and operated in more than two decades. It represents the future of coal-based technology that we continue to advance.



The 600-MW John W. Turk, Jr., Power Plant in southwestern Arkansas exemplifies our commitment to the responsible use of coal as a fuel source.

The Turk Plant is the only operating power plant to use ultra-supercritical technology in the United States and is one of the nation’s cleanest, most efficient pulverized coal plants. As a significant addition to the generating fleet along with new natural gas units, this plant allows [Southwestern Electric Power Company](#) (SWEPCo) to continue its strategy of fuel diversity that has benefited its customers for decades.

The Turk Plant faced a variety of regulatory and legal challenges as well as an anti-coal grassroots campaign before finally being able to start operation. The plant created 109 new, permanent jobs with an estimated annual payroll of \$9 million. SWEPCo owns 73 percent of the plant’s capacity and operates the facility; co-owners are Arkansas Electric Cooperative Corp., East Texas Electric Cooperative and Oklahoma Municipal Power Authority.

The importance of the Turk Plant to the nation’s fleet of coal-fueled power plants was recognized in 2013 with the [Edison Electric Institute's \(EEI\) 2013 Edison Award](#). It is the electric power industry's most prestigious honor. The award recognizes AEP for its distinguished leadership and for engineering and operating an extremely efficient power plant that utilizes the most innovative technologies to meet 21st-century electricity needs.

### Coal – AEP System Plants

	2011	2012	2013
Average Cost Per Ton Delivered	\$46.76	\$49.22	<b>\$51.38</b>
Total Delivered (millions of tons)	63	60	<b>54</b>
Total Consumed (millions of tons)	65	57	<b>55</b>

# Renewable Energy

We expect renewable energy to become an increasingly larger piece of our energy portfolio. Eight states where we operate have laws or regulatory orders that set forth requirements or goals for renewable and alternative energy sources. These are Indiana, Louisiana, Michigan, Ohio, Oklahoma, Texas, Virginia and West Virginia. The requirements in Indiana, Oklahoma and Virginia are voluntary whereas the others are mandatory.

As a result, AEP has been steadily increasing its renewable energy portfolio during the last several years through renewable energy power purchase agreements (REPA). AEP's operating companies currently have nearly 2,000 MW of REPAs delivering renewable energy to the operating companies. In addition to these in-service resources, other resources under development or whose contract is set to expire in the near term include the following:

- One wind REPA (200 MW) for [Indiana Michigan Power Company](#) is scheduled to begin deliveries in late 2014. This REPA was the result of a modification of the [New Source Review Consent Decree](#).
- One wind REPA (151 MW) for [Public Service Company of Oklahoma](#) (PSO) is scheduled to expire at the end of 2015.
- PSO will begin to receive deliveries in early 2016 from three wind projects (599 MW) currently under development in Oklahoma. The addition of these purchases will increase PSO's total wind under contract to 1,137 MW.
- One biomass REPA (58.5 MW) for [Kentucky Power Company](#) is scheduled to begin deliveries in 2018. This biomass REPA was approved by the Kentucky Public Service Commission in 2013 but is currently on appeal before the Franklin County Circuit Court.

## AEP's Renewable Portfolio – Wind & Solar Purchased Power Agreements

(nameplate capacity)

Contributions by Regulated Operating Company	MW
AEP Ohio	209.10
Appalachian Power	375.00
Indian Michigan Power <sup>1</sup>	450.00
Kentucky Power <sup>2</sup>	58.50
Public Service Company of Oklahoma <sup>3,4</sup>	1,288.50
Southwestern Electric Power Company	469.15
<b>Total</b>	<b>2,850.25</b>

<sup>1</sup> Includes the 200 MW wind REPA that is expected to begin deliveries in December 2014

<sup>2</sup> Represents the 58.5 MW biomass REPA that was approved by the Commission, but is on appeal

<sup>3</sup> Includes the one wind REPA (151 MW) that will expire at the end of 2015

<sup>4</sup> Includes the three REPAs (599 MW total) that are expected to begin deliveries in January 2016

As of March 2014

## AEP Renewable Portfolio Standards by State

AEP Operating Company	State	Description of Standard(s)	Compliance Date(s)
Ohio Power	OH	Mandatory Renewable Energy Standard – phased in starting at 0.5% and increasing to 12.5% by end of 2024. Mandatory Advanced Energy Standard – 12.5% by 2025.	2009-2024
Indiana Michigan Power Company (I&M)	MI	Mandatory Renewable Energy Standard – phased-in program increasing to 10% by 2015.	2012-2015
	IN	Voluntary Renewable Energy Standard – phased-in program starting at 4% and increasing to 10%.	2013-2025
Appalachian Power Company (APCo)	WV*	Mandatory Renewable/Alternative Energy Standards – phased in starting at 10% and increasing to 25% by 2025.	2015-2025
	VA*	Voluntary Renewable Energy Program – phased in starting at 4% and increasing to 15% by 2025.	2010-2025
Public Service Company of Oklahoma (PSO)	OK	Voluntary Renewable Energy Standard – a goal that 15% of all installed capacity of electricity generation within the state be generated from renewable energy sources.	2015
Kentucky Power Company (KPCo)	KY	No RPS	
Kingsport Power Company (KGPCo)	TN	No RPS	
Southwestern Electric Power Company (SWEPCo)	TX	Mandatory Renewable Energy Standard – starting at 2,280 MW and increasing to 10,000 MW (statewide) by 2025.	2007-2025
	LA	Renewable Energy Pilot Program – goal is to determine whether a Standard is suitable for Louisiana. The Pilot Program consists of two main components: Component 1 – A choice of either three small self-build renewable projects or a tariff; Component 2 – Associated with RFPs for statewide maximum of 350 MW, of which SWEPCo's share is 31 MW.	2013
	AR	No RPS	

\*Wind and solar count double towards meeting both W.Va. and Va. goals. As of March 2014.

## Nuclear, Hydro & Other Resources

Nuclear power and hydroelectric power remain important resources in our energy portfolio. AEP's 2,191-MW Donald C. Cook Nuclear Plant in Bridgman, Mich., provides low-cost, emissions-free electricity to I&M customers. Cook's two units produce enough energy to power approximately 1.5 million homes and represent 40 percent of I&M's power generation portfolio. In 2005, the plant received license extensions from the Nuclear Regulatory Commission permitting the units to run an additional 20 years beyond the duration of their original operating licenses – until 2034 and 2037, respectively.





AEP operates 17 hydroelectric and pumped storage projects in five states.

In 2013, utility commissions in Michigan and Indiana granted I&M approval of its Life Cycle Management Project, enabling the plant to make necessary investments to continue operating effectively during the plant’s license extensions.

Hydroelectric power is another source of cost-effective energy. AEP operates 17 hydroelectric and pumped storage projects in five states. These projects produce approximately 800 MW of generation without directly producing CO<sub>2</sub> emissions.

Although [energy efficiency](#) and demand response are not physical assets, we incorporate them in our integrated resource planning because they serve as important resources in meeting our system’s energy and capacity needs. These programs have received regulatory support for cost recovery in most of the states we serve, and this is necessary to enable sustainable demand response and energy efficiency programs going forward. For AEP, appropriate cost recovery includes reimbursement of program costs, consideration of net lost revenues and an opportunity to earn a reasonable return. This regulatory treatment ensures that these programs are appropriately considered along with supply-side investments, such as power plants.

### ***New Diving Technology***

The need for underwater inspections of our hydroelectric facilities led us to technology that is out of this world – literally. Cutting-edge, space-age technology was recently tested at AEP’s Smith Mountain Dam in Roanoke, Va., while a yearly inspection of the facility was conducted. Underwater inspections are usually done by traditional divers. This state-of-the-art hard suit advances the safety of underwater diving equipment by providing 48 hours of on-board life support equipment and eliminating the need for decompression when divers resurface.



# Managing Risk

We are faced with an array of risks, some well understood and controlled and others emerging and not as well defined. Our effectiveness at managing risk helps us to identify and prepare for new opportunities that may benefit our customers, improve the work environment for our employees and deliver value to our shareholders.

Our enterprise risk management process continuously evaluates our levels of acceptable risk based on internal targets and guidelines and external operating conditions. As part of our enterprise risk management and strategic planning processes, we have developed utility industry scenarios that present potential business trends and issues based on the key drivers in AEP's business.

The goal is not to predict the future of the electric utility industry but to help us identify the range of possibilities that could exist in the future and to examine the impacts of scenarios on our business, our current strategies' chance for success in those scenarios, and other potential strategic options.

The scenario development process enables us to find potential weaknesses in AEP's strategic plan and develop more robust plans for the future. It also allows us to identify emerging risks or issues that could become material risks or new business opportunities. One example that is being monitored and evaluated is distributed generation technologies and how they interact with the grid as these technologies become more widely deployed.

These activities link risk management and strategic planning more closely and give management and the Board of Directors more information to understand, evaluate and respond to all of the risks and strategic opportunities facing the company now and to anticipate what could affect the company in the future. It enables us to be more proactive in our decision-making and risk reduction activities.

Our Enterprise Risk Oversight group, led by our chief risk officer, is responsible for developing the collective risk assessment of the company. This group gathers and analyzes information from functional business units at all levels of the company and reports to the Risk Executive Committee, which consists of members of the executive management team and functional unit representatives. The Risk Executive Committee makes recommendations to business unit leaders for risk mitigation, where appropriate, and identifies the major risks and material issues on an enterprise-wide basis that align with the company's strategies, which are monitored, reported and discussed on a regular basis with the Audit Committee of the AEP Board of Directors.

## Volatile Capacity Markets

A significant risk facing AEP's competitive generation business is the outcome of annual Reliability Pricing Model (RPM) capacity auctions. This auction runs every May and sets the capacity price for a one-year period, three years in advance. The auction is conducted by the [PJM Interconnection](#), the regional transmission organization (RTO) that coordinates the movement of wholesale electricity in all or parts of 13 states and the District of Columbia. The auction matches anticipated capacity needs with

what is being offered by power generators, demand response (DR) and energy efficiency resources. Capacity payments represent an important portion of a plant’s income. AEP Generation Resources is particularly vulnerable because the revenues and earnings potential of its fleet of newly competitive plants are tied to fuel and power prices, including PJM’s capacity auction.

The May 2013 auction covered the delivery period June 2016 through May 2017. During the 2013 auction, the capacity price cleared at \$59.37 per megawatt-day, down from \$136/MW-day the prior year



– a 56 percent drop in price. This sent shockwaves through the investment community and created a great deal of uncertainty in the market. Without sufficient capacity pricing to pay for the plants to operate, companies such as AEP are faced with financial loss or premature unit retirements. We have deep concerns about the viability of this process and the resulting negative reliability impacts it will have over the long term.

AEP's Conesville Plant in Ohio is affected by the capacity auctions as it is now part of AEP's competitive generation business.

The auction should create long-term price signals for all resources and compensate generators for investing in generation capacity. We believe the PJM auction process for capacity resources has not worked properly and must be reformed. The current rules actually encourage volatility and speculation. This volatility, combined with continued price suppression, does not provide the revenue needed to support the cost to operate existing power generation or encourage the construction of new plants. It was among the reasons AEP chose to retire its Muskingum River Unit 5 instead of converting it to natural gas. This decision resulted in a \$154 million asset impairment charge in 2013. We were not being adequately compensated by the market to proceed with the capital investment needed to convert the unit to gas.

The capacity price for all demand response resources in the 2016-2017 auction was the same as the price paid for generation despite lower performance requirements and lower penalty provisions for demand response than for generators. PJM has taken some steps to try to improve this disparity. More work will be done in 2014 in the PJM stakeholder process. The existing energy and capacity markets have created a situation whereby nearly all new capacity is in the form of demand response, imports, energy efficiency, wind and gas

### PJM Capacity Auction

PJM Auction Period	PJM Base Auction Price (per MW-day)
June 2013 – May 2014	\$27.73
June 2014 – May 2015	\$125.99
June 2015 – May 2016	\$136.00
June 2016 – May 2017	\$59.37

This four-year history of capacity auction results demonstrates the volatility that makes it very difficult to make long-term investment decisions for generating capacity.

resources. In the case of demand response, most of these resources receive the same capacity clearing price as physical generating resources, even though the vast majority of demand response is available during the summer only.

AEP has formed a coalition to resolve some of these flaws by the next auction in May 2014. Coalition members include Duke Energy, Dayton Power & Light and FirstEnergy. These companies agree with AEP that non-competitive practices resulting from market design flaws foster volatile auction results that push prices to be artificially low. To address these matters, the coalition made two regulatory filings in December 2013 and two more in the first quarter of 2014. The coalition made these filings in response to PJM's filings with the FERC as PJM attempts to close some of the loopholes before the next auction.

Market reforms that must occur include limiting the amount of capacity from outside PJM's territory that can be bid in to the auction; placing reasonable caps on the amount of demand response that can be bid in to the auction; preventing speculative bidding that keeps prices artificially low; and requiring demand response resources to be subject to the same financial repercussions that generators face if they fail to meet the market requirements.

## Climate Change



**AEP Material Issue**  
[Learn More](#)

AEP faces many risks to its long-term sustainability as a company committed to providing safe, reliable and affordable electricity to its customers. We recognize the risk and likelihood that we will face climate regulations as well as potential climate legislation or other greenhouse gas (GHG) requirements. As a result, we continue taking actions to reduce our carbon footprint while increasing our fuel diversity over time. We also continue to be engaged with many organizations and stakeholders on this issue.

### ***Our Position***

Our climate change position is unchanged: there is enough scientific evidence and sufficient public policy discussion to warrant consideration of the potential impacts in our long-range planning processes. Consequently, we have taken measurable, voluntary actions to reduce or offset carbon emissions from our operations since the early 1990s. We voluntarily reduced or offset carbon dioxide (CO<sub>2</sub>) emissions through the Chicago Climate Exchange between 2003 and 2010 and set a new 2020 goal for emission reductions of an additional 10 percent below 2010 levels. We are proud of the progress we've made to reduce our CO<sub>2</sub> emissions during the last decade, and the transformation of our generation business will further reduce emissions in the future. In 2013, AEP's CO<sub>2</sub> emissions were approximately 115 million metric tons\* compared with 122 million metric tons\* in 2012. This represents a 21 percent reduction compared with our 2005 CO<sub>2</sub> emissions of approximately 145 million metric tons. We are a much less carbon-intensive company than a decade ago and that trend will continue.

We also believe climate change is a global issue. We believe that moving too quickly with climate change initiatives could impair already struggling world economies even further. Any plan to reduce CO<sub>2</sub> emissions must be rational in terms of timing, scope and reduction targets to accommodate continued growth of world economies, allow sufficient time to develop the necessary technologies, mitigate costs to customers and achieve the environmental benefits desired.

\*AEP owned generation excluding Clifty Creek and Kyger Creek.

## Greenhouse Gas Regulations

President Obama announced a Climate Action Plan in May 2013 that included a schedule for the [U.S. Environmental Protection Agency](#) (EPA) to develop CO<sub>2</sub> emissions standards under the Clean Air Act. In December 2010, the EPA had previously announced its intention to establish emission standards for new and existing power plants, and had already issued a proposal for new sources.

In January 2014, the EPA re-proposed [New Source Performance Standards](#) (NSPS) for GHG emissions from new electric generating units under Section 111 of the Clean Air Act. These include separate performance standards for new fossil-fueled steam generating units and new combustion turbines. The standard for coal-fueled steam generating units is based on the use of partial carbon capture and storage systems. The EPA based its standard on demonstration projects and plants currently under construction that intend to supply CO<sub>2</sub> to enhanced oil recovery operations. Each of the plants under construction has received substantial government assistance, and project costs have escalated dramatically. New efficient natural gas combined cycle units can meet the proposed standard without any additional carbon controls.

We believe AEP's John W. Turk Jr., Plant, one of the most efficient coal plants in the nation and the only ultra-supercritical coal plant, should be considered in the EPA's rule-making process. The Turk Plant represents a technology that has been "adequately demonstrated" through its use at a number of



AEP's John W. Turk Jr., Plant is one of the most efficient coal plants and the only ultra-supercritical coal plant in the nation.

commercial-scale electric generating units throughout the world. Instead, in the re-proposed rule, the EPA relies upon academic studies and demonstration projects (none of which is in operation) in its defense that [carbon capture and storage](#) (CCS) technology is the technology of choice. We believe our own experience with CCS suggests there is much to be learned before the technology can be commercially or economically viable.



AEP is not currently planning to build new coal-fueled capacity, but economics, the need to maintain fuel diversity, and other factors could lead us down this path in the future. We strongly believe that the EPA should not dictate energy policy, and that over-dependence on a single fuel with a history of price volatility has inherent risks. Moreover, without greater harmonization of the natural gas and electricity markets and significant investments in pipelines and infrastructure, gas dependency exposes the electricity grid to new reliability risks.

The President has directed the EPA to issue guidelines for CO<sub>2</sub> emissions from existing electric generating facilities by June 1, 2014. Such guidelines are intended to establish procedures so that states can develop and implement the standards through their state implementation plans.

We continue to work with the federal government as it develops these rules for existing fossil-fuel-based power plants. As the regulatory process moves forward, we will continue to seek to achieve the right balance between environmental protection, impact on company operations and the cost to our customers. We recognize the actions and positions we take are not always well-received by some stakeholders, but we remain committed to having open dialogue.

## Carbon Capture and Storage

AEP was a first mover on validating carbon capture and storage (CCS) technology at our Mountaineer Plant in West Virginia. Although the validation-scale project was successful technologically, our investment was significant and our state regulators would not allow us to recover the investment associated with that project. Without cost recovery, AEP was left without a viable path to demonstrate the technology at a commercial scale.

The decision to not move forward with a commercial-scale project also derailed efforts to begin to address many of the more challenging issues associated with developing this technology, including significant technical, financial, legal and practical challenges. AEP continues to be a strong advocate for developing and advancing CCS technologies, and we believe that technological solutions are critical to reducing emissions from, and improving the performance and reliability of, electric generation processes. To date, CCS has yet to be adequately demonstrated at a commercial scale on any coal-based generating unit, although there are CCS projects under active development in the United States.

We need to be smart about our investments to develop these new technologies. To maximize the limited resources to develop carbon reduction technologies, we believe the industry should focus on those with the greatest promise, so that available dollars can fund significant advances in fewer technologies, rather than small advances in a large number of technologies. We see a brighter future for CO<sub>2</sub> capture breakthrough processes that may redefine how the industry produces electricity with coal.

AEP is actively involved with the [Coal Utilization Research Council](#) (CURC), based in Washington, D.C. CURC's mission is to advocate for technology development that furthers the advancement and use of coal, one of our most valuable domestic resources and a key component of a balanced energy portfolio.



Despite the lack of commercial CCS technology, AEP’s carbon emissions will be significantly reduced as we retire a generation of older coal-fueled power plants in the coming years.

## Resource Planning and Carbon

Our stakeholders often ask us if we factor the cost of carbon into our resource planning. The answer is yes – we have been doing this for years.

The potential for carbon regulation has been part of our integrated resource planning process for many years and will evolve as more definitive requirements emerge from the regulatory processes currently under consideration. AEP’s planning process considers all available resource and market options to achieve the least-cost plan. This includes future legislative or regulatory carbon actions.



We continue to be actively engaged in many different public policy discussions at the state, federal and international levels to support new proposed requirements that are feasible and economical and don’t put our customers or the economy at a competitive disadvantage.

Internationally, we are engaged in two organizations focusing on climate and energy sustainability issues. The first is the [International Emissions Trading Association](#) (IETA). The organization, whose members include more than 140 international companies, serves as a leading business advocate for a cost-effective and workable framework for greenhouse gas emission reductions using emissions trading, offsets and other market mechanisms. In 2014, AEP serves as the chair of IETA.



AEP is a member of the [Global Sustainable Electricity Partnership](#), a CEO-led group of 14 of the world’s largest electricity companies in 12 countries. The partnership develops joint energy and environmental policy frameworks in domestic and international markets and demonstrates how they enable electricity to be generated and delivered through the development of small generating projects and technology, policy and financing seminars with local stakeholders. AEP benefits from exchanging experiences among the companies on

issues such as technology innovation, grid reliability, electricity markets and project financing, as well as environmental and clean energy development policy for application in the United States.

# Assigning Value to Carbon



AEP Material Issue  
[Learn More](#)

There is a growing debate about the social costs and benefits of carbon and its role within the electric sector. The generation and use of electricity creates enormous social benefits and has been a key instrument in powering economic growth and enhancing the quality of life for millions of Americans.

Domestic, abundant resources such as natural gas and coal have been the dominant primary energy sources that add value to our society through their conversion to electricity. AEP and others have made great strides over the past 100-plus years to convert these finite resources more efficiently, to the benefit



of our customers and society. However, the simple fact remains that the cornerstone of this process is converting hydrocarbons into simpler molecules of water and carbon dioxide (CO<sub>2</sub>), thereby releasing energy. Thus, CO<sub>2</sub> is not an unintended consequence of the conversion process, such as sulfur dioxide or nitrogen oxide, but rather a fundamental outcome.

The generation and use of electricity creates enormous social benefits and has been a key instrument in powering economic growth and enhancing the quality of life for millions of Americans.

Several years ago, the federal government developed a methodology that essentially assigns a monetary value to carbon dioxide emissions based on the potential effects of climate change. The value is referred to as the Social Cost of Carbon (SCC). Values for the SCC were updated in 2013 without any opportunity for public participation and were much higher than original estimates.

The government uses the SCC in its analysis of programs and activities to ensure that the effects of changes in GHG emissions as a result of regulatory programs are appropriately taken into account in the cost-benefit analysis. However, the government does not use the social benefit of carbon in its calculations. We believe that the best way to get a balanced assessment of the true value of carbon is to consider the cost and social benefits. Social benefits of fossil-based energy directly affect quality of life, from clean drinking water to heating and cooling. Energy has powered three industrial revolutions, including today's technology revolution. Those are positive benefits of carbon that are often overlooked. We are concerned that the use of these values could help substantiate regulations beyond what might otherwise be economically prudent.

The challenge is that current regulatory cost-benefit methodologies are already deficient in capturing all macroeconomic impacts to consumers. In particular, they do not adequately consider the societal benefits of affordable, reliable energy.

Climate change is a very complex scientific field, and projecting future economic impacts of atmospheric greenhouse gas concentrations requires extensive analysis well beyond what current observations and measurements would suggest.

We would encourage the U.S. Government’s Interagency Working Group to explore alternative systems to more accurately monetize carbon benefits and/or costs and to be more transparent about their process. Until that time, we believe the SCC should not be used within the regulatory process.

## Cyber Security



**AEP Material Issue**  
Learn More

Cybersecurity poses a growing risk to electric utility systems. Like many other forms of infrastructure, the physical assets that generate and deliver energy to our homes and businesses depend increasingly on the integrity and security of the information technology and the data that support them. Any disruption to that information or technology poses a significant threat to national security, the environment, the economy and our social well-being.



Breaches to the security of the grid could disrupt the flow of commerce, damage real and personal property, compromise personal information, cause blackouts, and create chaos for society, our industry, our company, our communities and our customers. Therefore, we work diligently to protect the security of our physical assets and information.

We do this in three ways: we work with others to coordinate our efforts, we share information and best practices, and we stay current with emerging threats and risks. Further, we take actions to protect AEP’s information systems, technology and data that support our power plants, transmission operations centers, data centers and business networks.

### ***Regulatory Framework***

Given the increasing indications that energy systems in the United States may be vulnerable to malicious and disruptive cyber-attacks, cybersecurity is a national security priority. President Obama signed an Executive Order, “[Improving Critical Infrastructure Cybersecurity](#),” in February 2013 to require federal

agencies to coordinate and assist the owners and operators of critical infrastructure to better protect themselves from cyber-attacks. The order identifies the energy sector and the electric industry as critical infrastructure. The cybersecurity framework that is being developed through this presidential order is being reviewed by the Department of Energy. We are participating in the process through our industry trade group, the [Edison Electric Institute](#) (EEI), and we are sharing best practices.

The electric industry is one of the few critical infrastructure functions with mandatory cybersecurity requirements under the authority of the [Federal Energy Regulatory Commission](#) (FERC). The Energy Policy Act of 2005 gave FERC the authority to oversee the reliability of the bulk power system, including the authority to approve mandatory cybersecurity reliability standards. The [North American Electric Reliability Corporation](#) (NERC), which FERC has certified as the nation's Electric Reliability Organization, developed Critical Infrastructure Protection (CIP) cybersecurity reliability standards. In January 2008, the commission issued Order No. 706, the final rule approving the CIP reliability standards, while concurrently directing NERC to develop modifications to address specific concerns.

In 2013, FERC adopted enhanced CIP standards to expand protection against attacks on the power grid. These revised CIP standards cover the security of electronic perimeters and the protection of critical cyber assets, as well as personnel and training, security management and recovery plans.

In addition to CIP, AEP supports and complies with cybersecurity standards for the Donald C. Cook Nuclear Plant through the [Nuclear Regulatory Commission](#) (NRC), which is authorized by FERC as the cybersecurity regulator of nuclear power plants. AEP, in conjunction with other nuclear power operators, coordinates through the Nuclear Energy Institute for effective cybersecurity practices to address the NRC cyber security regulations.

We participate willingly with NERC and the NRC on cybersecurity, but we are concerned that the ongoing cybersecurity initiatives of other agencies will duplicate efforts already in place within the federal government.

### ***Sharing Information and Working with Others***

AEP partners with a number of other utilities and EEI to keep legislators and regulators informed about the advanced cybersecurity functions. We regularly share our knowledge and expertise with others at the federal and state levels. Although there are no NERC CIP-type cybersecurity requirements at the state level, we are working with our state regulators to help them better understand these risks and how we manage them.

We recently took steps to enhance our threat detection capabilities and to share what we learn with our industry, our peer companies and relevant federal agencies. Our efforts go beyond compliance and we have been an industry leader in promoting private sector cooperation with our Cyber Security Operations Center (CSOC). This was initially designed as a pilot cyber threat and information-sharing center specifically for the electric sector and today is in full operation. CSOC works with a leading defense contractor to leverage their experience and capabilities.

We also work with a consortium of utilities across the country and the Electric Sector Information Sharing and Analysis Center to learn how best to share information and collaborate about potential threats. Many of our initiatives include greater threat-sharing information between the government and the private sector, and we work to increase private sector access to government-classified threat intelligence data.

In late 2013, as part of our industry's continuing program to advance threat sharing and coordination, AEP participated in NERC's GridEx II exercise. This effort focused on improving the coordination and interaction between utilities and government agencies relative to potential cyber and physical threats against the nation's electrical grid. We used this exercise to further advance our own internal response and coordination processes and communications.

### ***Taking Action within AEP***

For more than a decade, AEP has worked to strengthen its cybersecurity programs and to ensure that those programs evolve to meet new risks. We constantly scan the system for risks or threats and continuously assess our own capacity, including cybersecurity knowledge, staffing, capabilities and the need for future investment.

Cyber hackers have been able to breach a number of others' very secure facilities, from federal agencies, banks and retailers to social media sites. As these events become known, we continually assess our own cybersecurity tools and processes to determine where we might need to strengthen our defenses.

We use multiple layers of cybersecurity and authentication to protect our data, information technology and supporting systems on a daily basis. We evaluate all known emerging threats and vulnerabilities and continuously improve our detection and defense processes and tools. We also have continuous awareness programs to help our employees recognize phishing, or other potential forms of cyber-attack.

All AEP employees must complete Security Awareness Training annually, covering physical and cybersecurity. The training gives employees information and tools to shield our data from threats as it travels across the AEP network. It also places a shared responsibility for security with employees and the company.

### ***Customer Privacy***

Like all utilities, AEP collects and maintains data in order to provide service to customers. We have worked for many years to protect the confidentiality of customer information and to prevent unauthorized use. We meet or exceed all legislative and regulatory requirements regarding the integrity and privacy of such information, and we operate with a strong sense of responsibility to protect personal data from unauthorized disclosure.

The identification and safekeeping of personally identifiable information (PII) is important to AEP employees, contractors, customers and vendors. AEP collects, uses and retains PII only for legitimate business requirements, and we have internal controls to help prevent or mitigate any unauthorized disclosure of PII.

# Physical Security

AEP operates more transmission equipment than any other utility in the nation. We take the security of this infrastructure very seriously and immediately take action if the integrity of the grid is threatened in any way.

The industry and AEP long ago identified substations that provide critical support for the transmission system, and we proactively work to ensure these critical assets are secure and protected. We do not disclose those critical assets, nor our specific security measures. What we can say is that we have taken proactive steps to evaluate our systems, reduce the impact of threats and improve our response if an attack were to occur.



We use a variety of security technologies to safeguard our critical assets and are prepared to respond to emergencies at those locations with internal resources and public safety personnel. We also maintain backup equipment, including spare transformers, and can redirect power flows remotely to address actual or perceived threats to the system. We work with industry working groups that are developing strategies to improve crisis response across the nation.

The industry and AEP long ago identified substations that provide critical support for the transmission system, and we proactively work to ensure these critical assets are secure and protected.

In 2014, FERC directed NERC to develop mandatory reliability standards to protect the electric grid from physical risks. This directive followed well-publicized news reports about the physical security of the grid. The standards are expected to be drafted and implemented this year.

We support physical security standards for transmission equipment, and it is important that FERC has recognized that a one-size-fits-all approach to security will not be the most effective. Security plans need to be customized for the unique characteristics and location of each facility. New standards are important to protect critical infrastructure from physical threats but will increase the cost of compliance as additional investments would be required.

AEP will continue to work with experts within and outside of our industry to develop effective security plans for critical equipment and improve awareness and response to potential cyber and physical threats to the system.



# Inland Waterways

One public policy matter that creates business risk and is not as visible to the public as other issues is the deteriorating condition of our inland waterways infrastructure, which is maintained by the [U.S. Army Corps of Engineers](#) (the Corps). In their prime, our nation's ports and inland waterways system were the envy of the world. But not enough has been done to maintain and update that infrastructure as it has aged.

The Corps estimates that 47 percent of all main or auxiliary locks on the Ohio River will be in poor or failing condition by 2016. Data indicate that this risk will rapidly worsen, especially in light of budget pressures on the Corps' navigation projects.



Why does this matter so much to AEP? Through our [River Operations business unit](#), we transported 66 million tons of cargo over these waterways in 2013 – and 43 million tons of that cargo touched the Ohio River Basin. Many of our power plants rely on barge transportation for fuel and other consumables and to transport equipment. Over the last eight years, we have experienced several lock failures on the Ohio River that have cost our barge business more than \$11 million.

Through our River Operations business unit, we transported 66 million tons of cargo over inland waterways in 2013

The nation's inland waterways are of strategic economic and military importance because the commercially navigable waterways connect 41 states, providing the capability to move large amounts of freight cargo. These waterways carry agricultural commodities, chemicals, coal and petroleum products to ports across the United States. It is the most cost-effective delivery system we have for transporting raw materials that enables the United States to compete in a global marketplace. But the infrastructure supporting this commerce is past its 50-year lifespan, according to the Institute for Waterways, a unit of the Corps. And according to the Congressional Research Service, only one lock along the Ohio River has received funding to be replaced through the 2016 fiscal year.

Nine major locks were scheduled for significant closures in 2013 to repair or replace deteriorating equipment. These closures represent 439 days, contributing to significant delays in delivering commodities and creating financial risk. We take actions wherever possible to mitigate these risks. For example, if we know a lock is due for a scheduled outage, we can deliver coal to a power plant in advance of the lock closure.

Funding to fix the problems is inadequate. The Corps has prioritized numerous issues that must be addressed but doesn't have the funding to fix them. For example, the Olmsted Lock on the Ohio River is a critical project that is devouring virtually all of the congressional and trust fund dollars available for locks and dams today, and it will continue to do so at least through the end of the decade.

The Olmsted project was authorized in 1988 with a projected cost of \$775 million and a completion date of 2000. Today, the project is little more than half-way completed with a projected in-service date of 2020 and a completion date of 2024 at an estimated cost of \$3.1 billion.

AEP continues to support a 20-year capital development plan proposed by the Inland Waterways Users Board and various trade associations. In addition to process reforms, this plan would increase the fuel charge that commercial users of waterways (regulated and unregulated) would pay to help fund infrastructure improvements. Legislation that includes parts of the capital development plan and important process reforms passed both the U.S. House and the Senate with veto-proof majorities in 2013 and is expected to become law in 2014. Although introduced in Congress in 2013, legislation to increase the fuel charge was not passed by either the House or the Senate. We are working to help ensure that the fee increase will be enacted into legislation in 2014.

Congress' failure to adequately fund waterways infrastructure would undercut the low-cost transportation required for American businesses to remain competitive in international markets and raise the cost of doing business and living in America.

## Utility of the Future

The electric utility industry is undergoing a rapid and significant transformation, and the only thing that seems certain is change. We cannot see into the future, but we must be prepared for it. At AEP, being prepared means thinking about the future of our industry and how electric companies of tomorrow will differ from those of today.

We can make three reasonable predictions about the future: 1) the pace of change will accelerate; 2) it will require vision, planning and adaptability to succeed; and 3) successful electric companies will embrace and lead change.



At AEP, we believe it makes business sense to seriously consider the electric utility company of the future. What will it look like? How will it operate? What challenges and opportunities will it face?

We know the process of changing our business is a journey with no end — much like our quest to be a sustainable company. We are grounded in our conviction that we must balance the needs of customers and investors, and that our employees hold the keys to our success.

Although we cannot see with certainty what is to come, we believe the utility of the future will need to:

1. Develop a diverse and well-balanced fuel resource portfolio that is more secure, reliable and less carbon intensive than it is today.
2. Modernize the grid to enable the management of physical assets with information technology and data to optimize efficiency and value, while providing a pathway for renewable energy and other sources to reach the market.
3. Focus on customers by delivering superior customer service and bringing investments closer in line with what customers need and want.
4. Work constructively to influence public policies and regulations that move away from incentives and subsidies and toward value creation and fairness — especially for low- and fixed-income consumers.
5. Develop a work force that is entrepreneurial, engaged, collaborative, adaptable and flexible, along with a culture that supports those qualities.
6. Deliver strong, reliable financial performance that meets or exceeds investor expectations.
7. Be a good corporate citizen of our communities by supporting volunteerism, philanthropy, economic development and environmental stewardship and building strong, trusting relationships with stakeholders.

## Opportunities & Challenges

Our vision for the future is clear and the path forward is paved with opportunities and challenges. Here is a summary of what is before us at this point in our journey:

### ***Business Opportunities for Success:***

#### **Opportunities and Challenges**

1. **Infrastructure & Regulated Investments** — As our financial commitment to generation related investments begins to wind down, our capital investment strategy will shift to infrastructure investments such as transmission and distribution that improve the reliability of service to our customers.
2. **Focus on Customer Experience & Improved Quality of Service** — We seek to meet or exceed customer expectations as we provide reliable, quality, affordable service. The investments we make in grid reliability, technology and efficiency support brand loyalty and a high degree of customer satisfaction.
3. **An Engaged & Entrepreneurial Work Force** — A culture that fosters employee engagement is better able to adapt to a changing business environment. Employee-led continuous improvement efforts are the key to AEP's competitiveness and success.
4. **Operational Excellence & Environmental Leadership** — We are committed to operational excellence that fosters ingenuity and innovation to enhance the quality of life for our customers, reduce our environmental impacts and develop a highly-skilled work force. We will be a good corporate citizen and help to boost the economic vitality of the communities we serve.

## ***Challenges to Achieving Business Objectives:***

1. **Unregulated Market Volatility** — When capacity auctions do not create long-term price signals for all resources and compensate generators for investing in generation capacity, reliability of the system and the financial health of our company are at risk. We are working with our peers and the PJM Interconnection to address some the flaws in this system.
2. **Aging Infrastructure** — Whether it is power plants, transmission or distribution lines or the locks and dams on the nation’s inland waterways, aging infrastructure threatens the reliability of service that we provide to our customers. Aging infrastructure is also a business opportunity as we invest in new facilities. Given the extent and magnitude of the aging infrastructure, addressing this issue in a timely and effective manner presents a challenge.
3. **Impact of New Environmental Regulations** — The increasing scope and stringency of new and existing environmental regulations pose technical and financial challenges for our industry. We are especially concerned with the proposed New Source Performance Standards to regulate greenhouse gas emissions from new electric generation units and the intent for new rules covering existing plants. We believe there should be an appropriate balance between environmental protection, impact on company operations and the economy and cost to our customers.
4. **Lack of a National Energy Framework** — Without a cohesive, national energy policy or framework that recognizes regional flexibility, there is little incentive to make strategic long-term investment decisions, such as building new generation capacity.

## About Our Business

AMERICAN ELECTRIC POWER - 2013 SUMMARY

**14.2%**

total shareholder return

**18,521**

number of AEP employees



**\$15.4**  
billion

GAAP revenues

**40,000**



miles

of transmission lines

**7/11**



7 operating companies  
in 11 states

**Zero**

environmental  
enforcement  
actions



**0**

employee fatalities  
for **2nd year in a row**

**37,600 MW**



AEP's generating capacity



We **power** life's possibilities™







# Business Performance

Financial Performance ▶

Safety & Health Performance ▶

Environmental Performance ▶

Energy Reliability ▶

Business Performance



## Our Performance

Our success is the sum of our financial and non-financial performance. Both are integral to our ability to achieve sustainable growth, keep our environmental and social commitments, and deliver safe, reliable and cost-effective electricity to our customers while delivering fair returns to our investors.

## Financial

### Zero Harm is Achievable



Safety is a top sustainability priority at AEP. Our goal is to achieve zero harm – zero injuries and zero fatalities. We are making progress toward this goal every year with 2013 marking the second consecutive year without an employee fatality. During the past 18 years, we have worked six years without work-related employee fatalities.

We measure our success based on financial performance, the reliability of our system, our environmental performance and compliance, our ability to manage spending and receive regulatory support for the investments we make in the grid and the safety of our employees, contractors and the public.

## An Integrated View of Our Business

The connections between our environmental, financial, operational and social performance have become much stronger and clearer to us. We are in business to be profitable, yet we are sensitive to the impacts our product has on the environment, the prices our customers can pay for electricity, the demand for safe, reliable electricity and the value of informed stakeholder engagement.

### Financial Performance



Learn More

We believe sustainability underlies our business strategy and is a key business opportunity. Our performance reflects this philosophy.

### Environmental Regulations



Learn More

The increasing scope and stringency of environmental regulations raises serious concerns for grid reliability.

### Safety & Health



Learn More

Safety is our top sustainability priority. 2012 was our best safety performance yet.

### Reliable Electricity



Learn More

Our ability to secure energy and deliver power reliability hinges on many factors.

### Environmental Performance



Learn More

Environmental compliance is complex, expensive and changing. Overall, our record is very good.

### Grid Resiliency



Learn More

New design criteria will help strengthen the distribution system against severe weather events.

# Performance



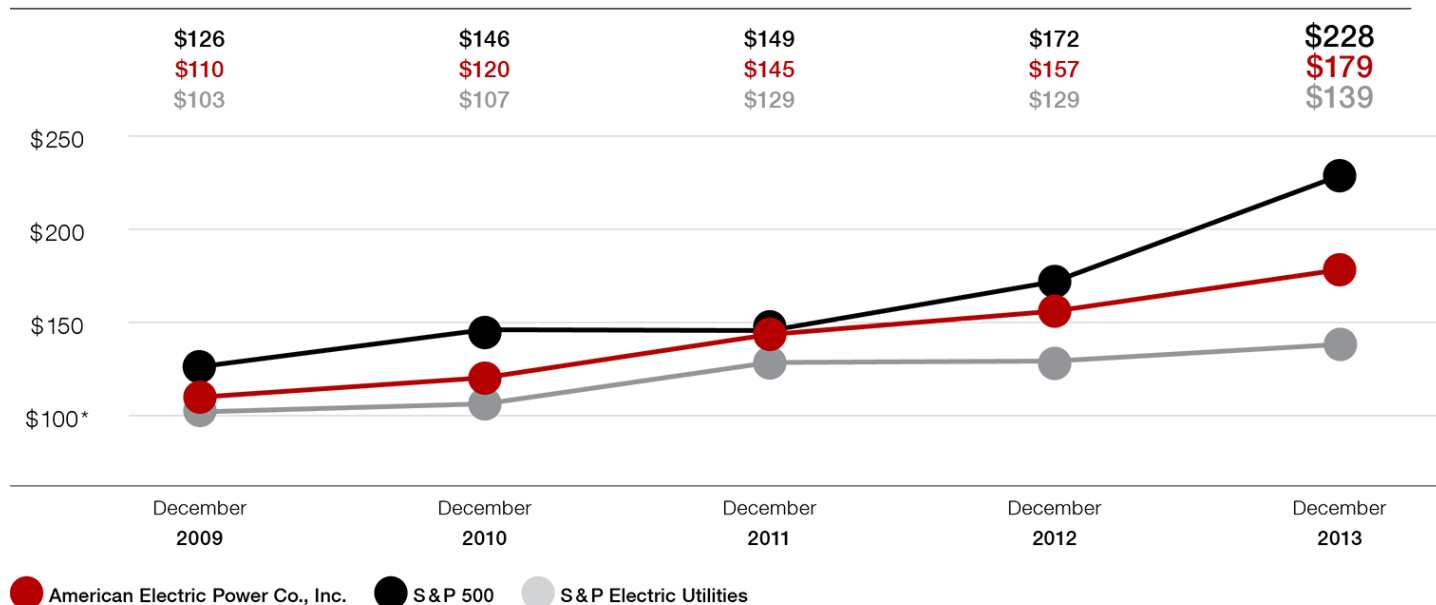
**AEP Material Issue**  
Learn More

One sign of a great company is its ability to manage through short-term volatile conditions to achieve long-term sustained value. At AEP, we are a stronger and more resilient company because we are investing in and carefully managing our human, financial and environmental capital. By incorporating sustainability throughout our business, we can achieve the level of operational and financial performance that enhances the customer experience, delivers fair returns to our shareholders, meets our obligations to our lenders, engages employees, and allows us to fulfill our environmental and social commitments. In 2013, AEP exceeded its financial and operational targets, maintained a strong balance sheet, achieved our best environmental performance ever, and had no employee fatalities for the second year in a row. AEP has turned an important corner on its path to becoming the [utility of the future](#).

Our emphasis on executing our strategy, engaging employees in continuous improvement, and exercising fiscal and strategic discipline was rewarded in the marketplace in 2013. AEP shareholders received a 14.2 percent total return, including dividends, compared with the 7.8 percent total shareholder return of our peers in the S&P 500 Electric Utilities Index. Our annual dividend increased 6.4 percent and we continue to target a 60 percent to 70 percent dividend payout ratio.

## Comparison of Five-Year Cumulative Total Return\*

Among American Electric Power Co., Inc., The S&P 500 Index & The S&P Electric Utilities Index



\* \$100 invested on Dec. 31, 2008 in stock or index, including reinvestment of dividends

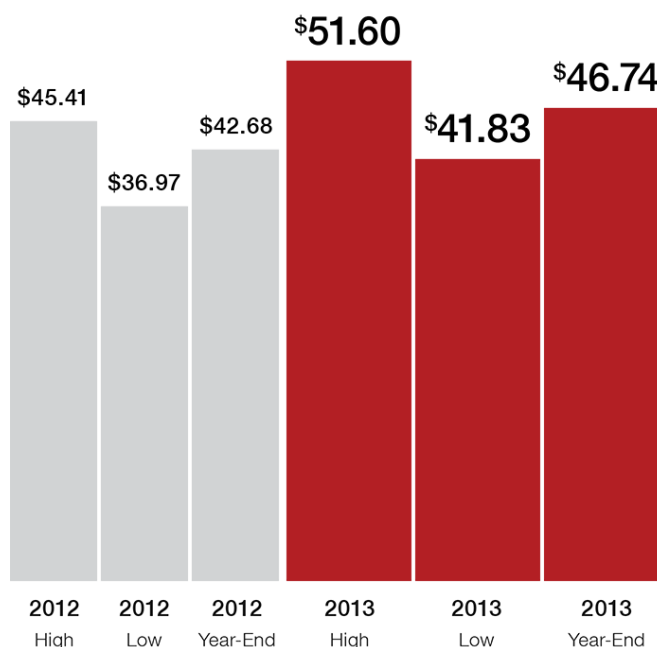
Fiscal year ending Dec. 31

# 2013 Performance

Contributing to AEP's financial success in 2013 were a number of factors: approvals for and completion of \$647 million in securitizations in West Virginia and Ohio; inclusion, starting in February 2013, of the John W. Turk, Jr., Power Plant and other assets in rates in Texas; regulatory support in Michigan and Indiana for the Donald C. Cook Nuclear Power Plant's life cycle management plan; and sustainable savings and enhanced revenue sources identified through employee-led [continuous improvement efforts](#).

AEP's earnings for 2013, based on Generally Accepted Accounting Principles (GAAP), totaled \$1.48 billion or \$3.04 per share, compared with \$1.3 billion or \$2.60 per share for 2012. AEP's operating earnings in 2013, or GAAP earnings excluding special items, totaled \$1.57 billion or \$3.23 per share, compared with \$1.49 billion or \$3.09 per share in 2012. AEP Transmission Holding Company (AEPTHCo) contributed \$0.16 per share in 2013 – \$0.02 higher than originally forecasted – reflecting its accelerated growth. We expect AEPTHCo to contribute \$0.29 per share to operating earnings in 2014. Overall, AEP delivered operating earnings per share at the high end of our earnings guidance. We reaffirmed our earnings growth range between 4 percent and 6 percent.

**AEP Market Price – Common Stock**



2013 operating earnings were higher than GAAP earnings due to the exclusion of charges related to plant impairments and regulatory disallowances, reversal of deferred storm costs, and a charge related to our cost restructuring efforts, somewhat offset by a favorable court decision associated with U.K. windfall taxes.

Weather-adjusted sales of electricity fell 1.6 percent in 2013 compared with 0.7 percent in 2012. The closure of Ormet Corp., an aluminum smelter in Ohio and AEP's largest customer, was a significant factor in this decline. Excluding Ormet, weather-normalized sales were down 0.6 percent in 2013 and are expected to grow by 1.2 percent in 2014. We expect an additional 270 megawatts of new industrial load to come on line in 2014. Residential and commercial sales were flat in 2013 and are projected to remain that way in 2014. Among residential customers, the use of home-energy efficiency programs is reducing the average usage per customer. In total, we anticipate total normalized gigawatt-hour sales to be down 1.1 percent over 2013 levels but essentially flat, excluding Ormet.

A somewhat sluggish economy, along with our customers becoming increasingly efficient users of electricity, is limiting load growth below historical rates of 1 percent to 2 percent per year.



## AEP Liquidity Summary (\$ in millions)

	Amount*	Maturity
Revolving Credit Facility	\$1,750	Jun-16
Revolving Credit Facility	\$1,750	Jul-17
<b>Total Credit Facilities</b>	<b>\$3,500</b>	
<b>Plus</b>		
Cash & Cash Equivalents	\$118	
<b>Less</b>		
Commercial Paper Outstanding	\$57	
Letters of Credit Issued	\$170	
<b>Net Available Liquidity</b>	<b>\$3,391</b>	

\* As of Dec. 31, 2013

driving our capital investment strategy. Customers want safe, reliable and affordable electricity. They also want efficient, effective communication with us. About 95 percent of our capital funds are forecasted to be invested in our regulated operations. In 2013, we invested \$3.7 billion in our regulated businesses. In 2014, we expect to invest approximately \$2.8 billion (excluding AFUDC debt and equity) in our transmission and distribution units. We will invest approximately \$875 million this year in our regulated generation business, mostly for environmental compliance and life cycle management at the Cook Nuclear station. As our environmental investments continue to wind down, we are redeploying that capital to transmission and distribution.

In 2013, we improved our total debt-to-capitalization ratio, a common indicator of a company's financial health, to 54.3 percent – the lowest percentage in more than a decade. This compares with a debt-to-capitalization ratio of 55.2 percent at the end of 2012 and 57.2 percent in 2009. This is an important metric because it shows AEP's leverage ratio in the market when it seeks capital for infrastructure development; the lower the percentage, the more financial flexibility a company has. AEP's ratio positions us well in the capital markets.

In 2013, AEP maintained its liquidity position – the ability to gain access to cash when it's needed. AEP's liquidity position of approximately \$3.4

Fiscal discipline is central to our business strategy, and we work hard to be efficient and thoughtful about how we spend our resources. We strive to manage those resources in ways that consider the customer impact in essentially every decision we make and with every dollar we spend. On a total system basis, excluding items with earnings offsets and [River Operations](#), operations and maintenance (O&M) spending for 2013 was \$2.8 billion, which was flat with 2012.

At AEP, we are working to align our investments with what our customers value and in ways that reward our shareholders. That's the philosophy

## AEP Utility kWh Sales (in millions)

### Vertically Integrated Utilities

Retail Customers	2011	2012	2013
Residential	35,135	33,199	33,851
Commercial	25,651	25,278	25,037
Industrial	34,333	34,692	34,216
Miscellaneous	2,349	2,356	2,284
<b>Total*</b>	<b>97,468</b>	<b>95,525</b>	<b>95,388</b>
Wholesale	28,290	28,671	31,919
<b>Total</b>	<b>125,758</b>	<b>124,196</b>	<b>127,307</b>

### Transmission & Distribution Utilities

Residential	26,520	25,581	25,531
Commercial	25,116	24,746	24,631
Industrial	25,334	24,902	22,668
Miscellaneous	751	716	710
<b>Total*</b>	<b>77,721</b>	<b>75,945</b>	<b>73,540</b>
Wholesale	8	8	8
<b>Total</b>	<b>77,729</b>	<b>75,953</b>	<b>73,548</b>

\* Represents energy delivered to distribution customers



billion primarily consists of our two revolving credit lines. Our debt-to-capitalization and liquidity ratios reflect a strong balance sheet, solid credit metrics and adequate liquidity to support our growth strategy.

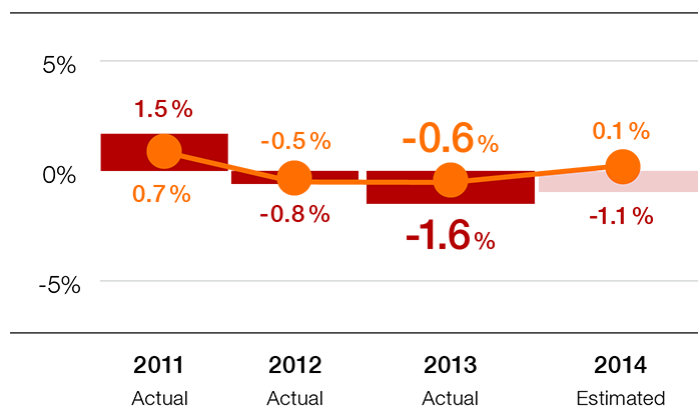
We maintain a qualified, defined benefit pension plan that, at the end of 2013, was 99 percent funded. Our strategy has been to aggressively fund the plan to the benefit of our employees, retirees, customers and investors. We are working hard to match the duration of the plan’s assets to its liabilities to reduce risk as the plan approaches full funding. In 2013, the qualified plan paid \$324 million in benefits to plan participants.

AEP’s other postemployment benefit plan is now more than fully funded at 117 percent. This is due, in part, to changes we made in 2012 to medical plans for future retirees. Starting in December 2012, we capped our contribution to retiree medical costs to reduce future exposure to medical cost inflation. Employees hired after December 2013 are not eligible for retiree medical coverage.

One of the most significant milestones in 2013 was the completion of corporate separation – separating our generating assets from transmission and distribution assets in Ohio. This division of assets supports the state’s competitive electricity market. The process included transferring some assets to other AEP operating companies. We received approvals from the Federal Energy Regulatory Commission, the Public Utilities Commission of Ohio, and utility commissions in Virginia, West Virginia and Kentucky, and worked with many other stakeholders to accomplish this effort. We created a competitive generation business for our Ohio assets, AEP Generation Resources.

### AEP Total Normalized GWh Sales

(% change vs. prior year)



Line represents retail excluding Ormet Corp.

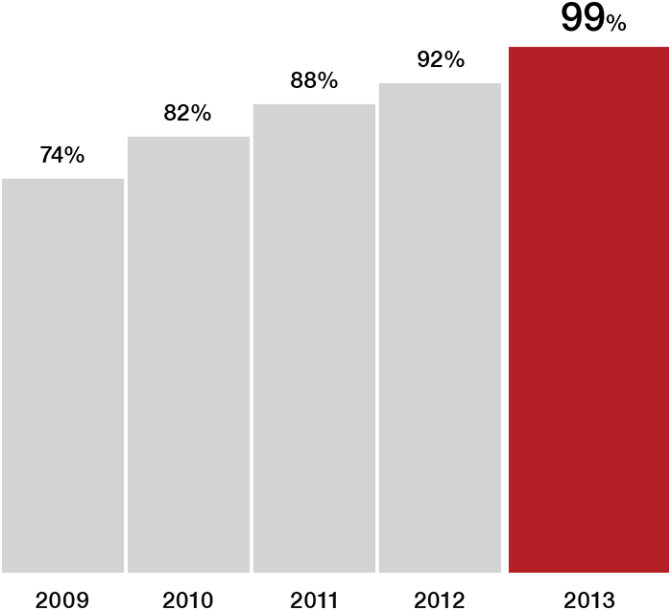
We are well positioned to hedge the generation from our competitive fleet through our retail provider, [AEP Energy](#). Because the ability to maintain relatively low-cost, efficient and reliable operations is a significant factor in determining competitiveness, we continue to carefully analyze the cost structure of that business. The challenges are compounded by a dysfunctional capacity auction process in PJM Interconnection that undervalues generation capacity. The value of these newly deregulated plants is at stake, and we are reforming the way we operate them to function as a competitive generation business.

## Executing Our Strategy

AEP’s disciplined approach to allocating capital, controlling costs and successfully working through regulatory proceedings has made the company’s financial position stronger. Investors have a much

clearer picture of AEP’s plan for the future and have expressed confidence in our strategy and ability to deliver, based on our current performance.

**Qualified Pension Funding**



As AEP’s future takes shape, the road ahead is not entirely smooth. Chief among the headwinds we face is a significant revenue shortfall in 2016 due to the drop in the level of capacity revenues from the PJM auction. It is a significant challenge, but our current forecasts show that we will be able to maintain our growth rate beyond 2016 as long as we stay the course. In 2013, through our repositioning effort and an employee-led gain-sharing program that identified sustainable savings and enhanced revenue sources, we have already begun to fill the gap.

Growth will be driven by our ability to invest capital in our regulated companies and earn a fair and timely return. The success of our competitive business will be driven by both the capacity and energy markets as well as our ability to react to those markets. We are projecting our competitive

operations to be a positive cash flow business that will be positioned to take advantage of recovering energy and capacity prices as they occur.

AEP is at a pivotal moment in its 107-year history. We have capital to invest, and we are deploying it predominantly in our regulated business. Our projected 4 percent to 6 percent earnings growth rate is predicated on this strategy, as well as our commitment to continued focus on sustainable cost savings and expense discipline. We are giving our employees the tools and processes to advance continuous improvement, and our employees are showing us their ingenuity and know-how to get the job done. By fostering a culture of engagement, we are confident we will meet the challenges ahead of us.

## A Positive Outlook

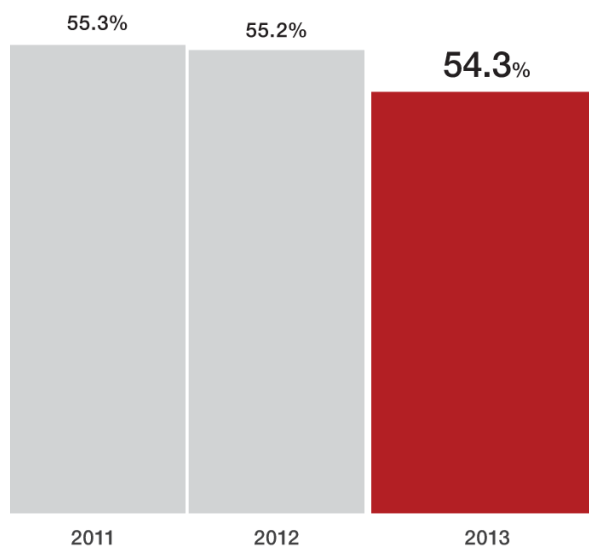
Our projected operating earnings range is \$3.35 to \$3.55 per share for 2014, \$3.30 to \$3.60 per share for 2015 and \$3.45 to \$3.85 per share for 2016. We expect to achieve these results through a combination of robust capital investments with timely recovery in our regulated utilities, and continued cost control. We will continue to keep O&M spending – which is not immediately recovered through rates – in check.

As we keep O&M spending under control, we expect to invest approximately between \$3.8 billion and \$4.1 billion per year in capital between 2014 through 2016. If there is unallocated capital in generation and distribution, we plan to redeploy it to transmission, which has local reliability improvement projects as well as new construction projects ready to go as soon as resources become available. In 2013, we put this strategy to work and redirected approximately \$150 million, primarily from our generation business, to invest largely in transmission projects. Today, we are building transmission facilities in 13 states, and we expect that number to grow. We will also invest in new technologies such as a mobile alert system to improve communications with our customers and make improvements to strengthen the grid's resiliency and reliability.

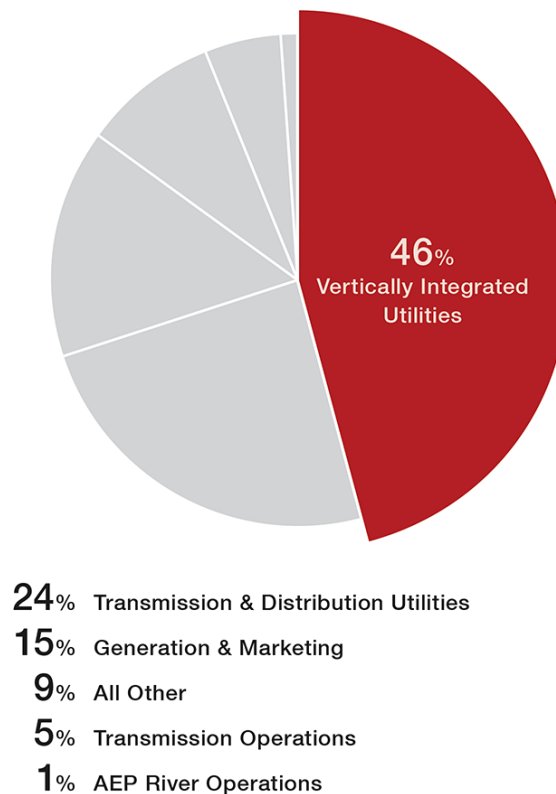
During the next three years, AEP's revenue and earnings are expected to grow in all of our regulated segments, with the most significant growth coming from [AEP Transmission](#). During the same period, earnings from the competitive generation segment are expected to decline, driven by lower capacity revenues.

We are optimistic about AEP's future. Although the things that made AEP successful in the past will not necessarily lead to future success, we have a plan. We're investing in our infrastructure to better serve our customers, engaging our employees, and learning to adapt to transformative changes in our industry as we build the utility of the future. Our success will pay financial rewards to our shareholders and reward AEP with improved customer satisfaction and an engaged work force. At AEP, we assume success and we manage, plan and act to realize it.

#### AEP Total Debt/Capitaliation – GAAP



#### 2013 AEP GAAP Earnings Contribution



# Safety & Health Performance



AEP Material Issue  
Learn More

Whether at work or at home, safety and health don't take a break. Our drive to achieve zero harm – no injuries, illnesses or fatalities resulting from our operations – is personal and our commitment is stronger than ever. We will not relent in our pursuit of zero harm because we know there will never be a finish line when it comes to safety and health. We cannot afford to ever let down our guard. Our investments to protect our employees and contractors from harm are significant, a reflection of our commitment. Our progress is significant; AEP is in the top quartile among our peers and some parts of our business are in the top decile, which is what we are striving for systemwide. This effort has been the catalyst for a major culture shift in AEP that emphasizes zero harm as the goal every day.

This commitment to safety and health is that much stronger because much of our work carries the risk of physical harm. That is why we are deeply grateful no employee lost his or her life while on the job in 2013, the second consecutive year without a fatality. And there were fewer reportable safety events during 2013 than the prior year, one of our best years yet. But that performance is tempered by the severity of these injuries, which was higher than the prior year, keeping employees off the job for longer periods of time. Vehicle accidents that we consider preventable also increased by 53 percent in 2013 in the Utilities organization and 27 percent across all of AEP.

In 2014, we are putting new efforts in place to help us tackle the uptick in injury severity and the increase in preventable vehicle accidents. We will be launching a new initiative called “See Something, Say Something, Do Something” to encourage employees to report potentially unsafe work practices without fear of retaliation and without regard for whether a more senior employee is involved. It is peer coaching with a safety focus.

The manner in which management handles unintended events also figures strongly in the effectiveness of our safety and health efforts. “Just Culture,” a structured approach to how employees are treated when unintended events occur, is used to pinpoint where management systems failed. It helps leaders ensure fairness, consistency and shared accountability in analyzing events, with a focus on what happened and why, rather than on who is to blame. Fostering an environment that supports this approach is part of our effort to create a more collaborative, supportive culture at AEP. Employee focus groups conducted in 2013 and a culture survey completed in 2012 told us we have a lot more work to do before we achieve this type of culture.

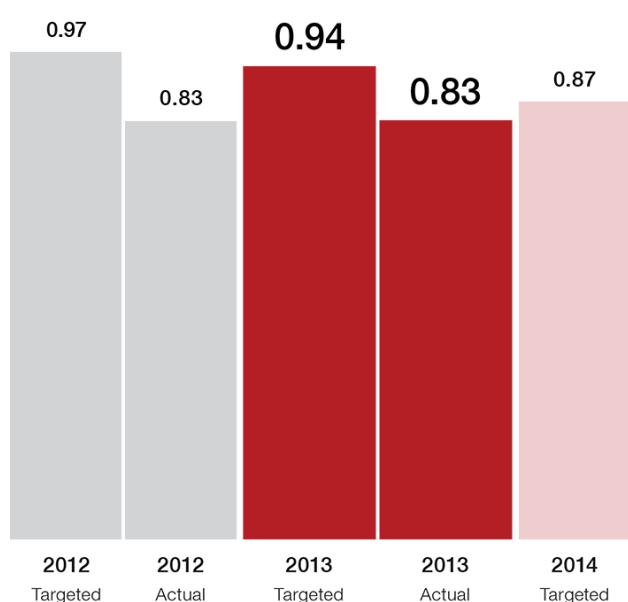
Both past performance and forward-looking actions are considered in measuring our safety and health performance. Our employee recordable incident rate (as defined by the [Occupational Safety & Health Administration](#)) for 2013 was 0.83, which was better than our target of 0.94. This performance matched our 2012 mark and is the best in company history. Our employee severity rate – the severity of injuries that occur – in 2013 was 23.04 versus the target of 18.64 and our 2012 performance of 19.24. That employees are incurring more serious injuries is not acceptable. Severity days (lost work days and

restricted activity days due to injury) rose from 3,495 in 2012 to 4,094 in 2013, a 17 percent increase. The year before, severity days had declined by the same percentage.

Slips, trips and falls accounted for the most severity days in 2013 (49 percent of the total), followed by overexertion events (17 percent).

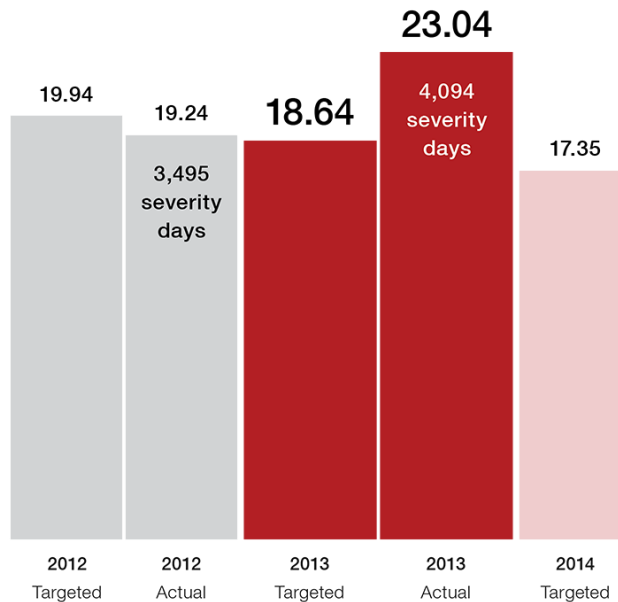
### AEP Employee Safety & Health – Path to Excellence

Recordable Injury Rates



Recordable injury rate = lost workday cases + restricted activity cases + illnesses cases + medical cases x 200,000/hours worked. Excludes AEP River Operations. From 2011 and on, goals exclude hearing loss, which is cumulative and cannot be attributed to a given year.

Injury Severity Rate



Average injury severity rate = lost work days + restricted activity days x 200,000/hours worked. Excludes AEP River Operations. Severity days represent lost productivity due to lost work days or restricted duty.

Internal audits of our environmental, safety and health management system and compliance processes are a major part of our quest for zero harm. Safety and health programs were audited at 18 locations in 2013. The top five areas where risks were identified in 2013 were in the hoisting/lifting, welding/cutting, confined space, walking and working surfaces and respiratory protection programs. All of the audit comments are shared with business unit leaders and safety and health professionals so that they may leverage the lessons learned from the audit activities.



Our Generation business unit uses the Managing Environment, Safety and Health (MESH) system to track performance and ensure compliance with requirements. Many of our power plants have electronic MESH manuals that link to corporate resources while also addressing plant-specific processes.



# The Path Forward

Our commitment to continuous safety and health improvement and to our goal of achieving top-decile performance among our peers by 2016 is evidenced by our current five-year Path to Excellence, established in 2011. We track our performance and that of peer utilities through the voluntary Edison Electric Institute Annual Safety and Health Survey.

Our first five-year Path to Excellence aimed for top-quartile performance, and we came very close to meeting that goal. Annual safety and health performance is a factor in employees' incentive compensation, emphasizing its role in our values and culture and employees' accountability for it.



Our focus on zero harm means compliance with regulations is just a starting point. Various initiatives and procedures are designed to help us go beyond compliance, including Job Hazard Assessments, our Uniform Event Analysis process and the Human Performance Improvement Initiative. Sharing details of injuries and ways employees have avoided or prevented harm has helped us work more safely.

One step we took in 2013 to help combat our incident severity was the establishment of a Serious Injuries and Fatalities (SIF) rate. The SIF rate is an example of going beyond compliance to drive continuous improvement. The rate is calculated using the OSHA rate formula (the number of serious injuries and fatalities multiplied by 200,000 divided by total hours worked).

Measuring these events will help us focus more directly on the kinds of incidents that can cause life-altering injuries and fatalities and determine ways to prevent them in the future.

Last year, employees and contractors in Transmission and Distribution began using smart phones to record and disseminate safety- and health-related information from job site observations. This allows field employees to share information with other work groups more quickly and easily. In Transmission, a total of 5,161 job site observations were performed in 2013 via smart phone devices.

Also in our transmission business, a working group of employees from across AEP meets quarterly to identify and communicate lessons learned and best practices. This effort, called Grand Central Safety, encourages field employees to talk about their safety challenges and successes.

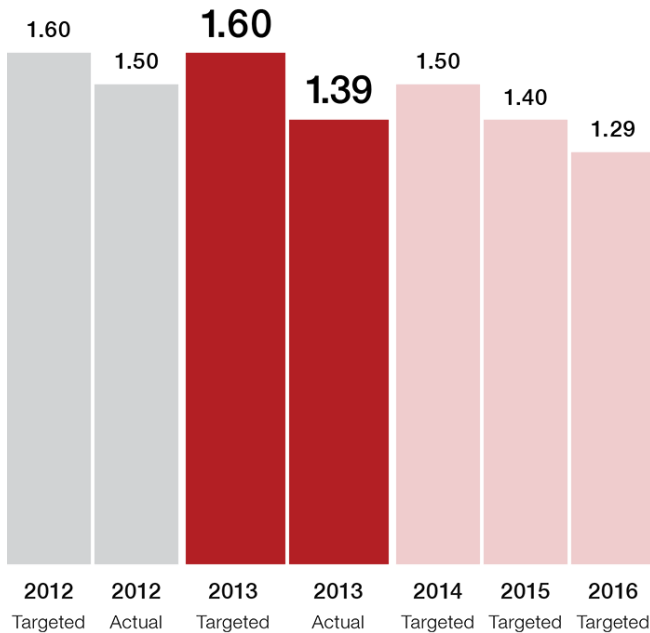
The risk of injury is present all the time. In our River Operations business, our employees spend a lot of time on the water. To minimize the water hazard risks, we began placing small transmitters on employee life jackets. The Overboard Recovery Communications Apparatus system will help us quickly locate someone who has fallen overboard. Although our goal is to never have a person overboard, this additional safety feature brings us to the highest standards of industry safety practices.

We have evidence that zero harm, while challenging, is achievable. Many AEP locations across our business units attained it in 2013.

# Contractor Safety

We expect AEP contractors to share our value of zero harm when they are working for us. We challenge them to keep improving their performance, and we provide training and tools to help them. It is

## AEP Targeted Contractor Recordable Rate – Path to Excellence



important to us because our contractors’ safety performance can affect AEP’s reputation and risk profile.

We have set Occupational Safety & Health Administration (OSHA) recordable incident rate targets through 2016 for our major contractors in construction, maintenance and other physical work. Targets also have been instituted for contractors serving individual business units.

AEP’s major contractors outperformed the target recordable rate in 2013 by a considerable margin (1.39 actual performance versus 1.60 target). However, this performance was overshadowed by two contractor fatalities.

AEP has been a key player in an industrywide effort to hold contractors accountable to the same safety performance standards as utilities. Many of our contractors voluntarily enter their safety

statistics in a database available for utilities to view. In addition to giving contractors clear direction and expectations for safety performance in our industry, the database allows us to monitor their performance and to be proactive if we notice troubling events or trends.

# Changing Regulations

[OSHA](#) is reviewing and updating several regulations that will affect how we do our work at AEP. We are very committed to safety and health and provide our employees with tools, processes, procedures and other proactive measures to prevent harm. We have proactively engaged OSHA during this process. We have concerns about regulations changing without a guarantee of added protections for workers and have shared our concerns with OSHA. The new rules are due out this year.



# Safety Recognition

We believe it is important to recognize employees' outstanding safety performance, on and off the job. The Chairman's Life Saving Award, founded in 2004 to recognize employees for their selflessness in helping others, has been presented to 56 employees.

The crew of the M/V Boonesboro received the 2013 Chairman's Life Saving Award for helping to rescue five fishermen who had fallen out of their overloaded, swamped boat in the Ohio River as another tow was about to run over it. These River Operations employees were recognized: Josh Darst, John Hoffman, Sidney Jones, Josh Kinder, Buck Knapp, Matt Montgomery, William O'Hara, Brandon Richards and B.J. Rose.

The Bill Sigmon Safety Award in our Generation business unit was introduced in 2013, shortly after the senior vice president's retirement. This award recognizes his deep commitment to safety throughout his career at AEP. The award acknowledges individual employees' efforts to promote a strong safety culture. The first winners of the award are Mac Soules, a diesel mechanic at the Pirkey Plant in Texas, and Rob Osborne, a managing director in Generation Fleet Operations.



The John P. DesBarres Safety & Health Excellence Award recognizes both recent and sustained safety and health performance and takes into account innovative approaches that yield results. The 2013 DesBarres Award winner will be announced in July 2014.

AEP Utilities, which comprises our operating companies, confers annual safety and operations awards. Public Service Company of Oklahoma received AEP Utilities' Best Sustained Safety Performance Award for 2013. Indiana Michigan Power received AEP Utilities' Zero Harm Award for 2013.

# Public Safety

Protecting the public from unsafe contact with our electrical equipment is a challenge and one that we work hard at every day. Educating the general public and contractors about safely working around power lines is an ongoing process, and we have targeted communications that we share with trade groups and others. Another area of concern is the homeowner who climbs a ladder without realizing the proximity of an electric power line or digs a hole without knowing that there is an underground power line in that location. We use all communication channels available to provide safety information to the public. Unfortunately, sometimes it is unheeded.

## Copper Theft Steals Safety



Fifteen public fatalities in 2013 were the result of vehicles crashing into utility poles, and three public fatalities and four additional electrical contacts resulted from attempted copper theft. There also were seven other public fatalities.

Attempted copper theft, which can cause customer outages in addition to grave physical harm or death, remains a problem in parts of our service territory.

Our governmental affairs teams have been working with state legislatures across the AEP system to create or strengthen laws that could help stem incidents of copper theft. New legislation was introduced in certain states in 2013, with increased penalties for scrap dealers who buy stolen copper.

We also seek to educate the public through community and media outreach. Our [Southwestern Electric Power Company](#) utility hosted an informational workshop last spring in Texarkana, Ark., for police, legislators, scrap dealers and the news media to showcase the dangers of copper theft.

We also enlist help from our customers. All customer bills feature an annual message about copper theft that includes a phone number for reporting incidents.

## Environmental Performance

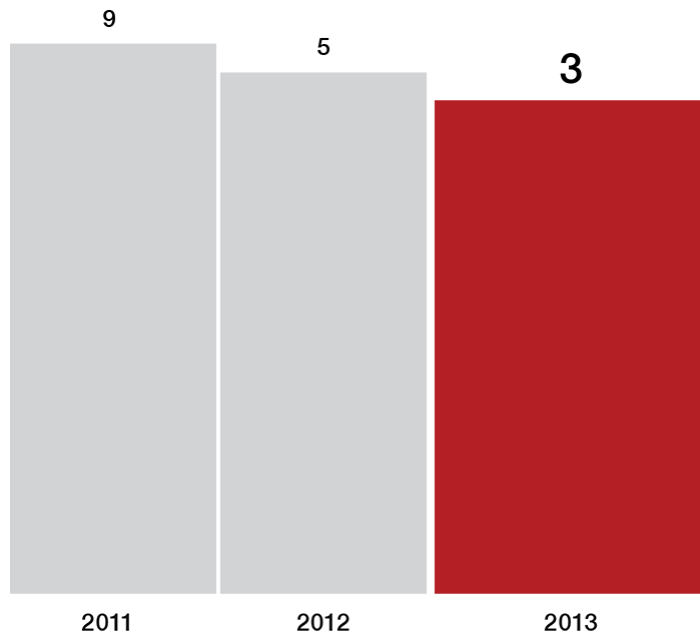


**AEP Material Issue**  
Learn More

Although our environmental efforts are built around compliance, we take additional measures and always strive for continuous improvement. In 2013, we achieved our best environmental performance in company history. AEP did not receive a single formal environmental enforcement action from any of the local, state or federal agencies that regulate our operations. This compares with two actions received in 2012. When agencies raise issues with us, we work with them to address their questions and concerns to their satisfaction. In addition, our Generation business unit completed the year with the best results on its Environmental Performance Index since the voluntary index was established in 2003, and [AEP River Operations](#) operated during 2013 without a single spill into the river. These results are attributed to a number of factors, but central to this success is a commitment by our employees to a high standard of performance.

# Compliance Performance

## AEP Environmental Performance Index (number of incidents per year)



We are required to comply with hundreds of federal, state and local regulations at all of our operating locations. Environmental agency inspectors make scheduled and unannounced visits to our sites to monitor our compliance with regulatory requirements, permit limits and reporting and recordkeeping obligations. In 2013, there were 188 inspections by regulatory agencies in which physical facilities, procedures and recordkeeping practices were examined.

One of the voluntary actions we take to help drive performance improvement is the internal Environmental Performance Index for our generation business. We recorded three incidents in 2013, our best performance since we launched this index in 2003. The index monitors incidents for opacity, water quality permits and oil and chemical spills at our power plants.

Environmental Performance Index includes incidents for opacity, NPDES, and oil and chemical spills at our power plants.

As our Transmission business continues to grow at a fast pace, there are increasing opportunities for AEP to impact the environment. We quickly realized that this required more focus on environmental compliance matters related to permitting and construction of new and renovated infrastructure. In response, in 2013 we created an environmental manager position to better support Transmission's compliance needs in the field.

## Emissions

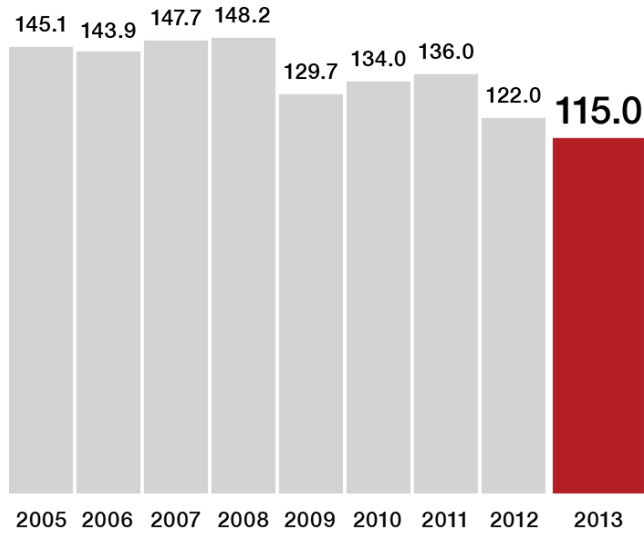
Our emissions continue to decline as our plan for retrofits and retirements of coal units unfolds. Since 1990, sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions each have been reduced by more than 80 percent, and mercury emissions have declined by nearly 60 percent since 2001. Factors leading to the decreased emissions include installation of controls such as scrubbers, changes in the type of coal burned, unit retirements, and reduced generation due to economic conditions.

In 2013, carbon dioxide (CO<sub>2</sub>) emissions in the United States were up about 2 percent over 2012, according to the [U.S. Energy Information Administration](#), largely due to a slight increase in coal

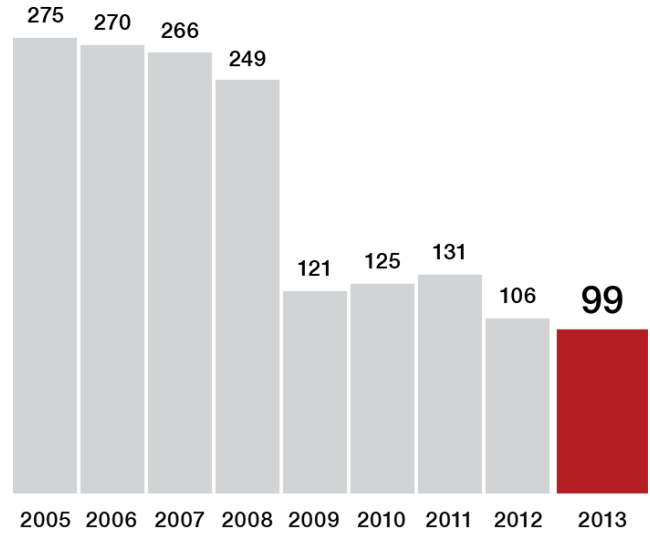


consumption for electricity. From 2012 to 2013, AEP's CO<sub>2</sub> emissions declined from 122 million metric tons to approximately 115 million metric tons. This represents a 21 percent reduction compared with our 2005 CO<sub>2</sub> emissions of approximately 145 million metric tons. AEP's generating fleet has exceeded President Obama's 17 percent reduction goal for CO<sub>2</sub> emissions, due to a number of circumstances, including reduced demand, five years before the deadline and without additional regulation.

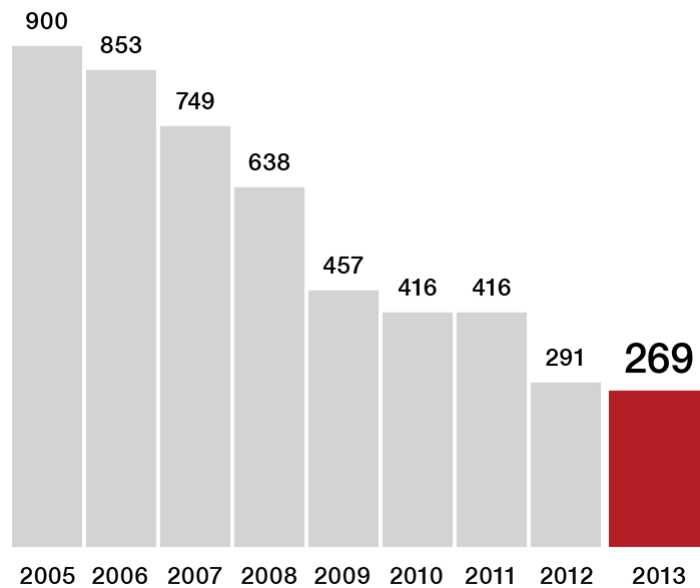
**Total AEP System – Annual CO<sub>2</sub> Emissions**  
(in million metric tons)



**Total AEP System – Annual NO<sub>x</sub> Emissions**  
(in thousand U.S. tons)



**Total AEP System – Annual SO<sub>2</sub> Emissions**  
(in thousand U.S. tons)



# Checks and Balances

Increasingly, we rely on our environmental, safety and health management system to help our environmental performance continually improve. Given the success of our fossil and hydro generating fleet and construction projects, we have expanded the use of this system to our mining operations, coal transfer facilities and river transportation operations.

We conducted internal audits of our environmental management programs at 19 locations in 2013. The audits generally confirmed that programs are in place and are achieving compliance objectives. Audits also are focusing more on specific risks and controls, assuring that procedures are being handled effectively.

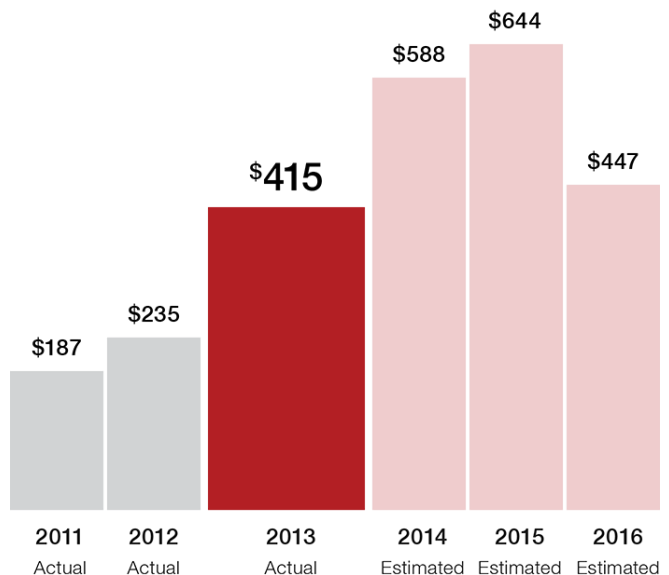
As AEP plants are retired, environmental requirements will continue to apply. Many existing environmental requirements, in particular with respect to the management of water and coal-combustion byproducts, will continue; however, additional requirements could potentially emerge. Compliance with environmental requirements after these plants are decommissioned will be given the same level of emphasis as if the plants were still in operation. Regulatory commissions in states where plants will be retired are being informed of the work that will be required well into the future.

# Environmental Regulations

The increasing scope and stringency of environmental regulations pose technical and financial challenges for our industry. These challenges are influencing decisions to upgrade or retire coal-fueled generating units and planning for new generation projects across our industry.

Across our sector, the Edison Electric Institute reports that at least 68,500 MW – which represents about 20 percent of the total coal generating capacity in the United States in 2010 – will be retired by 2022. This excludes additional impacts from new GHG regulations that are under development. A report from the U.S. Department of Energy predicts the scope of the retirements will require significant investments in transmission to maintain grid reliability. As a result, our investments will be substantial.

**Historical & Projected Environmental Investments** (\$ in million)



AEP plans to retire 4,063 MW of regulated power generation in 2015 and 2016 and is retrofitting with environmental controls or refueling another 6,090 MW. On the competitive side of our business, 2,523

MW of competitive generation is scheduled to be retired in 2015 and 1,155 MW is earmarked for environmental controls.

AEP's active participation in development of new regulations is intended to ensure that new requirements are achievable, based on sound science, balanced with other rulemakings and implemented in a rational time frame. We must be responsible to our shareholders who make the required capital investment and to our customers, who will ultimately pay for the implementation of compliance strategies. Some of our stakeholders disagree with our approach to public policy and regulatory advocacy. We are committed to staying engaged with them through the process, as that is the best opportunity for understanding and addressing each other's concerns.

### AEP Regulated Environmental Investments

Operating Company	Plant Name and Unit	State	Potential Type of Retrofit	MW
Appalachian Power Company	Clinch River Unit 1 <sup>1</sup>	Virginia	Refuel with Natural Gas	242
	Clinch River Unit 2 <sup>1</sup>	Virginia	Refuel with Natural Gas	242
Indiana Michigan Power Company	Rockport	Indiana	DSI, SCR	2,620
Kentucky Power Company	Big Sandy Unit 1 <sup>2,3</sup>	Kentucky	Refuel with Natural Gas	268
Public Service Company of Oklahoma	Oklauion	Texas	ACI, CaBr Injection	102
	Northeastern Unit 3	Oklahoma	ACI, DSI, Baghouse	460
Southwestern Electric Power Company	Welsh Unit 1	Texas	ACI, Baghouse	528
	Welsh Unit 3	Texas	ACI, Baghouse	528
	Pirkey	Texas	ACI	580
	Dolet Hills	Louisiana	ACI, Baghouse	256
	Flint Creek	Arkansas	FGD, ACI	264
<b>Total</b>				<b>6,090</b>

<sup>1</sup> Existing coal plant 235 MW

<sup>2</sup> Existing coal plant 278 MW

<sup>3</sup> Case on file, subject to regulatory and other approvals

### AEP Competitive Environmental Investments

Operating Company	Plant Name and Unit	State	Potential Type of Retrofit	MW
AEP Generation Resources*	Conesville Units 5 & 6	Ohio	Mercury Solution	800
AEP Texas North Company	Oklauion	Texas	ACI	355
<b>Total</b>				<b>1,155</b>

\* Assumes investment is able to clear the market

**CaBr** – Calcium Bromide Injection

**ACI** – Activated Carbon Injection

**DSI** – Dry Sorbent Injection

**FGD** – Flue Gas Desulfurization

**SCR** – Selective Catalytic Reduction

# Regulations Update

## *Mercury & Air Toxics Standards*

The most stringent of the federal regulations, the [Mercury and Air Toxics Standards](#) rule (MATS), was finalized in 2012. MATS established unit-specific emission requirements for mercury, metals and acid gases. The MATS compliance deadline is April 16, 2015, but up to a one-year extension may be obtained from state permitting authorities if adequate justification is provided. AEP has received several MATS deadline extensions, typically due to transmission reliability concerns, capacity obligations or a lengthy scheduled retrofit. Our compliance strategy calls for installation of emission control systems, unit retirements and conversion of some coal units to natural gas. Implementation is under way with permitting and regulatory reviews, and engineering and design work.

The timing of MATS and the number of compliance-driven unit retirements and retrofit projects for AEP and the industry are causing grid reliability concerns. Reliability during peak demand periods is most at risk. During extreme cold weather in January 2014, on average, most of AEP's coal units slated for retirement in mid-2015 ran to serve the high customer demand. At the same time, natural gas delivery to some of our gas-fueled plants was challenged, all of which required voltage and load reductions in the bulk power system. Although the system held together, there was a real threat of rolling blackouts and little room for error. It is a reminder that the electric system must be able to meet extreme requirements, such as we saw this winter, not just steady-state conditions.

We continue to provide leadership in the ongoing dialogue to help ensure that MATS compliance strategies balance the need to preserve grid reliability. We are closely coordinating these efforts with state commissions and environmental agencies, the EPA, regional transmission organizations, the Federal Energy Regulatory Commission and the North American Electric Reliability Corporation.

## *Emission transport rules*

The EPA's efforts to reduce interstate transport of SO<sub>2</sub> and NO<sub>x</sub> in the eastern half of the United States continue. In 2005, the EPA finalized the Clean Air Interstate Rule (CAIR), which was remanded by the D.C. Circuit Court of Appeals but was allowed to stay in effect until an alternate rule was developed. The EPA then developed the [Cross-State Air Pollution Rule](#) (CSAPR), but it also was remanded after a legal challenge. The EPA appealed that decision, and the case went before the U.S. Supreme Court in December 2013. A ruling is expected in mid-2014. Meanwhile, the CAIR requirements remain in place, pending additional court or agency action.

Separate from CSAPR, the EPA has indicated that it is developing a new ozone transport rule that will be proposed during the summer of 2014 and will focus on NO<sub>x</sub> emissions. Also, on Dec. 9, 2013, eight states from the Northeast Ozone Transport Region petitioned the EPA to add nine upwind states to the region, including states with AEP generating resources. The goal would be additional NO<sub>x</sub> and volatile organic compound (VOC) emission reductions from these states. The EPA has 18 months to respond to the petition.

## **NAAQS**

The Clean Air Act requires the EPA to review and, if needed, revise [National Ambient Air Quality Standards](#) (NAAQS). Several NAAQS proposals have been revised or are under review, possibly leading to additional emission reduction requirements. The EPA is expected to propose a revised ozone NAAQS in late 2014. NAAQS for SO<sub>2</sub> and NO<sub>x</sub> were revised in 2010 and NAAQS for fine particulate matter were revised in 2012.

Due to the EPA's implementation schedule for the revised NO<sub>x</sub>, SO<sub>2</sub> and NAAQS – impacts, if any – from these revisions won't be known until later this decade at the earliest. The expected time frame for finalization and implementation of a revised ozone NAAQS rule would also likely result in any associated emission reductions being required late this decade at the earliest.

## ***Regional Haze***

The EPA's regional haze regulation is designed to protect visibility in designated areas such as national parks. In February 2014, the EPA approved Oklahoma's compliance plan for [Public Service Company of Oklahoma](#) (PSO) to meet requirements of the EPA's regional haze rule. Under the plan, PSO will install emissions control equipment on some of its gas-fueled plants. PSO will also retire one of its coal-fueled units at Northeastern Station in 2016 and will retrofit the other Northeastern Station unit with emission controls in 2015. The latter unit will be retired in 2026. The plan is also expected to enable PSO's coal facilities to meet the requirements of the EPA's MATS rule. The state's plan is a result of an April 2012 agreement with the EPA, the state of Oklahoma and PSO to reduce emissions and protect Oklahoma consumers and ratepayers.

## ***Greenhouse Gas (New Source Performance Standard - NSPS)***

AEP continues to engage the federal government as it develops regulations to reduce CO<sub>2</sub> emissions from new and existing fossil fuel-based power plants. As one of the nation's largest consumers of coal, we have particular interest in helping to shape these regulations. We seek an appropriate balance between environmental protection, impact on company operations and cost to our customers.

We believe the EPA's [NSPS](#) guidelines for existing sources should take into account the following principles:

- New rules should maintain the generating fleet that currently powers America. Rules should not strand existing capital investments in equipment or jeopardize reliability.
- The rules should respect the rights of states to have ultimate authority and flexibility in enforcing the regulations.
- EPA guidelines should be based on reductions that are achievable at the source.
- Performance standards should be based upon adequately demonstrated systems that are fuel- and technology-specific.
- Credit should be given for significant reductions already made or those that are being made.

- Electricity consumers should be treated fairly and equitably. Standards should reflect the electric sector’s proportional share of U.S. CO<sub>2</sub> emissions and not require additional reductions that adversely affect low- and middle-income consumers.

## ***Coal Combustion Residuals Rule***

How coal ash is handled has been the focus of the EPA for the past few years as it considers a couple of options for regulating [coal combustion residuals](#). Public and regulatory attention heightened in early 2014 following an incident involving a coal ash pond owned by another utility company. In light of the Dan River Plant incident in North Carolina, AEP has undertaken a review of its ash ponds for similar design arrangements. If we find any issues or concerns, we will address them immediately and appropriately.

In December 2013, our industry received clarity and direction on the EPA’s intent to finalize rules to regulate coal ash and other coal combustion residuals (CCRs). The agency continues to weigh two options to regulate coal ash – as either special waste under the hazardous waste section of the Resource Conservation and Recovery Act, or as a non-hazardous waste. A solid waste ruling will be important to the industry. The EPA has extended the deadline to finalize the rule to Dec. 19, 2014.

CCRs have long been used in concrete, wallboard and a wide variety of construction materials. While this benefits other industries, it also provides a source of financial and environmental benefits to AEP. By diverting the coal ash to beneficial reuses, we are minimizing our environmental impacts by reducing the need for waste disposal sites. In addition, the sale of CCRs provides an important source of revenue for AEP.

In 2013, AEP generated 8,666,177 tons of CCRs and was able to beneficially reuse more than 3.1 million tons, or 36 percent of the total. Beneficial reuse of CCRs avoided more than \$20 million in disposal costs in 2013 and generated more than \$8 million in revenues.

## ***316(b) Standards***

New rules governing cooling water intake systems, known as [316\(b\) standards](#), are to be finalized in April 2014 with a phased-in compliance timeline.

Under the Clean Water Act, the 316(b) standards aim to protect fish and other aquatic organisms that have contact with water intakes or, more specifically, the screens that protect cooling water systems

### **2013 AEP Coal Combustion Products (CCP) Utilization Summary** (in millions)

	<b>2013</b>
Total CCP Produced (tons)	8.7
CCP Donated (tons)	0.05
CCP Used Internally (tons)	1.9
CCP Sold (tons)	1.2
CCP Utilized (tons)	3.1
Total CCP Avoided Cost	\$20.2
Total CCP Revenues	\$8.4
Total Worth	\$28.6
<b>Percent Total Utilization Based on Total Production</b>	<b>36.3%</b>

Includes fly ash, bottom ash, boiler slag, FGD material and gypsum



from debris. Impingement occurs when water currents draw aquatic organisms against an intake screen. Entrainment occurs when small fish, eggs or larvae are drawn into the cooling water system through the screen openings and are affected by heat, physical stress or compounds used to prevent build-up of algae and slime that can affect the efficiency of the system.

Our power plants will be affected by the new 316(b) rule. Several of these plants will be retiring, and we are working with our permitting agencies to be able to refrain from making any unneeded modifications in the interim. For the remaining plants, we may need to retrofit modified intake screen systems to reduce impingement. Changes to address entrainment are more difficult to gauge, since that decision will be determined by a series of site-specific studies that the EPA is expected to require. The EPA recognizes that its most costly solution, cooling towers, may not be appropriate in all locations and has proposed that it would consider alternatives on a site-by-site basis. We favor this approach.

Cooling towers reduce plant efficiency and increase water consumption. Adding cooling towers would be problematic at some of our western coal plants, which operate in areas prone to long droughts. Many of these plants already use a closed-loop cooling system in which reservoirs were built specifically to hold and recirculate the water used for cooling.

### ***Steam Electric Effluent Limitation Guidelines***

The Clean Water Act directs the EPA to set, periodically review and update [effluent limitation guidelines](#) that regulate wastewater discharge from steam electric generating facilities (e.g., coal, combined-cycle natural gas and nuclear units). On April 19, 2013, the EPA proposed more stringent guidelines that could require upgrades to, and installations of, new wastewater treatment systems at a potentially significant expense. A final rule was expected this year but the EPA has delayed the release of the standards to Sept. 30, 2015. We've been studying the possible impact if we move from wet to dry handling of coal ash. To comply with existing treatment standards, many of our coal ash ponds provide treatment of the ash wastewater from the plants in addition to many additional waste streams. If the ash ponds are eliminated, those remaining waste streams would still need to be treated – and the necessary technologies for that would have to be selected, engineered and installed.

We're expanding our use of a computer model to help us assess what will happen to various pollutants as they move through different wastewater processes at a power plant. The model considers the type of coal burned, water chemistry, size and flow of the treatment ponds, chemical reactions, weather conditions and other factors. This helps us to predict how changes to the plant will affect the waste streams. For example, the model will permit us to better gauge how adding a new scrubber or eliminating an ash pond will affect the wastewater the plant produces.

The model will also be used to help with water recycling decisions and to determine if water reuse will affect the final wastewater output or any intermediate water treatment steps. It will help us ensure that water management changes not only meet national effluent guidelines but also do not create unintended consequences or prevent us from meeting local water quality standards. The information generated will be useful as changes resulting from the revised effluent guidelines are implemented in the coming years.

# New Source Review

In 2007, AEP entered into a court-approved settlement of New Source Review (NSR) litigation. The original consent decree had specified that AEP would install flue gas desulfurization (FGD) systems on the Rockport Plant units, Big Sandy Unit 2 and Muskingum River Unit 5.

In 2013, a modification to the decree was approved by the U.S. District Court for the Southern District of Ohio, Eastern Division. The modification lowered a system-wide SO<sub>2</sub> emission cap for AEP plants that becomes increasingly stringent through 2029. The modification also gives us more flexibility in how we meet these requirements.

NSR Consent Decree Annual Report Archive (PDF)

- [2013 NSR Annual Report](#)
- [2012 NSR Annual Report](#)
- [2011 NSR Annual Report](#)
- [2010 NSR Annual Report](#)
- [2009 NSR Annual Report](#)
- [2008 NSR Annual Report](#)

# Water Quality and Stewardship



**AEP Material Issue**  
Learn More

Water is a critical input to producing electricity. It is used in power plant boilers and is also used for cooling, cleaning and transporting fly ash and bottom ash.

Water quality, availability, use and management are increasingly important issues for our society. We are taking steps to reduce our water consumption, improve our water quality and address water availability issues as we comply with current regulations and prepare for new ones.

The value of water came into sharp focus when a chemical from a local company leaked into the Elk River in West Virginia early this year, contaminating municipal drinking water supplies serving about 300,000 residents. A state and federal disaster declaration imposed a water ban, warning the public not to consume or use tap water in a nine-county region.

We immediately reached out to our employees in affected areas to inform them of the water ban and the associated health concerns. We gave our employees bottled water and hand sanitizer and posted water use warning signs.

This event served as a sobering reminder of how precious this natural resource is to our everyday lives – much like electricity.

## Ohio River Basin Water Quality Trading Project



AEP is one of the first utilities in the nation to take part in the world’s largest interstate water quality trading plan. Representatives from Ohio, Indiana and Kentucky pledged their support to the plan in 2012, and the first trades took place in March 2014, culminating a five-year effort.

AEP began working with the [Electric Power Research Institute](#) (EPRI) and other partners in 2011 on a market-based approach to improve Ohio River water quality. The program is good for farmers, the environment and the participating companies.

AEP is one of 15 companies that have joined EPRI and the [Southern Research Institute](#) in founding a first-of-a-kind research facility to address power plants’ water usage and treatment. The new [Water Research Center](#) at Georgia Power Company’s Plant Bowen was dedicated late last year. The center will focus on finding new ways to manage and treat wastewater and to reduce and conserve water that power plants use.

AEP has participated in the [Carbon Disclosure Project Water Survey](#) for four years now. In 2013, the questionnaire was issued on behalf of 530 investors representing \$57 trillion in assets who seek business-critical information about water consumption and water use strategy and planning. In addition, AEP provides extensive water data in our [Global Reporting Initiative](#) (GRI) report.

## Waste Management

We manage many types of waste created by generating electricity, operating office buildings, and repairing and replacing equipment. We continue to make progress in reducing waste and diverting waste away from landfills through beneficial reuse or recycling.

### AEP Headquarters 2013 Non-Hazardous Recycling Statistics

#### Recycled Materials (in lbs.)

Aluminum	1,606
Cardboard	112,488
Scrap Metal	71,860
Paper	612,560
Plastic	3,088
Miscellaneous	140
<b>Total</b>	<b>801,742</b>

We’ve made headway in reducing the amount of polychlorinated biphenyl (PCB)-containing equipment used across the company. PCBs have not been used in new electrical equipment for more than 30 years but are present in some of our older transformers and other pieces of electric equipment. We removed and recycled approximately 42,000 pieces of electrical equipment in 2013; less than 1 percent of these items were found to contain greater than 500 parts per million (ppm) PCBs.

The EPA continues to move forward on developing a proposal that may mandate the phasing out of various levels of PCB-containing

equipment. The rule potentially could be quite costly due to the amount of equipment affected and the expense of identifying and replacing it.

There were approximately 1,800 transmission and distribution equipment spills in 2013, down from approximately 2,085 in 2012. Ten spills involved greater than 500 ppm PCBs in 2013 compared with nine spills in 2012.

During 2013, we also recycled nearly 1.6 million gallons of oil, 11 million pounds of paper and mixed office waste, 48 million pounds of scrap metal, 147,000 light bulbs, 233,000 pounds of batteries and more than 433,000 pounds of electronic equipment, such as computers and phones, preventing disposal in landfills. These numbers are not all inclusive but are considered good estimates of waste management across AEP and indicate progress in reducing waste.

### **AEP Waste Stream 2011-2013**

<b>Measurement</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Hazardous Waste Generated (lbs)	2,639,251 <sup>1</sup>	1,729,607 <sup>2</sup>	<b>1,243,754 <sup>3</sup></b>
Hazardous Waste Disposed (lbs)	2,607,762	1,717,755	<b>1,234,978</b>
Hazardous Waste Recycled (lbs)	31,489	11,852	<b>8,776</b>
Paper Recycled (lbs) <sup>4</sup>	1,233,816	2,400,642	<b>11,029,559</b>
Metal Recycled (lbs)	35,158,825	1,798,375 <sup>5</sup>	<b>48,405,496</b>
Light Bulbs Recycled (lbs)	215,730	169,129	<b>147,286</b>
Batteries/Lead Recycled (lbs)	287,721	260,678	<b>233,015</b>
Electronic Equipment Recycled (lbs)	205,102	251,250	<b>433,129</b>
Oil Recycled (gallons)	1,230,104	1,386,174	<b>1,584,230</b>
Beneficially Reused CCP (tons)	2,943,736 <sup>6</sup>	3,080,738	<b>3,148,192</b>
Parts Washer Solvent Recycled (gallons)	39,643	22,089	<b>42,372</b>
Oily Water Cleaned & Recycled (gallons)	324,087	144,665	<b>755,332</b>
Antifreeze Recycled (gallons)	22,170	7,411	<b>3,183</b>

<sup>1</sup> Includes 2,465,554 pounds of CCS high selenium water from Mountaineer Plant

<sup>2</sup> Includes 1,640,940 pounds of boiler cleaning waste from Welsh Plant

<sup>3</sup> Includes 1,076,859 pounds of boiler cleaning waste from Wilkes Plant and Flint Creek Plant

<sup>4</sup> Mixed office waste (paper, cardboard, aluminum, plastic, etc.)

<sup>5</sup> Does not include \$11M worth of scrap metal sold by Asset Recovery

<sup>6</sup> Does not include FGD used for the Abandoned Mine project at the CV Prep Plant

### ***Nuclear Waste Management***

The Department of Energy (DOE) oversees permanent disposal of spent nuclear fuel and historically has charged fees to plant owners for this disposal. But the government has stopped developing the Yucca Mountain storage facility in Nevada, leaving this issue unresolved.

Indiana Michigan Power (I&M) owns and operates the two-unit, 2,191-MW Donald C. Cook Nuclear Plant in Michigan. Like the rest of the nuclear industry, we have a significant future financial commitment to dispose of spent nuclear fuel. We need a national solution to this issue, which should be part of a comprehensive energy strategy.

Since 1983, I&M has been required to collect a fee of one mill per kilowatt-hour for fuel consumed after April 6, 1983. The fees that are collected have gone into a federal Nuclear Waste Fund to pay for a federal nuclear waste disposal site. The Fund has collected nearly \$30 billion nationally, including interest, since the surcharge was put in place.

The Nuclear Energy Institute (NEI) and the National Association of Regulatory Utility Commissioners (NARUC), along with several utilities (including I&M), filed a petition in late 2012 challenging the DOE's continued collection of this surcharge. In November 2013, the U.S. Court of Appeals for the D.C. Circuit ordered DOE to submit a proposal to Congress to reduce the fee to zero in light of the fact that no disposal site has ever been selected and the Fund coffers are more than adequate to cover current activity. DOE submitted that proposal to Congress in January 2014, but it is not yet effective. DOE will likely seek to stay its effect while it pursues all available routes of appeal. In the meantime, I&M continues to collect and pay the fee as required by current law.



In 2012, we began and completed an initial loading of spent nuclear fuel into dry casks at the Cook Nuclear Plant in Michigan, which will support an additional three years of dual-unit operation at full power.

The uncertainty associated with long-term storage has placed the burden of interim storage on each nuclear facility. AEP is addressing this issue on the assumption that a workable offsite solution will not exist before the operating licenses for both Cook units expire two decades from now. In 2011, AEP signed a settlement agreement with the federal government that allows I&M to make annual filings to recover certain spent nuclear fuel storage costs resulting from the government's delay in accepting the spent fuel for storage.

In 2012, the Cook Plant began a program of loading spent fuel into dry casks. Twelve casks, each containing 32 spent nuclear fuel assemblies, were loaded that year. Without removal of the used-fuel assemblies, the spent fuel pool would have reached capacity in 2014, forcing shutdown of one or both Cook units. The next cask loading is scheduled for 2015, when 16 casks are expected to be loaded, with future loadings to occur every three years thereafter. The facility can be expanded as demand requires.

Discussions are occurring within the industry about the feasibility of building regional or private fuel storage facilities to handle interim storage until a long-term repository or reprocessing plan is in place,

using the funds that have been collected for long-term storage. The outcome of these discussions is uncertain.

## ESH Policy & Philosophy

### Environment, Safety & Health Philosophy

No aspect of operations is more important than the health and safety of people. Our customers' needs are met in harmony with environmental protection.

### Environment, Safety & Health Policy

AEP is committed to social responsibility and sustainability. We are proactive in our efforts to protect people and the environment by committing to:

- Maintain compliance with all applicable ES&H requirements while pursuing the spirit of ES&H stewardship;
- Ensure that people working for or on behalf of AEP understand and integrate ES&H responsibilities into their business functions;
- Support continual improvement of environmental performance and pollution prevention; and
- Hazard elimination through employee involvement and continual health and safety improvement.



## Energy Reliability



**AEP Material Issue**  
Learn More

The U.S. electric grid is a complex, interconnected network of components that work together to provide a reliable power supply. When one part isn't functioning at its best, a loss of power may occur. When that happens, regardless of the reason, customers expect their service to be restored quickly. If it isn't, there can be political, regulatory, economic and social consequences for our customers and our communities that impact AEP.



## Total AEP System Overhead Circuit Miles

### Vertically Integrated Utilities

Company	Transmission & Distribution	765 kV Lines
Appalachian Power Company		51,594
Indiana Michigan Power Company		21,869
Kingsport Power Company	1,404	–
Kentucky Power Company	11,159	257
Public Service Company of Oklahoma	20,822	–
Southwestern Electric Power Company	27,372	–
Wheeling Power Company	1,728	–

### Transmission & Distribution Utilities

Ohio Power*	45,530	508
AEP Texas Central Company	29,355	–
AEP Texas North Company	17,046	–

\*Includes 766 miles of 345,000-volt jointly owned lines

We must prevent outages to a practical extent and restore power safely and efficiently when they do occur. We face challenges affecting our ability to maintain the existing 220,000-mile transmission and distribution network while also upgrading infrastructure to meet future demands and changes in the generation portfolio across the country. Our challenges include the age of our infrastructure, the threat of external interruptions, the need for greater capacity, the difficulty of siting new facilities, new and future environmental regulations, and the cost of needed investments.

The ability to weather major storms and other large-scale interruptions is an area of increasing focus for us and the industry in general. The United States had seven weather/climate disasters with losses exceeding \$1 billion each in 2013, according to the National Oceanic and Atmospheric Administration.

We are developing and refining technologies to improve reliability and pursuing changes to our processes and procedures. Our industry learned there are many impediments to effective restoration following a large event like Superstorm Sandy in late October 2012, which affected the Northeast more directly than those areas that AEP serves.

## Measuring Reliability

We track our transmission and distribution reliability performance with several metrics that are used industrywide. These indicators show us how reliable our system is and how our customers are impacted when it is not. The investments we are making in our transmission and distribution system improve reliability and operating efficiency and prepare the system for new technologies in the future.

The System Average Interruption Duration Index (SAIDI) measures how many minutes the average customer experiences an interruption in electric service in a given year. During 2013, the AEP System SAIDI was 200.2 minutes, a 3.7 percent increase

### Annual AEP Systemwide Reliability Indices

	2011	2012	2013
SAIFI <sup>1</sup>	1.477	1.317	<b>1.329</b>
SAIDI <sup>2</sup>	227.9	193.0	<b>200.2</b>
CAIDI <sup>3</sup>	154.3	146.6	<b>150.6</b>

<sup>1</sup> System Average Interruption Frequency Index is the number of interruptions an average customer experiences in a year.

<sup>2</sup> System Average Interruption Duration Index measures how many minutes the average customer experiences an interruption in electric service in a given year.

<sup>3</sup> Customer Average Interruption Duration Index is the length of time it takes to restore service when an outage occurs.

from 2012. The growth of vegetation contributed to about 33 percent of SAIDI results and impacts to equipment accounted for about 20 percent.

The System Average Interruption Frequency Index (SAIFI) represents the number of interruptions the average customer experiences in a year. During 2013, the system's SAIFI was 1.329, a 0.9 percent increase from 2012.

The Customer Average Interruption Duration Index (CAIDI) represents the average length of time it takes to restore service when an outage occurs. AEP's 2013 CAIDI was 150.6 minutes, a 2.7 percent increase from 2012. A combination of factors are responsible, including a reduction in the number of shorter-duration outages that historically affected larger numbers of customers that skew the metric upward and an increase in non-major storm events.

Vegetation-related outages and equipment failure are among the biggest challenges to AEP's service reliability. Managing vegetation on our rights of way (ROW) is key to maintaining transmission and distribution system reliability. AEP manages the trees and vegetation around power lines using a combination of performance-based (such as targeting low performing circuits) and cycle-based maintenance strategies. Maintaining a regular tree-trimming cycle is a significant expense that directly affects customer bills. During the past five years, AEP has invested more than \$1 billion in vegetation management, including \$221.8 million in 2013. The issue of reliability has prompted several states to consider or implement shorter intervals between tree trimming programs.

Going forward, we are looking for opportunities to use an integrated vegetation management approach to ROWs for new transmission lines. This would involve addressing key ecological concerns while maintaining reliable transmission service. Reducing the need for herbicides, controlling invasive species, and providing greater natural species diversity are examples of practices under such an approach that could potentially reduce long-term vegetation maintenance costs.

One way we will do this is to identify potential partnerships with organizations that have experience with habitat conservation. In March 2014, AEP was among 32 private companies and five states that committed to enroll more than 3.6 million acres in the [Lesser Prairie-Chicken Range-Wide Conservation Plan](#). This three-year plan is a collaborative effort to support habitat conservation for the bird, which is being considered for listing under the Federal Endangered Species Act. As we seek to build new transmission facilities across our service territory, we are mindful of potential environmental and ecological impacts we might have. Working with organizations such as the Western Association of Fish & Wildlife Agencies – which is overseeing this plan – helps us understand the issues, support habitat preservation and take appropriate actions to mitigate our impacts.

## Reliability Compliance

2013 marked a decade since the 2003 Northeast blackout that left 55 million people in the dark in the United States and Canada. The blackout was the catalyst for more stringent rules and regulations to protect the grid from another such event. Since then, the [North American Electric Reliability Corporation](#) (NERC) has been authorized by the [Federal Energy Regulatory Commission](#) (FERC) to

enact and enforce rules and standards protecting the U.S. bulk power system. These rules and standards are constantly evolving, and they affect virtually everything we do in operating, maintaining and protecting the grid day to day.

The reliability standards in place today require processes and procedures to advance the reliability and resiliency of the bulk electricity system. We also must demonstrate a strong commitment to compliance; noncompliance with NERC reliability standards can lead to serious financial consequences as well as reputational risk.

In May 2013, AEP convened its first NERC grid reliability summit focused on building stronger relationships with regulators and grid operators and improving AEP's reliability compliance performance. The emphasis is now shifting to a focus on management controls related to how the nation's electric grid is managed. The summit brought together AEP executives, NERC, Southwest Power Pool and ReliabilityFirst Corporation officials to discuss regulator expectations, company reliability performance and the future of reliability compliance.

### ***Reliability Assurance Initiative***

We expect that the future of NERC compliance lies with the [Reliability Assurance Initiative](#) (RAI). RAI is a new approach to compliance that shifts the process from a focus on historical compliance and zero tolerance standards, to a more collaborative process of identifying reliability risks and using that information to better gauge future compliance monitoring and enforcement efforts. We agree that this new reliability philosophy has the potential to be much more effective and efficient. We also recognize the job of compliance will not become any easier. Rather, RAI intends to require registered entities – bulk power system owners, operators and users who are registered with NERC – to focus more on activities that matter most to reliability.

With RAI, the emphasis is on reforming both the monitoring and enforcement areas of reliability



regulation. Regulators want companies to monitor their own activities, detect issues when they occur, assess the risk of those issues, and correct the causes of those issues in a timely manner. NERC conducted several pilots in 2013 to develop a uniform approach to audits that aligns with this new reliability culture. AEP participated in one of those pilots in late 2013, in partnership with ReliabilityFirst, allowing us to have input in the evolution of the monitoring and audit scoping process.

In May 2013, AEP convened its first NERC grid reliability summit focused on building stronger relationships with regulators and grid operators and improving AEP's reliability compliance performance.

AEP was again asked by ReliabilityFirst to participate in a new enforcement pilot in 2014. The pilot will allow AEP to internally log minor violations of select NERC requirements rather than individually reporting each one. The logs would track the potential violations and the remedial actions taken. The logs will be periodically reviewed by ReliabilityFirst; the first review is tentatively scheduled for late April 2014.

AEP believes that registered entities should be committed to a reliability culture more than a compliance culture because it shifts the focus from complying with the bare minimum to truly ensuring the reliability and resiliency of the grid.

## Grid Resiliency

One of the greatest physical threats to the electricity infrastructure is severe weather. AEP was fortunate that 2013 brought less severe weather to our service territory than 2012 did, when an early-summer derecho (a severe windstorm accompanied by heavy rain and hail) knocked out power to more than 1.4 million of AEP's 5.3 million customers and caused millions of dollars in damage. In addition to financial costs, outages also create political and social risks, especially when the disruption is prolonged.

To improve the performance of the physical infrastructure of the grid, we created a Distribution Storm Hardening Strategy Team to recommend strategies that will ease the impacts of severe weather events on our customers by making the infrastructure more resilient and easier to fix when it does break.

New design criteria to strengthen, or harden, the distribution system took effect in early 2014. We have elected to design new and replacement poles to withstand wind speeds and ice accumulation above and beyond the National Electrical Safety Code (NESC) requirement for our service territory. The ice build-up component has been increased to one inch of ice in the central and northern portions of AEP's service territory from a quarter- to a half-inch, respectively. In the southern portion of our territory, where high winds are the primary driver of major storm damage, we have increased the system's ability to withstand high winds from 60 mph to 90 mph. Along the Gulf coast we continue to design facilities to withstand 150 mph winds.



One of the greatest physical threats to the electricity infrastructure is severe weather

These hardening measures are predicted to increase the strength of electric structures by at least 25 percent with nominal increase in cost. In addition, we developed an assessment tool to help us determine where to deploy capital funds to maximize the benefits of grid-hardening initiatives. Among the criteria to be used are the number of customers served; the type of customer (how many on a particular circuit are considered "critical" customers, such as hospitals and nursing homes, law enforcement agencies, and

water or wastewater facilities); the age of the poles; and the average duration of outages. This will allow us to put our resources to work where they deliver the most value for our customers.

Nationally, the hardening effort has been driven by state utility commissions, and there is regulatory support for these initiatives in our service territories.

On Dec. 31, 2013, the Oklahoma Corporation Commission approved Public Service Company of Oklahoma's application to broaden the scope of an existing cost recovery rider to include the costs of system hardening and grid resilience activities to strengthen the company's distribution system against weather-related events. Examples of system hardening include installing stronger structures and decreasing the distance between poles. Grid resiliency activities include installing devices such as line reclosures and other hardware that splits the system into sections so that, in the event of a fault on one section, the impact remains isolated.

In Indiana, Senate Enrolled Act 560 of 2013 provides a regulatory framework for utilities to implement a Transmission, Distribution and Storage System Improvement Charge (TDSIC) to pay for these initiatives. The TDSIC rider is used to recover costs associated with certain electric infrastructure expansion projects, including those intended to improve safety or reliability; modernize the system; or improve an area's economic development prospects. Prior to implementing the TDSIC rider, the company will file a seven-year plan with the Indiana Utility Regulatory Commission with details of the projects under consideration.

In Ohio, the existing Distribution Investment Rider helps us fund distribution system improvements, including grid hardening.

AEP is among other utilities participating in the [Electric Power Research Institute's three-year Grid Resiliency Project](#). Started in 2013, the project will provide our industry with new tools and strategies to improve the distribution system's ability to withstand severe weather events.

## **Aging Infrastructure**

The U.S. electric power grid was built more than a century ago. Although investments have been made to improve reliability and enable the grid to handle new and emerging technologies, a number of factors are increasingly affecting reliability. These include the age of the equipment, weather events, permitting challenges for new infrastructure, and economics. AEP has developed a diagnostic tool to help us better manage reliability through maintenance.

A new central Asset Health Center (AHC) platform is being implemented by our Transmission team to virtually monitor the condition of substation equipment in the field. The AHC is being developed to prevent failures, enable condition-based maintenance and prioritize replacement of aging or poorly performing equipment.

Investing in our infrastructure is strategically important for AEP because capital investments improve customer satisfaction and system reliability while improving operating efficiencies and delivering value



to our shareholders. But there is a finite amount of available resources, and there are competing demands for their use. In 2014, we expect to invest \$2.8 billion (excluding AFUDC debt and equity) in our transmission and distribution business and approximately \$875 million in our regulated generation business to improve reliability and the customer experience. Ensuring that capital is deployed and invested where it maximizes the value to our customers is the focus of a collaborative effort called “[Enabling Capital Excellence](#),” part of the company’s commitment to continuous improvement.

## CREZ Enhances Reliability

Improving reliability while bringing wind energy to market in west Texas is the purpose of the [Competitive Renewable Energy Zones](#) (CREZ) initiative in that state. CREZ is the largest transmission construction project in AEP’s history. Electric Transmission Texas LLC (ETT), a joint venture between subsidiaries of AEP and [MidAmerican Energy Holdings Co.](#), received the second-largest assignment of CREZ projects from the Public Utility Commission of Texas. In December 2013, ETT energized the last of seven 345-kV transmission line projects under the CREZ banner.

All CREZ projects are now complete. In total, CREZ involves nine different transmission service providers building 2,400 miles of transmission lines to transport 18,500 MW of west Texas wind generation to major population centers in that region. ETT built approximately 460 miles of new lines and upgraded 16 switching stations, marking the conclusion of ETT’s approximately \$1.5 billion investment in the Texas CREZ initiative.

ETT has other projects under way, including about 25 projects scheduled for completion by the end of the decade.



The two largest projects will improve transmission service in the rapidly growing Rio Grande Valley. These projects will add approximately 250 miles of 345-kV transmission lines between Laredo and Brownsville and an estimated \$560 million to the company’s portfolio. ETT’s total investment opportunity is approximately \$3 billion by 2023.

In total, CREZ involves nine different transmission service providers building 2,400 miles of transmission lines to transport 18,500 MW of west Texas wind generation to major population centers in that region.

## Improving Reliability

With service reliability as our cornerstone, we are continuously seeking to improve our processes and practices to give our customers the best possible experience. We are relying on our employees to help



make that happen. They are the most knowledgeable about the work they perform to keep the lights on, have a good understanding of what customers want and often have ideas to improve efficiency and reduce costs.

Whether planning work or helping the physical work force spend more time on their respective crafts and less time on tasks that interfere with that, we are committed to continuous improvement. This commitment allows us to focus on the right things at the right time. One example is the decision to streamline the morning process in our Columbus distribution district. The daily all-hands safety meeting was divided into smaller crew meetings. Stretching to prevent physical harm, such as strained backs, was moved to the field where it could be done as part of field prep work. We also improved the scheduling process so that job packages – tools and other items that line crews need for that day’s job – are ready to go in the morning. These changes enable our crews to get to their job sites earlier in the day and spend more productive time serving customers.

In our Transmission organization, process improvement and standardization efforts are also making a difference. In one case, a simple change in technology is transforming some of the work we do in the field. By supplying field employees with upgraded technology solutions, such as tablets and smart phones, we are able to eliminate the need for back-and-forth travel to office locations to receive and execute switching orders. Information is now transmitted in real time, expediting the work and trimming costs.

## Emergency Response

When a major event occurs that produces widespread outages, the electric industry mobilizes to deliver resources, supplies and crews needed to get the lights back on safely and quickly. This practice of mutual assistance, which dates to the 1950s, helps utilities mitigate the risks and costs of major outages through sharing of resources. The utilities that seek assistance pay the costs of the utilities and contractors providing labor and equipment.

### *National Emergency Response*

Improving the coordinated response to power interruptions affecting multiple regions of the United States is the purpose of the newly formed National Response Event (NRE) framework, which AEP had a leadership role in developing last year.

Approximately three dozen utilities contributed to this effort. The goal is to ensure that resources are allocated to restore power as quickly and as safely as possible in an efficient, coordinated way.

A new National Response Executive Committee composed of senior utility executives from all regions of the country will govern the NRE process, and a National Mutual Assistance



Resource Team will pool and allocate resources to best meet restoration needs in a major event. Three regional mutual assistance groups (RMAGs) in the Northeast have been consolidated to allow better coordination of resources. Superstorm Sandy demonstrated that having too many RMAGs can impede restoration progress, so the number of RMAGs nationwide was reduced from nine to seven. When an NRE is declared, the RMAGs will act as one entity to ensure the highest level of resource coordination.

The NRE framework was developed in partnership with federal and state agencies to improve the flow of information between utilities and government emergency personnel, expedite movement of resources across state and international borders, and leverage the logistical support and security capabilities that the military can provide in emergencies.

Federal, state and local officials have voiced support for the NRE approach. The National Association of Regulatory Utility Commissioners passed a resolution endorsing it in November 2013. States can help support this approach by backing utility efforts to increase system hardening, install micro grids in strategic locations and use smart grid technologies.

### ***AEP's Emergency Response Plan***

As the industry seeks to improve emergency response in the wake of storm-related widespread outages, AEP is simultaneously taking a close look at its own plans and developing an updated plan that considers the lessons learned of the last few years and recommendations from the Emergency Response Planning Team. Our Emergency Response Plan (ERP) is expected to be fully implemented by early 2015.

ERP traces its roots to the critical reviews of utilities' restoration activities by regulatory commissions in New York, Maryland and Connecticut after major Northeast storms several years ago – specifically, Hurricane Irene and the Nor'easter of October 2009. These reviews prompted AEP to conduct its own assessment of storm restoration practices to determine areas of, and set goals for, improvement. An ERP team representing all operating companies and various business units is charged with implementing the recommendations resulting from that review.

A key element of the ERP is establishment of an Incident Command System (ICS), a nationally known crisis management tool used by the Federal Emergency Management Agency and increasingly adopted by industry, including utilities. ICS will make it easier for our employees to do their jobs by improving management efficiency, reducing redundancy and more clearly defining the focus of employees' responsibilities during emergency response. It also will improve communications with first responders and emergency management agencies because we often will be using the same chain-of-command structures and terminology that they use.

Other components of the ERP are technology and process improvements that will enhance customer satisfaction and communications by providing the frequent and accurate information the public wants. During power outages, customers want to know as precisely as possible how soon their service will return. An online mobile alert system that provides customers with information on the status of outages is being rolled out in 2014. Ideally, this alert system could be used for other customer communications, such as due dates for bills, notification of overdue bills, and timing of upcoming scheduled outages.

## Business Performance

AMERICAN ELECTRIC POWER - 2013 SUMMARY

**21%**

**reduction in  
CO<sub>2</sub> emissions**

in 2013 compared  
with 2005

**6,586**

planned coal  
unit retirements  
by 2016



**~\$1 billion**

total cost of all  
compliance

**6.4%**

annual dividend growth

**\$0.29** per  
share



expected Transmission operating earnings contribution in 2014

**\$1.48 billion**

GAAP earnings



**1,200MW**

peak demand reduction achieved  
2008-2013



We **power** life's possibilities™





# Technology and Innovation

Employee Entrepreneurship

Smart Grid

Energy Efficiency

Distributed Generation

Big Data



Technology and Innovation



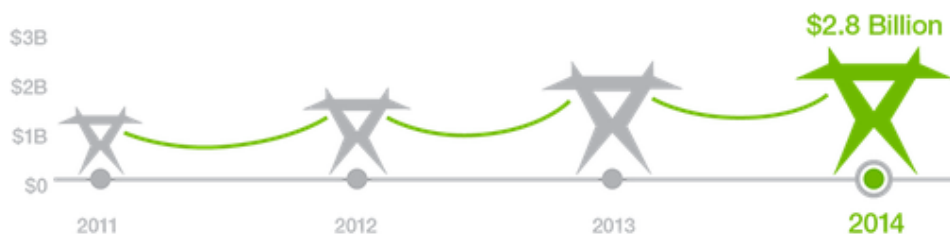
## Technology Advancement



AEP Material Issue  
Learn More

The technology and gadgets we rely on today are much faster, more efficient and less costly than they once were. Electric vehicles, smart appliances, energy storage and distributed solar generation are among the technologies we are adapting to.

### Investing in Our Infrastructure



central power stations and the first extra-high voltage transmission lines, to being first to experiment with load management tools.

In 2014, we expect to invest \$2.8 billion (excluding AFUDC debt and equity) in our transmission and distribution business.

### Leading Change

"As would any organization striving to become more sustainable, we not only stay focused on the future, we plan for it and sometimes strive to shape it. Innovation has enabled us to meet challenges over and over again that improved our efficiency, our reliability and our customer service." – Nick Akins, Chairman, President & CEO

#### Entrepreneurship in action



Learn More

Our employees are putting their technical expertise and innovative thinking to work for customers and investors.

#### gridSMART®



Learn More

New, advanced grid technologies are being integrated into the existing network to improve service quality and reliability.

#### Energy Efficiency



Learn More

Achievable levels of energy efficiency and demand response are important resources.

#### Distributed Generation



Learn More

The maturity of the distributed generation market has created inequities that risk grid reliability and impact those with fixed-incomes the most.

#### Big Data



Learn More

We are learning how to leverage the benefits of big data to support our business.

#### Transmission



Learn More

A new transmission line design minimizes right of way land requirements.

# Employee Entrepreneurship

Innovation comes from human curiosity and a natural instinct for people to problem-solve. By giving employees ownership and the freedom to find and implement solutions, we can foster entrepreneurship in our work force that cultivates creativity, innovation and the right amount of risk taking. AEP has a long heritage of innovation, from building central power stations and the first extra-high voltage transmission lines, to being the first to experiment in utility control of customers' cooling and space heating as a load management tool. We didn't accomplish these breakthroughs by sitting on the sidelines.

Time and again, our employees have demonstrated their entrepreneurial spirit. Through perseverance and technical expertise, their achievements have improved the efficiency and operation of the electric grid, reduced our environmental impacts, and advanced early research of energy storage. Those first 107 years of our existence set the stage and show us that we have what it takes to succeed in the future.



Through scenario planning, continuous improvement and support for out-of-the-box thinking, we are shaping our culture to be more agile, collaborative and customer focused. At the forefront of this evolution are our employees, who continue to challenge the status quo in pursuit of what's best for AEP, our customers, the environment and, ultimately, our shareholders.

## Entrepreneurship in Action

If we have a problem and need a solution, we've learned that all we have to do is ask our employees. From new transmission tower designs to improved environmental technology performance and continuous improvement ideas that have led to sustainable cost savings and new revenues, our employees are leading the way. Here are a few examples of innovation started by employees that are having significant positive impacts:

- AEP was awarded a patent from the U.S. Patent and Trademark Office for the work of five AEP engineers who developed a mitigation technology that prevents large-particle coal ash from building up in the selective catalytic reduction pollution control system (SCR). The buildup led to restricted air flow in the SCR, affecting a plant's efficiency and the SCR's ability to reduce nitrogen oxide emissions. The technology is now in service in at least two plants.
- We know that without our employees being engaged, we cannot be successful. To encourage a higher level of involvement, we implemented a repositioning study and a gain-sharing program called Engage to Gain (E2G). The E2G program ran during 2013 and gave employees a forum to share ideas to help us achieve a target of \$200 million in sustainable savings and revenue enhancements. Anything over the \$200 million would be split with employees 50/50, up to



\$1,000 per employee. The program exceeded its goal and every employee – except for senior officers – received a \$1,000 payout. Here is a sampling of the ideas that led to long-term savings and new revenues:

- The Finance and Accounting team identified \$16 million in savings that included renegotiating agreements on banking fees and increasing e-billing of customers.
- Information Technology identified \$22 million of sustainable savings. One of the ways they did this was to eliminate approximately 100 low-criticality applications and deploying continuous improvement initiatives throughout the organization.
- The Generation team identified \$8 million of operations and maintenance (O&M) savings opportunities through continuous improvement initiatives in power plants. They did this mainly by bringing more work in-house and eliminating the need for as many contractors, and switching to a different scrubber polymer at the Gavin Plant in Ohio.
- In addition to savings, revenue gains totaling \$93 million were identified. Among the ideas was a review of an off-peak water heater tariff that was still crediting customers with discounted rates without confirmation that the water heaters were still in use by customers. Other savings came from optimizing generation units by increasing their availability and maximizing energy efficiency programs in our service territory.
- We want our vendors to buy electricity service from us. Our [Economic & Business Development](#) team launched an initiative to work with our suppliers that are considering moving or expanding their operations and are not currently located within AEP's service territory. We want them to move to a location where we can serve them. The team helps the supplier find the right location and identifies tax incentives and infrastructure needs to facilitate the move or expansion. It also brings our supply chain closer to us, reducing costs and environmental impacts, such as emissions caused by long-haul transport of goods. A steel manufacturer relocated from Texas to Ohio and expanded operations in response to AEP's growing demand for transmission poles and lattice towers.
- A team from Environmental Services, Civil Engineering and the Gavin Plant won approval from the Ohio Environmental Protection Agency to use a geosynthetic clay liner for the Gavin Plant's landfill expansion. The liner replaces the need for two feet of high-quality clay to line the landfill before using it for ash disposal. By doing this, we eliminated the need to excavate the clay and transport thousands of truckloads over public roads, the cost to repair damaged roads, and the need to stockpile clay at the plant. The team had to prove to regulators that the liner would provide adequate environmental protection. The cost difference between a clay liner and this new liner is significant.
- As the fly ash reservoir at our Cardinal Plant approached full capacity in 2014, AEP engineers, in collaboration with S&ME, Inc. (a consultant), developed an innovative plan to raise the height of the reservoir's earthen dam. The team engineered a new structure, 1,500 feet long, on top of the existing dam that uses mechanically stabilized earthen walls, vinyl sheet piles and a slurry trench. The vinyl sheets provide an extra measure of protection against seepage from the dam. This design is the first of its kind in the United States. The project provides the plant with enough capacity to continue operating into 2020. It was completed in one year at a cost of about \$10 million. The alternative method to rebuild an earthen dam would have required at least three years and cost as much as \$20 million. The Ohio Department of Natural Resources played an active role in permitting, inspecting and approving the work.

- [AEP Transmission](#) redefined “cutting edge” technology with the design of a new and compact extra-high voltage 345-kV line, called BOLD (Breakthrough Overhead Line Design). In response to the need to minimize right-of-way land requirements and increase the functionality of 345-kV lines and corridors, we challenged our employees to develop a new high-capacity 345-kV line design for long-distance applications. Two design patents were granted and a utility patent is pending. The new compact design provides more capacity, improves the use of rights of way and, with its unique low-profile design, is more streamlined in appearance. AEP Transmission plans to debut the efficient, high-capacity BOLD design when it replaces an existing 138-kV line near Fort Wayne, Ind. Construction is expected to begin in 2014 and will be finished in stages in 2015-2016. The new BOLD line design is an example of the solutions-oriented culture and collaborative leadership at AEP.

## Smart Grid

The technology and gadgets we rely on today are much faster, more efficient and less costly than they once were. When cellular technology first debuted, the portable phone was expensive, clunky and required a battery in a bag in order to work – nothing like the smart phones in use today that fit in your pocket. This evolution of technology has occurred in every industry; the electric industry is no exception. And one thing is certain – tomorrow’s technology will be even faster, more efficient and more affordable.

Electric vehicles, smart appliances, energy storage and distributed solar generation are among the technologies we are adapting to and incorporating into our current infrastructure.

Three forces shape AEP’s advanced energy and digital technology strategy to ensure we are meeting customers’ needs:

- The types of technologies being deployed;
- When these technologies become cost-effective; and,
- The policies that can influence the deployment of these technologies onto the electrical grid.



One of AEP’s largest technology initiatives, called gridSMART®, integrates a host of advanced grid technologies into the existing electric network that can improve service quality and reliability, lower energy consumption, and offer additional customer benefits. The new technologies can help us improve our efficiency, identify and respond to outages more quickly, and better monitor and control operation of the distribution system. gridSMART® also provides customers with new and innovative programs

and pricing options that allow them to monitor and control their own energy use, saving resources and money.

Applying technology on our distribution system through monitoring and controlling voltage is another advancement to reduce the amount of energy that must be produced and delivered to customers on demand. Known as Volt Var Optimization (VVO), this technology has proven its technical viability and energy efficiency potential. Typically, customers receive electricity at a voltage between 114 and 126 volts. Using the full range of voltage is common practice in our industry. Studies and recent experience are showing that optimizing voltage – delivering voltages that more closely match the voltage level customers’ equipment was designed for – benefits customers and the grid. Customers continue to receive the electricity they need while reducing their demand from the grid and lowering their consumption. This contributes to energy efficiency at the customer’s location and makes for more efficient use of the distribution system.

Deployment of VVO began in [AEP Ohio](#) as part of the gridSMART® Demonstration Project and has since expanded to [Indiana Michigan Power](#), [Kentucky Power](#) and [Public Service Company of Oklahoma](#). Early results indicate that reductions in energy consumption by customers averaging 3 percent are achievable with this technology in operation. The Indiana Utility Regulatory Commission and Michigan Public Service Commission have each ruled that VVO can be recognized as an energy efficiency program in their respective states. AEP’s operating companies will be selectively reviewing options for deploying this technology where conditions are favorable.

## gridSMART® Project Overview

AEP’s gridSMART® initiative is designed to provide the advanced grid infrastructure needed to realize the many potential benefits of the smart grid. These technologies make the grid more efficient and empower our customers to use energy more efficiently. AEP is deploying smart grid technologies in several states, with regulatory support.

- **AEP Ohio**’s first phase of its gridSMART® demonstration project deployed a comprehensive suite of innovative smart grid technologies on 80 circuits serving 132,000 customers in Central Ohio. The \$150 million project was funded through a \$75 million federal grant, cost recovery support from the Public Utilities Commission of Ohio and in-kind vendor contributions. AEP Ohio has proposed to extend gridSMART® with a Phase 2 deployment that will include Advanced Metering Infrastructure (AMI) for approximately 894,000 customers, Distribution Automation Circuit Reconfiguration (DACR) for approximately 250 priority circuits, and VVO for approximately 80 circuits. The company is proposing to recover the \$295 million project cost over four years.



- **AEP Texas** has completed installation of a 1 million meter smart grid network. The \$308 million project is being recovered through an approved 11-year regulatory surcharge. The company is also deploying DACR on 15 circuits.
- **Indiana Michigan Power (I&M)** has deployed a smart grid network to approximately 10,000 customers. The \$7 million project was funded through a settlement agreement approved by the Indiana Utility Regulatory Commission. I&M has installed VVO on nine circuits and received approval for its use as an energy efficiency program through filings in Indiana and Michigan. I&M is upgrading DACR on 11 circuits and installing it on 11 additional circuits.
- **Public Service Company of Oklahoma's (PSO)** initial gridSMART® project included approximately 31,000 customers with AMI, 14,000 of whom are served on 13 circuits equipped with advanced grid management technologies, such as VVO and DACR. The project was financed through an \$8.75 million American Reinvestment and Recovery Act low-interest loan from the Oklahoma Department of Commerce, along with \$2 million in annual revenues approved by the Oklahoma Corporation Commission (OCC). In January 2014, PSO filed an application with the OCC to broaden the scope of its AMI deployment to cover its entire 30,000-square-mile service territory for its remaining approximately 520,000 customers over three years. The timing for the completion of this approximately \$135 million project could change pending the regulatory review process.
- **Kentucky Power Company** is deploying advanced grid technology on approximately 30 circuits. The company is also installing distribution Supervisory Control and Data Acquisition (SCADA) on these circuits to provide greater visibility for dispatchers and to allow for the remote control of equipment. The existing technology investment is expected to be recovered in customer rates.
- **Appalachian Power Company (APCo)** has installed three circuits with DACR and is installing the technology on four more circuits. APCo is also upgrading some circuits with SCADA. APCo was the first utility in North America to deploy a 1-megawatt-scale sodium sulfur (NaS) battery at its Chemical Station in Charleston, W. Va., and has since deployed another 2-MW battery at Balls Gap Station near Milton, W. Va.
- **Southwestern Electric Power Company (SWEPCo)** has DACR technology on two circuits, is upgrading the technology on 14 circuits, and is installing the technology on an additional three circuits.



## Energy Efficiency



**AEP Material Issue**  
[Learn More](#)

AEP is proud of the energy efficiency gains we've been able to accomplish with our customers across our service territory over the last several years. We have always encouraged our customers to use energy

wisely and efficiently. Today, we see achievable levels of energy efficiency and demand response as important resources that are incorporated into our integrated resource planning process.

Energy efficiency and demand reduction programs have received regulatory support in most of the states we serve, and appropriate cost recovery will be essential for us to continue with these consumer offerings. Appropriate recovery of program costs and net lost revenues, as well as an opportunity to earn a reasonable return, ensures that energy efficiency programs are considered financially comparable with supply-side investments, such as power plants.



Starting in 2008, AEP ramped up efforts to reduce peak demand by 1,000 megawatts (MW) and energy consumption by 2,250,000 megawatt-hours (MWh) system-wide by the end of 2012 through the introduction of additional energy efficiency and demand response programs. Since that time, AEP's operating companies have implemented more than 100 energy efficiency and demand response programs across our service territory.

From 2008 through 2013, these programs reduced energy consumption by more than 4 million megawatt-hours (MWh) and peak demand by more than 1,200 megawatts (MW). To achieve these levels, our companies invested approximately \$540 million during that period. These results are preliminary and subject to independent third-party evaluation and verification of savings, as required. In addition, for the 2013/2014 PJM delivery year, AEP has approximately 600 MW of demand response capability in the [PJM Interconnection](#).

The [U.S. Environmental Protection Agency](#) (EPA) awarded [AEP Ohio](#) the 2013 [ENERGY STAR Partner of the Year](#) Award for its Efficient Products program. The Efficient Products program includes energy efficient lighting discounts for CFL and LED light bulbs, and appliance rebates for ENERGY STAR certified refrigerators, freezers, clothes washers, high-efficiency electric water heaters and heat pump water heaters. AEP Ohio offers a variety of energy efficiency programs and discounts to help residential customers save money and energy.



The EPA also awarded [AEP Texas](#) Central Company a 2013 ENERGY STAR Partner of the Year Sustained Excellence Award for continued leadership in protecting the environment through its high performance New Homes program. The New Homes program provides outreach, education and marketing for ENERGY STAR certified homes.



[Public Service Company of Oklahoma](#) received a 2013 ENERGY STAR Partner of the Year Sustained Excellence Award, as well, for continued leadership in protecting the environment through its Home Performance with Energy Star program. The program provides homeowners with incentives to upgrade their homes using a holistic approach.

[I&M](#) received regulatory approval to eliminate the use of a third-party program administrator in its Michigan service territory. This gives the company more control over the types of programs that are offered and the level of spending to support those programs. In addition, both the Michigan Public Service Commission and the Indiana Utility Regulatory Commission have approved plans for I&M to qualify VVO as an energy efficiency program.

With increasing efficiency standards, such as the implementation of more efficient lighting standards, we are concerned that energy efficiency mandates will become more difficult and costly to achieve in the future. Legislators in some of our states are rethinking energy efficiency requirements due to these cost and achievability concerns as well. Our concern is that financial penalties could be imposed if we do not achieve escalating benchmark requirements, even if a good-faith effort is made.

### AEP System Energy Efficiency Results\* for 2013

Operating Company	MW Saved	MWh Saved	Total Spend (in millions)
AEP Ohio	94	593,178	\$78
AEP Texas	41	57,724	\$15
Appalachian Power Company	5	64,889	\$5
Indiana Michigan Power Company	39	249,026	\$36
Kentucky Power Company	4	21,442	\$3
Public Service Company of Oklahoma	69	103,288	\$22
Southwestern Electric Power Company	24	46,767	\$12
<b>Total</b>	<b>276</b>	<b>1,136,313</b>	<b>\$172</b>

\* Results represent programs/projects implemented in 2013 only. Preliminary results subject to appropriate third-party Evaluation, Measurement and Verification (EM&V), as appropriate.

Further, certain mandated requirements may be virtually unachievable from an economic perspective. In other words, the cost to attain participation rates necessary to achieve the targets could be much higher than the overall benefits associated with the corresponding impacts. In such instances, AEP would be opposed to implementing energy efficiency and demand response portfolios that are not considered cost-effective, and we believe it would be unfair to penalize us for not being able to reach these unachievable energy efficiency targets.

We have also taken measures to reduce energy consumption in our office buildings and service centers. We reduced our kilowatt-hour (kWh) usage by 25 percent by the end of 2013, compared with the 2007 baseline. The equivalent accumulated savings from reduced energy consumption at more than 300 facilities exceeds \$17 million. We achieved these energy

consumption reductions through equipment investments, such as new heating and cooling systems, and an employee education campaign. By reducing usage, we are able to sell the unused energy in the wholesale energy market, or not produce it at all, while reducing our impacts to the environment.

## Efficiency in Coal

While our generation portfolio has shifted over the last decade to include more natural gas-fueled and renewable generation, we also completed construction of the country's first ultra-supercritical coal-fueled unit, the [John W. Turk, Jr., Power Plant](#) in Hempstead County, Ark., in late 2012. The Turk Plant represents a new generation of plant design using a higher temperature and pressure steam cycle that requires less fuel to produce each megawatt-hour of electricity. The plant's advanced thermal cycle ranks it among the most efficient coal plants in the world. It also means that all emissions, including sulfur dioxide, nitrogen oxide, mercury and carbon dioxide, are lower than conventional coal-combustion processes per unit of electricity produced.

This unit was designed to provide low-cost base load power to complement new gas generating resources that were built in recent years. A significant addition to the generating fleet along with new natural gas units, the Turk Plant allows Southwestern Electric Power Company to continue its strategy of fuel diversity that has benefited customers for decades.

We have also made significant investments to enhance the efficiency of many of our coal-fueled plants, thereby offsetting the energy needed to run emission control technologies.

## Distributed Generation

Distributed generation (DG) – small-scale power generation near the point of consumption, such as a home with a rooftop solar array – has the potential to revolutionize the electric utility industry. We are actively preparing for the investments in the grid that lie ahead to support development and deployment of these technologies onto the grid.

## Net Energy Metering

AEP recognizes the natural maturity of the distributed generation (DG) market but also has an obligation to advocate for fair and equitable rate recovery to support the ongoing reliability of the electric grid.

Public policies and rate structures put in place to encourage early development of DG have led to unintended consequences that must be addressed. The [Energy Policy Act of 2005](#) required state utility commissions to consider enacting special rates to encourage growth of renewable DG. As a result, states adopted a series of mechanisms, including net energy metering (NEM) tariffs, to accommodate that directive.

Net energy metering arrangements typically use a single meter to “net” the amount of energy produced by a DG consumer against the amount of energy used by that customer. NEM tariffs typically credit DG consumers at the full retail rate. This rate not only includes the costs associated with the energy itself, but also the fixed costs associated with serving customers, such as the distribution and transmission infrastructure and generation stand-by capacity. Thus, when DG customers are credited at the full retail

rate under NEM tariffs, they avoid paying their fair share of these fixed costs for services that they use from the grid.

As a result, those costs are shifted to all other customers, which is obviously not fair or equitable. This cost shifting can disproportionately affect vulnerable customers, such as low-income households or those with fixed incomes. In addition, as more customers shift to existing NEM tariffs, utilities are placed at financial risk of not being able to recover their fixed costs in a timely manner, which is necessary to maintain grid reliability.

When the number of DG installations was relatively low, the impact of these subsidies was limited. However, with significant declines in the cost of solar power, as well as a variety of substantial government subsidies, the growth of DG is beginning to have a material effect on electric utilities and non-NEM customers throughout our industry.



Although the overall number of NEM customers on the AEP system is relatively modest today, the pace of growth is quickening. We are discussing the long-term impacts of NEM policies and regulations to our company and our non-NEM customers with our legislators and regulators. AEP is actively engaged with our industry trade group, the Edison Electric Institute, and our stakeholders to reach a fair and equitable solution that leads to a more sustainable arrangement for all customers.

A central issue in the debate over DG and NEM policies is the value of the grid. Both non-DG customers and DG NEM consumers use the grid. DG NEM consumers need the grid to provide energy at times when their DG system is not generating electricity, such as when customers with rooftop solar panels use energy at night. Even if these DG consumers are generating more power than they need, they rely upon the grid to absorb and distribute that energy, even if the utility doesn't need it. Therefore, a fair and equitable arrangement needs to provide credit to DG NEM customers for the real avoided cost of the energy that they offset while they should also pay their fair share of the costs for the grid services they use.

While there are many ways to address this issue, we must have a mechanism to support our investments in the grid when accommodating the multitude of different resources being connected to it.

## Big Data

The volume, speed and variety of data available today are overwhelming. Think about the many types of data we are bombarded with – financial data, environmental data, medical data, cybersecurity data, social network data and much more. What do we do with all this information and how do we make sense of it and get the most value from it?

The issue of “big data” is gaining momentum as access to data increases and is available in forms that can’t be processed or analyzed using traditional models. With the ability to store more data than ever before, businesses find themselves data rich and information poor. They are struggling with how to maximize the value from the data they’ve collected and how to store, manage and use it.

With the advent of the smart grid, AEP can collect data and monitor and manage operations more effectively. For example, we use the data from grid management technologies to help us detect and diagnose equipment issues so we can perform maintenance before a failure occurs.

Customers can use the data from smart meters to make more informed decisions about how and when they use energy. Our employees use data to help us understand what our customers want so we can serve them better. If we don’t develop a better understanding through the use of big data, we may not extract the most value from our technology investment, miss an opportunity to improve our business or, worse, risk being blindsided by potential problems.

AEP is among seven Central Ohio companies participating in the [Columbus Collaboratory](#), a partnership across multiple industries to help companies tackle key technology challenges including “big data” and cybersecurity. The Ohio Third Frontier Commission approved a state grant with an estimated cost of \$5 million to support the initiative, which is supplemented by \$21 million of private funding. AEP is contributing \$4 million over the next four years. This innovative project is a collaborative effort to drive economic growth and development. AEP is among seven Central Ohio companies participating in the



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We are expanding our ability to analyze the many different types of data sets we collect. This is helping us identify trends as well as indicators for improvement. For example, it can help us understand how the size of a house can be a factor in a customer’s decision to participate in energy efficiency programs. Big data can also help us project weather, enabling us to better plan for it. It also gives us greater precision around decision-making. But we are still in the learning phase of understanding and leveraging the benefits of big data to support our business.

Big data can also exacerbate concerns regarding cybersecurity and privacy. As we learn more about and use big data in our business, we will remain diligent in ensuring that protections are in place to continue the same high level of protections necessary to maintain the security of our operations and trust of our customers.

## Technology & Innovation

AMERICAN ELECTRIC POWER - 2013 SUMMARY

**100+**

energy efficiency programs

**2013**



John W. Turk Plant dedicated

**4+** million

MWh of annual consumption reduced from 2008-2013 through energy efficiency programs

**~10** active patents held by AEP

**\$540**



million

energy efficiency investments 2008-2013

**894**

thousand

**AEP Ohio**

customers in Phase II of

**gridSMART**<sup>SM</sup>

**~460**



miles of new lines built by Electric Transmission Texas for CREZ project



We **power** life's possibilities™





# Customers and Communities

How We Engage

Our Customers

Strong Communities

Sustainable Procurement

Customers and Communities



## Our Relationships



Our ability to make sustainable business decisions is enhanced by the relationships we have with many different stakeholders, primarily our regulators, customers and shareholders but also our other stakeholders. Our business has always depended on the strength of our relationships, and this is so now more than ever before.

### Number of Customers Conducting Online Transactions



Successful relationships require good faith, honesty and transparency about the reasons for our decisions. Strategic alliances and business relationships are essential to advance AEP's business strategy and support economic growth, improve quality of life and innovation, and lead to fair and cost-effective public policies.

## Strong Relationships, Strong Communities

"Stakeholder engagement, although sometimes contentious, has always been productive for us. It has helped us to expand our thinking in many ways and has allowed us to be open and candid about our positions and activities in the realm of public policy." – Nick Akins, Chairman, President & CEO

### How We Engage



AEP is committed to engaging stakeholders and we do so in many different ways.

### Customer experience



Our goal is to meet or exceed customer expectations.

### Strong communities



Having vibrant, strong communities is important and AEP is working with local leaders to help ensure success.

### Philanthropy



Education and human needs are key areas of focus for AEP's philanthropic giving.

### Volunteerism



Giving back to our communities through volunteer service is ingrained in AEP's culture.

### Sustainable Procurement



AEP works with its suppliers to drive continuous improvement and efficiencies within the supply chain.

# How We Engage

Our commitment to stakeholder engagement and developing healthy, trusting relationships is important to us. Stakeholder engagement at AEP takes many different forms, including written correspondence, social media, teleconferences and face-to-face meetings. In November 2013, we held a multi-stakeholder meeting with [AEP's leadership team](#), led by [Chairman, President and CEO Nick Akins](#). During our meeting with environmental organizations and socially responsible investors, we emphasized the importance of these relationships to AEP and encouraged stakeholders to share their ideas and concerns, including opportunities to collaborate. The dialogue focused largely on AEP's business challenges and opportunities as we transition toward a more sustainable energy future.

We discussed the operational, social and financial consequences of coal unit retirements; the diversification of our generation portfolio; our investments in new technology and grid modernization; our changing business model; and the growth of our transmission business. We also discussed our focus on engaging our employees to help us meet these challenges.

We recognize the importance of engaging with our fuel suppliers and conducted our fourth coal supplier stakeholder meeting in December 2013. More than a dozen AEP coal suppliers joined AEP leaders, including Nick Akins, to discuss the results of AEP's annual Sustainability Coal Supplier Survey. In addition to the survey results, the discussion focused on the future of the coal industry and the suppliers' relationships with AEP. Through this survey, we have now collected five years of environmental, safety and health performance data about our suppliers. Our suppliers continue to exhibit superior performance compared with national averages.

## ***Local Outreach***

Stakeholder engagement happens at all levels and in many forms throughout AEP. Our operating companies, power plants and other business units regularly engage with many different stakeholders on a wide variety of topics. In some cases, our approach includes stakeholder collaborative groups focused on such topics as energy efficiency or resource planning. In other cases, it is one-on-one or a broader outreach to a community, such as an open house at a power plant. As costs of customer-owned generation decline, communities have become more active participants in resource planning discussions.

This was the case in Indiana last year during stakeholder meetings about Indiana Michigan Power's Integrated Resource Plan (IRP). Participants helped shape a plan that includes renewable generation and energy efficiency to meet load growth. An IRP, which is filed with state regulatory commissions, explains how a utility company will meet projected capacity, or peak demand, and energy requirements of its customers. This type of engagement allows our stakeholders to be more personally involved with our subject matter experts.



*A unit of American Electric Power*

## The Role of Social Media

There is nothing as important or effective as developing relationships face to face, but the pace of change requires us to use a variety of communication channels to engage with our stakeholders and to stay in touch more generally. Social media plays a significant role in this evolution, although it will never replace the personal connections we value.



We regularly connect with stakeholders using tools such as email, [Facebook](#), [Twitter](#), [YouTube](#), [LinkedIn](#), Yammer, Instagram and [blog posts](#), among [others](#). We can engage those who have an interest in our business, and we can see what people are saying about us, our activities and our industry. This engagement helps us understand the perceptions some may have and gives us the opportunity to respond if we so choose.

Social media has become an increasingly critical tool in our ability to communicate with customers, and they with us, especially during major storm restoration efforts. Storm damage can leave customers in the dark with limited or no access to information resources, such as TV, for hours and sometimes days. During these outages, smartphone devices and tablets become a lifeline for many customers, allowing us to connect them with real-time information about restoration efforts. AEP uses Facebook, Twitter and YouTube to share information such as:

- Estimated restoration times and maps,
- Public safety messages,
- Photos and videos of the damage.

In late 2013, AEP developed new features on its website, partly in response to the exponential increase in website traffic from mobile devices. These new features allow customers to learn the cause of an outage, if known; estimated times for power restoration for their address, and the number of customers affected.

## Our Customers



**AEP Material Issue**  
Learn More

Customers judge their experience with any company in terms of cost, quality and service. They also measure value by how well a company responds when something goes wrong. Demonstrating that we care about our customers in every interaction we have with them is the hallmark of a positive customer experience. Providing reliable, quality, affordable service is just the beginning. We have to understand



what our customers want, sometimes before they do, and be ready to meet those expectations. If we do it right, the payback for AEP is brand loyalty and a high degree of satisfaction for our customers.

The customer experience encompasses every touch point we have with our customers, whether on the phone, with a line crew in the field, through billing and online transactions, or through the interactions our employees have while serving in the community.

Because the customer experience is a high priority at AEP, we have re-energized our efforts to improve customer satisfaction. In 2014, we reintroduced customer satisfaction into our incentive compensation plans for employees through action-oriented, measurable customer experience work plans that are being implemented by our operating companies. These plans include new and enhanced technology solutions, targeted communication and education efforts, and improved product offerings, such as energy efficiency and home warranty programs where applicable.



We are also building a new baseline of customer satisfaction survey data from all customer classes (residential, industrial, commercial) to benchmark against national and regional peers. Our goal is to ultimately incorporate the overall customer satisfaction measure itself into incentive compensation for employees, similar to current metrics associated with environmental and safety performance.

AEP's line crews are a front line point of contact for our customers. The customer experience is a high priority for AEP.

We also know that, increasingly, technology is playing a critical role in how we communicate with our customers. We know electronic engagement is important to them because about 43 percent of customers have already shared their email addresses and about 18 percent are enrolled in paperless billing, a slight increase from 2012.

In 2013, customers conducted approximately 15 million online transactions with us, a nearly 19 percent increase from 2012. Web traffic also increased for both desktop and mobile users. We experienced an 82 percent increase in overall transactions compared with 2012. Approximately 735,541 residential, commercial and industrial customers receive their bills electronically. At the end of 2013, 44 percent of customer bill payments were being processed online and electronically. Online bill pay and electronic billing is a win-win for us and our customers; it is more efficient and eco-friendly and enhances customer satisfaction.

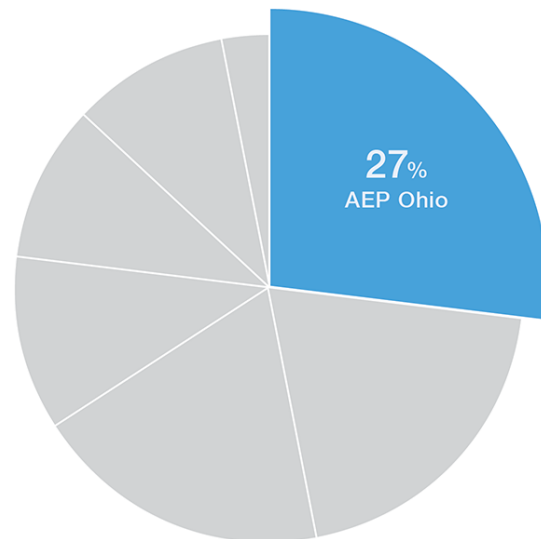
AEP prides itself on quick, responsive and consistent customer service. In 2013, the number of calls that came into our call centers from customers slightly increased from 2012. Our focus has been to provide customers with a variety of channels for service, including online and self-service options over the

phone. Enhanced self-service options empower customers to access and update account information, make payment arrangements and receive outage restoration information.

Customer acceptance of the self-service options aided in reducing our average speed of answer, or how long it takes to answer a call, by 15 seconds in 2013. However, the average time we're spending on the phone with a customer increased by three seconds. This increase is attributed to the amount of time our associates are speaking with customers to resolve their requests. While more customers are opting for self-service, the more complex calls must still be handled by our call centers. The complexity of the call and length of time on the phone with a customer are directly correlated, which explains the increase in time spent on the phone.

AEP continues to be a leader in customer service with respect to our large commercial and industrial customers. The AEP National Key Accounts program continues to be recognized by customers as one of the top national account programs in the industry. The team was recently recognized by the nation's leading chain and multi-site businesses for exceptional customer service in the [Edison Electric Institute's 2014 National Key Accounts program](#). This is the third consecutive year the AEP National Key Accounts team has been recognized for its sustained efforts to deliver excellent customer service. The team represents AEP and its operating companies by managing corporate energy and real estate relationships with key national retail and industrial customers, providing them with a single point of contact. This is important to these customers who operate multi-site, multi-state operations. Our team helps manage their complex accounts, provides economic and business development services and serves as a technology resource.

Number of AEP Customers in 2013



(%)	Operating Company	Number of Customers
<b>27%</b>	AEP Ohio	1,464,000
<b>20%</b>	Appalachian Power Company	1,048,000
<b>19%</b>	AEP Texas	994,000
<b>11%</b>	Indiana Michigan Power	587,000
<b>10%</b>	Public Service Company of Oklahoma	540,000
<b>10%</b>	Southwestern Electric Power Company	526,000
<b>3%</b>	Kentucky Power Company	172,000

Customer delinquency rates can be a barometer of the general health of the economy. The positive trends from previous years of reduced bill delinquencies did not continue into 2013. Total AEP active account balances that were delinquent increased 14 percent. The picture was bleaker in the residential and nonresidential delinquency levels for those who were behind on their bills 60 days or longer, which was 36 percent higher than in 2012. In addition, more and more customers are entering into deferred payment agreements. The inconsistent growth of the economy affects these statistics and will likely continue to do so. We continuously work with our customers to create payment arrangements to prevent service disruption. We also offer energy efficiency programs and education to help lower customer bills



that may be a result of higher-than-average consumption. We will continue to closely monitor these statistics and our collection efforts.

The slower-than-expected improvement in the economy continues to take a toll on some of our residential and business customers. Through grants, we provided approximately \$45 million in federal and private energy assistance in 2013, almost 32 percent less than in 2012. Funding in 2013 of the [Low Income Home Energy Assistance Program](#), or LIHEAP, was lower because funding levels vary from year to year based on congressional action. The LIHEAP program helps low-income families pay their heating and electric bills through cash grants that are paid directly to the utility company.



We also provide other types of aid to assist customers. Our self-serve agency website provides a convenient way for social services agencies to make their pledges via the Internet. In 2013, more than 11,000 pledges were recorded, totaling \$2 million. In addition, AEP has Neighbor to Neighbor programs in the majority of its states that help customers who are behind on their bills but whose incomes disqualify them for government assistance. The funds for this program come from customer contributions as well as AEP grants.

AEP Ohio residential customers can also participate in the [PIPP Plus Program](#). The program allows income-eligible customers to make reduced payments on their utility service bills based on a percentage of the household income and heating source. Customers whose household income is at or below 150 percent of the federal poverty income guidelines are eligible for PIPP Plus. Regulated electric and gas companies in Ohio offer the program to their customers. Customers whose homes are all electric pay 10 percent of the household’s monthly income year round, while customers who do not heat with electricity pay 6 percent of the household’s monthly income year round, each with a minimum \$10 payment. AEP Ohio had 130,576 customers participating in the program at the end of 2013.

Public Service Company of Oklahoma (PSO) helps its customers who are facing financial hardship to heat and cool their homes through their Light A Life Program. Light A Life is a year-round program allowing customers to pay a little extra each month to support customers in need. PSO customers have generously given to the Light A Life program since 1986. In 2013, approximately 2,100 pledges were recorded, totaling \$48,413.

#### Energy Assistance Provided Through AEP to Help Customers Pay Their Electric Bills

(in millions)

Operating Company	2011	2012	2013
Appalachian Power Company	\$29.1	\$24.1	\$12.3
Kentucky Power Company	\$4.9	\$3.0	\$1.9
Indiana Michigan Power Company	\$9.6	\$8.9	\$7.0
AEP Ohio	\$12.9	\$16.5	\$9.1
Public Service Company of Oklahoma	\$10.5	\$9.5	\$9.7
Southwestern Electric Power Company	\$6.9	\$5.7	\$5.6
<b>Total</b>	<b>\$73.9</b>	<b>\$67.7</b>	<b>\$45.6</b>

## ***Measures of Success***

In 2013, AEP placed third in the Top 100 Call Center awards from BenchmarkingPortal. The competition compares the performance of customer contact centers throughout North America by evaluating their key metrics against industry peers. This objective process identifies who is achieving superior results both in financial and qualitative terms, and AEP ranked among the best in the industry.

Once again, AEP ranked as the top-rated utility website in the [J.D. Power 2014 Utility Website Evaluation Study<sup>SM</sup>](#) (UWES). Among the 75 utility companies included in the study, AEP performed particularly well in the Desktop/Laptop computer category. The UWES is based on website evaluations from more than 13,000 electric and/or gas residential customers. Companies are ranked on a scale of 1 to 500; AEP scored a 451.

## **Strong Communities**

Being a responsible corporate citizen goes beyond the fence line of our property to the heart of the communities and economies in which we operate or that we serve. Our investments range from the thousands of hours our employees volunteer locally, to corporate financial support for important community programs and initiatives, to economic training and development efforts. The need for our support is greater than ever as many areas continue to struggle economically while several of our coal



units prepare to retire, eliminating jobs and other economic support as a large employer.

Eastern Kentucky is one of the regions that has been negatively affected by the economic downturn and is bracing for the retirement of AEP's Big Sandy Plant Unit 2. The plant's Unit 1 is expected to be converted from a coal-burning unit to a natural gas-fueled unit, effectively ending the use of coal at the plant.

AEP's Economic and Business Development group

has been making inroads across our service territory, working with local communities to attract and retain business.

The end of coal operations at Big Sandy Unit 2 will result in the loss of some local tax revenues and jobs. In response, Kentucky Power Company hired InSite Consulting, LLC, a nationally known economic development consulting firm, to analyze and evaluate Eastern Kentucky's economic development opportunities. The results of this study were a catalyst for the beginnings of a multi-state effort called the Kentucky Central Appalachian Economic Recovery Region. In addition, the study was a catalyst for a joint effort by Kentucky Governor Steve Beshear and Congressman Hal Rogers called

Shaping Our Appalachian Region. Both of these efforts are regional collaborations between public and private entities to create jobs and other investments in the eastern Kentucky region.

The analysis found that Eastern Kentucky has much to offer potential businesses, including a skilled work force, easily accessible roads and a robust inventory of potential development sites. However, these selling points are not well-known or promoted. With the goal of creating a successful regional economic development organization and bringing jobs back, AEP and Kentucky Power will lead the effort by providing consulting and other resources to advance these two initiatives, as well as assisting local economic development organizations.

AEP’s Economic and Business Development (E&BD) group has been making inroads across our service territory, working with local communities to attract and retain business to help soften the impact of the economic downturn. This group works strategically with businesses, communities, and state and local officials through our operating companies to identify potential sites for business relocation and expansion.

Multiple local and regional economic development initiatives also took place throughout 2013. Two of our operating companies, AEP Texas and Public Service Company of Oklahoma (PSO), teamed up with regional and local banks to raise capital via senior unsecured term loans to finance capital investments that support efforts to meet our customers’ needs. Our Indiana Michigan Power Company is also engaged in this type of financing. Allowing local banks to provide financing for large-scale capital expenditures expands more traditional financing strategies used by AEP.

Historically, the opportunity to finance assets was limited to large national financial institutions with global portfolios and traditional capital markets. Raising capital

**AEP Economic Impact 2013**

Employees (year-end)	<b>18,521</b> <sup>1</sup>
Wages (billions)	<b>\$2.2</b> <sup>2</sup>
Construction Expenses (billions)	<b>\$3.6</b> <sup>3</sup>
Local Taxes (millions)	<b>\$587.9</b>
State Taxes (millions)	<b>\$350.2</b>
Federal Taxes (millions)	<b>\$124.2</b>
Goods & Services (billions, does not include fuel)	<b>\$5.2</b>
Goods & Services from Diverse Suppliers (millions)	<b>\$689</b> <sup>4</sup>
Remaining Value of all Contracts (billions)	<b>\$1.3</b> <sup>5</sup>
Coal Delivered (thousands of tons)	<b>53,748</b>
Coal Average Purchase Price (per ton)	<b>\$51.38</b>
Natural Gas Delivered (billion cubic feet)	<b>158.3</b>
Natural Gas Average Purchase Price (per MMBtu)	<b>\$4.01</b>
Philanthropic Giving (millions)	<b>\$21.1</b> <sup>6</sup>
Economic Development Contributions (millions)	<b>\$1.5</b> <sup>7</sup>

<sup>1</sup> Includes subsidiaries of AEP  
<sup>2</sup> Includes wages, incentives and fringe benefits (expensed and capitalized) and AEP’s portion of certain payroll taxes  
<sup>3</sup> Construction expenditures, not investments in subsidiary companies. Excludes discontinued operations.  
<sup>4</sup> Diverse suppliers are classified as Small Business, Small Disadvantaged Business, Women Owned Small Business, HUBZone Small Business, Veteran Owned Small Business, and Service Disabled Veteran Owned Small Business  
<sup>5</sup> Supply chain purchased contracts and inventory system  
<sup>6</sup> Includes Corporate and AEP Foundation grants  
<sup>7</sup> Includes all grants and contributions by utility units to support economic development

within our service territory allows us to build liquidity and diversify our lender base. It also allows us to do business with local banks, promoting stronger local ties and strengthening the economies in the communities we serve.

## Philanthropy

Corporate philanthropy is also important to our communities because it helps enhance quality of life, advances education and other worthy endeavors, and enriches communities. In 2013, AEP and the American Electric Power Foundation donated more than \$21 million to support more than 2,200 community organizations.

In 2013, the AEP Foundation introduced Credits Count<sup>SM</sup>, a dual enrollment program to help students pursue STEM (Science, Technology, Engineering, Mathematics) education and careers while completing a high school diploma. Through a \$5 million, five-year grant to Columbus State Community College Foundation in Ohio, the program will be launched in the Columbus City Schools in the fall of 2014.



The program will help students fill in learning gaps so they are ready to take college-level courses while still in high school. By graduation, students will have earned credits that count toward a career-ready certificate in a STEM-related field or toward a college degree in fields that may include energy, the environment or information technology. Students who achieve a grade point average of at least 3.0 are also eligible for college scholarships to continue their post-secondary education at Columbus State. Together, the accumulation of college credits at no cost while in high school and the potential award of college scholarships addresses two of the largest barriers to attaining a college degree, especially by disadvantaged youth – college preparedness and affordability.

Major components of the program include middle school STEM experiences, college readiness assessments, tutoring, and a summer bridge program to enhance English and math skills. The program is designed to

### 2013 Total Philanthropic Giving\* (Corporate and AEP Foundation)

State	Total
Arkansas	\$130,356
Indiana	\$1,454,509
Kentucky	\$438,024
Louisiana	\$352,180
Michigan	\$822,421
Ohio	\$11,571,193
Oklahoma	\$1,263,086
Tennessee	\$8,099
Texas	\$1,554,269
Virginia	\$517,878
West Virginia	\$1,337,769
Other*	\$1,678,277
<b>Total</b>	<b>\$21,128,060</b>

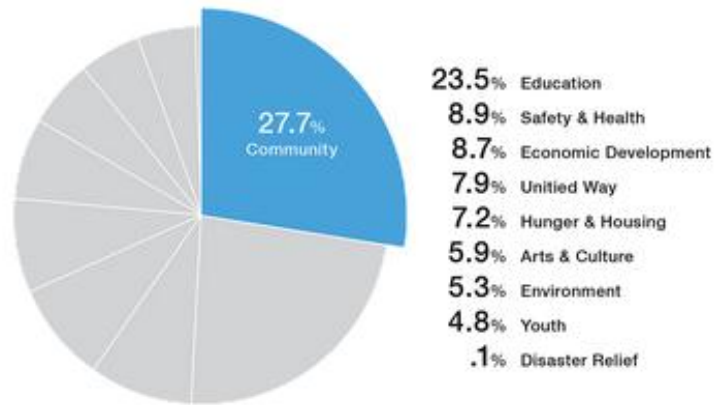
\* Giving to organizations outside AEP's Service area or those that benefit multiple states



be replicated in other locations in the AEP service territory.

The use of corporate jets is critical to our ability to conduct business in our 11 states. But these assets can also be used to help those in need. In 2013, AEP Aviation joined more than 550 other corporations that transport cancer patients to life-prolonging treatment as part of the Corporate Angel Network (CAN). According to CAN, flying on corporate aircrafts allows patients to save the expense of commercial tickets and avoid large crowds, which can pose a health risk to patients with immune system deficiencies. All arrangements are handled by CAN and there is no additional cost to the company to accommodate a patient and his/her family member or companion. CAN is a public charity supported entirely by contributions from individuals, foundations and corporations. Although there were no matches between our flight schedule and patients' needs in 2013, we are ready to support this initiative in 2014.

2013 AEP Charitable Giving by Area of Focus



## Volunteerism

Corporate philanthropy is one way we support our local communities. Another is through our work force, many of whom selflessly serve on local boards and commissions, coach Little League teams, lead Parent-Teacher Associations or volunteer at local homeless shelters and food banks.

AEP and the International Brotherhood of Electrical Workers Union, Local 1466, donated a record-breaking 405,000 meals to the Mid-Ohio Foodbank during our annual Operation Feed Campaign in 2013. The Mid-Ohio Foodbank works with grocers, food companies, Ohio farmers, the U.S. Department of Agriculture, and community partners to obtain and distribute food to more than 550 food pantries, soup kitchens, shelters, after-school programs, and senior housing sites across central and eastern Ohio. AEP has participated in the Operation Feed Campaign since 1982.



When America celebrated the spirit of volunteerism on Make a Difference Day, active and retired AEP employees participated in 26 community projects in nine states. This “national day of doing good” is sponsored by USA WEEKEND Magazine in partnership with Points of Light/HandsOn Network.



Among their projects included sprucing up a playground for children with special needs; a pancake breakfast to support a local high school's band programs; donating supplies to schools; delivering Thanksgiving food baskets to needy families; and donating clothing, food and blankets to the homeless.

Nearly 315 Appalachian Power employees and retirees fanned out across three states to read to schoolchildren on Read to Me Day 2013.

### ***Other commitments made in 2013:***

- A \$1 million AEP Foundation grant to fund the Center of Science and Industry's Energy Explorers exhibit in Columbus, Ohio, over the next two years enables guests to explore how energy is produced and delivered to our homes and businesses, and why the choices we make are significant.
- A \$100,000 AEP Foundation grant to the Armed Services YMCA (ASYMCA) Lawton-Fort Sill, in Lawton, Okla., will support construction and renovation of facilities to bring current programs under one roof and provide space for new programming. The ASYMCA Lawton-Fort Sill was established in 1942 to meet the needs of military members and their families by providing very low-cost licensed, quality child care and free household items, clothing and food; assisting traveling military and family; and providing direct financial aid to military families in need.
- Recognizing that autism affects thousands of families, including many in our service territory, the AEP Foundation provided a \$50,000 grant to the Highlands Foundation, Inc., located in Prestonsburg, Ky., for the Highlands Center for Autism (HCA) financial aid program. HCA is the only Kentucky-based center that uses the evidence-based applied behavior analysis method to treat children with autism. The grant will be used by HCA to help underwrite treatment expenses and help fund enhancements that will aid in treatment.

## **Sustainable Procurement**

We work with fuel and nonfuel suppliers to drive continuous improvement and efficiencies within the supply chain while improving environmental and safety performance. We ask suppliers about their sustainability strategy and activities through our procurement process, and we advise them of opportunities to help them reduce or mitigate their impacts on natural resources.

AEP's Supply Chain, Procurement, and Fleet Operations underwent a significant transformation in 2013. Through continuous improvement initiatives, the group has significantly reduced costs, streamlined sourcing practices and established a Center of Excellence to provide benchmarks and



analytics, establish best practices, and measure our progress in achieving cost and efficiency improvements.

One example of rooting out waste and improving efficiency included a review of a process called “clean sheeting,” where we broke down the material, labor and appropriate overhead costs to build a new high-voltage transformer. This allowed AEP to negotiate from a more informed position that resulted in significant savings. We also developed a long-term business plan for procurement called the “Transformational Placemat,” with the goal of being an industry leader in performance and cost by 2018. The Placemat serves as a priority list that includes goals, initiatives to help us reach those goals, and metrics to measure the results.

The Economic and Business Development (E&BD) group is also focusing on AEP suppliers as part of its relocation efforts. Through their comprehensive location advisory services, they can help our suppliers increase profitability, lower operating costs and maximize supply chain efficiencies.



AEP also works directly with its fuel suppliers and surveys its coal suppliers on their environmental, safety and health performance. We have conducted four [surveys of our coal suppliers](#), a commitment we made to stakeholders to better understand the lifecycle of coal, its impacts on the environment and how our suppliers are addressing those impacts, and to share leading practices.

The AEP Sustainability Survey of Coal Suppliers is the only known survey of the coal industry. It reflects an assessment of approximately one-half of the coal mined in the United States and nearly every coal basin in the country. The 2013 report marked AEP’s fourth year conducting the survey. Results are based on 2011 and 2012 data.

The 2013 report also marks a major milestone for AEP and the coal industry as we now have collected five years of data, giving us important industry insights. Key findings include a consistently high level of safety, health and environmental performance, with our suppliers performing better than the national average. We also have seen an increased commitment to sustainability reporting, with 45 percent of our respondents now publishing social responsibility reports compared with 14 percent in 2009.

This survey gives us important insights into the environmental, safety and health performance of the coal industry – validating that we share common values and strive for excellence in managing our impacts to the environment and keeping employees safe. We have learned much about our suppliers, and they have learned about their own industry through this process. For example, a majority of respondents have programs that include training, job safety analysis programs, risk assessments and wellness programs.

We plan to continue this effort because our suppliers have indicated that it provides great value, especially regarding environmental performance, and because it's the only such benchmark of the industry. Some suppliers also said they use the data in their own sustainability reports and to help drive continuous improvement within their companies. As we diversify our resource mix, we will consider how to engage with other fuel suppliers, particularly within the natural gas industry.

We responded to [Carbon Disclosure Project's \(CDP\) 2013 Supply Chain Survey](#) and have done so for the past three years. This survey aims to drive action on climate change among both purchasing companies and their suppliers. The survey provides us with a different platform to be transparent about our sustainable supply chain efforts and collects business-related climate change information from our suppliers.

## Customers & Communities

AMERICAN ELECTRIC POWER - 2013 SUMMARY

**\$21.1**  
million

Philanthropic giving



 **27%**  
of all philanthropic  
giving supported communities

**44%**

customer bills  
processed electronically

**No. 1**

ranked by J.D. Power and  
Associates 2013 Utility Website  
Evaluation Study

**2,200**

 community  
organizations  
received grants from  
the AEP Foundation

**215,000**

retail energy customers

**5.3+**   
million  
utility customers

**~15 million**  
online  
transactions  
with customers



We **power** life's possibilities™



- Our Work Force
- Culture Commitment
- Diversity
- Continuous Improvement
- Awards and Recognition

Our Work Force



# Employee Engagement



AEP Material Issue  
Learn More

Successful companies support a culture that welcomes engagement because they know their employees are their best defense against short-term volatile economic conditions and a key factor in longer-term business performance and competitiveness.

## AEP's Values

In collaboration with employees, we redefined our values in 2013 to better reflect our culture and who we are today as we set a course for the future. Our new purpose statement - We **power** life's possibilities<sup>SM</sup> - defines what we do and why we are here.



## Employee engagement is a business imperative

When our employees are motivated and productive, we are better able to navigate business pressures and embrace new opportunities and are positioned for future success.

### Culture Commitment



Learn More

At AEP, an engaged work force is a business imperative.

### Diversity at AEP



Learn More

Diversity brings fresh perspectives, ideas, skills, and experiences that AEP values.

### Continuous Improvement



Learn More

Our employees contribute directly to AEP's success by constantly seeking ways to improve processes, reduce costs and eliminate waste.



# Culture Commitment

Research shows that companies with a strong culture and a strategic business plan outperform their peers — one of many reasons we are so focused on the employee experience. Moving toward a culture that is fully aligned with our new business environment will take time and a strong and steady commitment. We are very committed.

We held approximately 90 employee focus group meetings in 2013 to solicit feedback on our culture journey and more than 1,000 employees took part. We received many ideas for improving how we recognize employees for their work, what it takes to be a great leader at AEP, and fostering an environment that welcomes employee engagement.

In response, we created an 18-member employee team to develop a framework for engagement. The



“Framework for Positive Employee-Leader Engagement” provides practical tips to facilitate more effective and meaningful engagement between leaders and employees. Engagement is a two-way street, and this framework places equal responsibility on both employees and leaders for positive, effective interaction. The engagement model will be included in a new leadership framework as one of the tools we’ll make available to leaders.

AEP created a 15-member employee-led corporate Culture Advisory Board. The team serves as champions for AEP’s culture initiative.

We also formed an Employee Culture Advisory Board, a team of 15 employees who serve as culture stewards across the company. These members are a conduit between employees and senior management. Board members chair local culture committees to further engage employees across the AEP system. To bring employees together to learn how our culture and values are tied to our business success, the board organized a companywide Culture Stand Up during the first quarter of 2014. The Stand Up engaged employees at all levels of the company, in group meetings, to talk about how our values are core to guiding us to being the utility of the future.

To understand what we must do to achieve the culture we want at AEP, we have to start with our own behaviors. To do that, we began to roll out a culture leadership workshop, Power Up & Lead. In 2013, about 400 members of management attended three days of training to learn about their leadership styles, what makes a great leader at AEP and how to be more effective communicators. We will begin to roll out this workshop this year to all employees across AEP.

Reward and recognition can be as simple as saying thank you for a job well done or as substantial as a promotion or pay raise. Our system for recognizing employees and managing performance was outdated and a source of frustration among employees. Consequently, we launched an evaluation and redesign of



our performance management and compensation systems to meet current business needs and reflect the market. Implementation of the new systems will begin this year.

In addition, we will be developing a framework for recognition. During our focus groups, we received hundreds of ideas from employees about what makes them feel appreciated and valued. This framework will catalogue those ideas to serve as a resource for leaders.

Continuous improvement initiatives require employee engagement to be successful.

Year-end employee focus groups showed us that employees are beginning to see change happen. More employee recognition, sharing of information and collaboration are taking place. Employees are still skeptical about our commitment, and we will have to prove ourselves by staying the course. But this is a positive sign, and we are working hard to continue embedding the type of culture and values in our work force that we believe to be critical to our business success.

## Diversity at AEP

From front-line employees to the board of directors, we value and celebrate diversity at AEP and in the communities where we live, work and operate. To us, diversity is about ethnicity, gender, age, and other demographic factors, as well as the differences that make our employees, customers, communities and board members unique. This diversity brings fresh perspectives and experiences, skills, ideas, culture and opinions to AEP, all of which make the work environment and the community a richer and better place.

The diversity of our board of directors, executive management team and regional utility presidents includes six women, two African Americans and three Hispanics. Women make up 19 percent of those in senior leadership while minorities comprise 16 percent of the total.

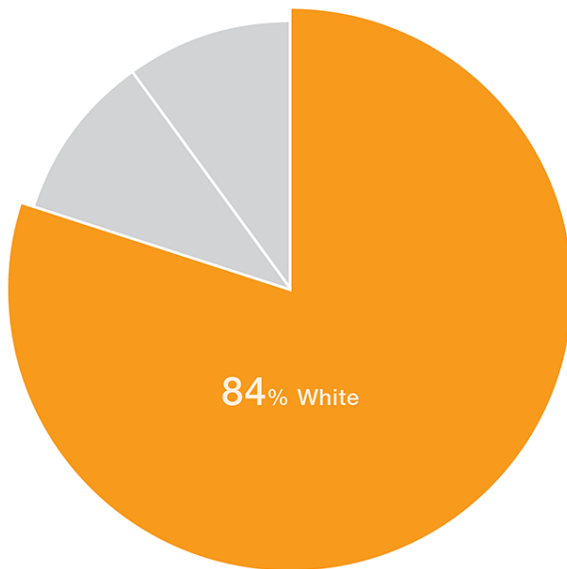
Having a board and management team with diverse representation of age, gender, ethnicity, culture and experience brings a broader perspective to business issues, allowing us to make more informed decisions. It also sets the tone for our commitment to diversity within our work force and in our communities.

In November 2013, AEP's board diversity was celebrated at The Women's Forum of New York's 2013 Breakfast of Corporate Champions. The event recognizes Fortune 500 companies that have at least 20

percent female representation in their boardrooms. The Forum believes that these corporate champions can be an inspiration for other companies to advance gender balance in the board room. The diverse skills and perspectives women bring to AEP's boardroom are vital in helping us navigate change and positioning the company for continued success.

Diversity in our work force extends from the boardroom to the front line. We track the advancement of females and minorities from front-line craft-level positions to executive posts. We had greater staffing opportunities in 2013 than in 2012, which had a positive impact on our diversity representation. Diversity is something we consider in every hiring decision.

### Leadership Diversity by Ethnicity



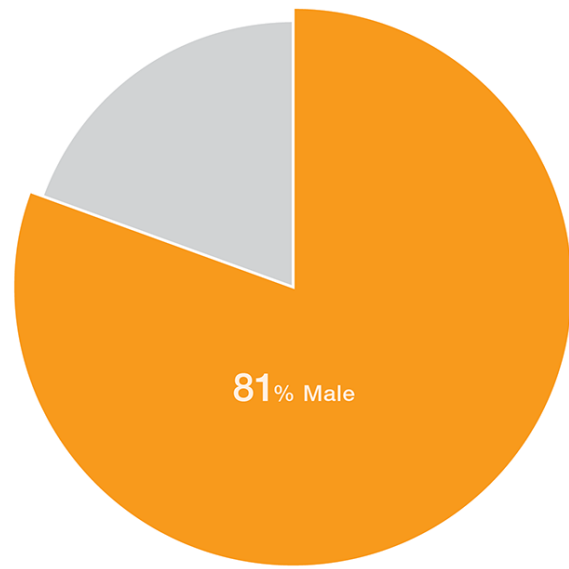
**10% Hispanic or Latino**

**6% Black or African American**

Includes AEP's Board of Directors, Executive Management and Regional Utility Presidents

We value diversity at AEP for the fresh perspectives, experiences, skills and culture they bring to the company. Although we continue to improve diversity, we have more work to do.

### Leadership Diversity by Gender



**19% Female**

Includes AEP's Board of Directors, Executive Management and Regional Utility Presidents

On our Board of Directors, 20 percent of its members are women

AEP will continue to be deliberate in our efforts to fill positions, being mindful that demographics vary greatly across our service territory. Beyond that, we need to change how prospective employees view AEP. We want to be seen as a progressive company that offers a rewarding career path for the future.

In order to maintain diversity in our employee candidate pool, we have established strong relationships with universities with large minority and female populations, including Texas A&M University–Kingsville, Missouri University of Science & Technology, Tuskegee University and the University of

Puerto Rico. We also have partnerships with organizations such as the Center for Energy Workforce Development (CEWD), Direct Employers and the United Negro College Fund to assist us with our diversity recruitment efforts.

### ***Jobs for veterans***

AEP participated in the CEWD Troops to Energy Jobs pilot, which wrapped up in July 2013. This was a collaborative effort with five other utility companies – Dominion, Southern Company, Arizona Public Service, Pacific Gas & Electric, and National Grid. The purpose of the initiative was to build a sustainable framework to help accelerate the training and employability of veterans in key energy positions. It was also designed to assist veterans in making a successful transition into our industry. The pilot accomplished its mission and a national template was formed to assist energy companies across the country in their efforts to hire veterans, helping them to develop a comprehensive initiative for military outreach, education, recruiting and retention.



AEP received the Faraday Award in April 2014 as part of Electric Power’s annual conference. The recognition signifies AEP’s partnership and involvement in the [Power4Vets](#) program, which earned national recognition as an outstanding effort in the electric power sector to recruit, retain and mentor veterans who are returning to civilian careers after serving in the armed forces.

AEP representatives accept the Faraday Award in recognition of the company’s efforts to recruit, retain and mentor military veterans.

### ***Employee resource groups***

Employee resource groups (ERGs) are another way we give voice to the diversity of our work force. These groups support AEP’s values and goals, strengthen communication between AEP and its



employees, provide a forum for exchanging new ideas and enhance the company’s desirability as a prospective employer. AEP’s ERGs are the Asian American Employee Partnership, Hispanic Origin-Latin American (HOLA) Employee Resource Group, African American Employee Resource Group, AEP Pride Partnership (for gay, lesbian, bisexual and transgender employees and their supporters) and the Military Veterans Employee Resource Group. The last group, the newest to be formed in 2013, is a company-

wide network enabling increased support for military members, veterans and their families. AEP ERGs coordinate activities to share their heritage through music, art, food and cultural events for all employees. They also host personal development programs, assist in diversity recruitment and participate in community outreach events throughout the year.

Human rights in the workplace is an important social issue for all companies. Recognizing the evolving diversity of our work force and the global economy we operate within, AEP has changed policies, benefits, training and other resources to be more inclusive. The AEP Pride Partnership group worked with the Office of Diversity to greatly improve the company’s rating on the annual Human Rights Campaign Corporate Equality Index. This index has become a benchmarking tool for large U.S. companies in terms of fair, nondiscriminatory treatment of gay, lesbian, bisexual and transgender (GLBT) employees in the workplace. AEP’s rating has risen to 80 on a scale of 1 to 100, compared with previous ratings of 55 in 2013 and 15 in 2012. AEP was one of 734 employers rated in the 2014 survey.

**2013 AEP Employment Data – EEO-1\***  
(as of Aug. 31, 2013)

	Employees	Females (%)	Minorities (%)
Total Employment	17,474	3,114 18%	2,607 15%
Officials & Managers	3,134	337 11%	265 8%
Professionals	4,454	1,215 27%	692 16%

\* Does not include all AEP subsidiaries

**2012 AEP Employment Data – EEO-1\***  
(as of Aug. 31, 2012)

	Employees	Females (%)	Minorities (%)
Total Employment	17,939	3,192 18%	2,586 14%
Officials & Managers	3,306	371 11%	266 8%
Professionals	4,283	1,198 28%	658 15%

\* Does not include all AEP subsidiaries

## Continuous Improvement

To be a successful company, we have to work as a team; stay focused on doing the right things; be thoughtful about how we manage human, financial and natural capital; and constantly communicate. 2013 was an excellent year for AEP in many ways — we delivered on our growth strategy, our safety and environmental performance was among the best in our history, and we delivered value to our customers and shareholders. This didn’t just happen; our employees made it happen.

In 2013, we asked our employees to help us identify sustainable savings and new revenues. They came up with hundreds of ideas to be more efficient, operate more cost-effectively and identify process improvements. Continuous improvement requires taking a close look at the work, the resources that are needed, and the process to get that work done. We celebrated many successes because our employees got involved.

### *Examples of continuous improvement efforts*

Technical malfunctions can unexpectedly take a generating unit off line. One example is the failure of a boiler tube. When that happens, the entire unit must be taken off line for repairs, which can be lengthy. Mechanics making the repairs don’t always know what types of tools they need to bring with them for the job, requiring several trips to get the equipment they need. Employees at two of our power plants



analyzed the repair process and found that they were making 24 trips to get all the equipment they needed. In response, they created a new Point of Use kit that is organized, well-stocked and mobile — allowing them to bring it with them wherever they need it. With this new kit, they have reduced the number of trips to eight, allowing them to spend more time on actual repairs.

As our Transmission business grows at a fast pace, we want to be more agile in our ability to manage the work in the field as well as maintain the reliability of the grid. In 2013, that meant reorganizing how we do our work and putting employees closer to our facilities and our customers. With 90 offices across our 11-state region, AEP Transmission provides services to our operating companies, Transcos and joint ventures. We operate central service functions in regional offices in Ohio, Oklahoma and Virginia. We reorganized our Transmission Field Services (TFS) organization and hired more than 100 new field



services employees to handle construction work that was previously done by contractors. This initiative will allow for faster response when damage occurs to the system, and is more efficient because these employees are based at locations throughout our service territory where we need them. The TFS organization has increased the number of projects built by AEP crews. By doing more of this construction work in-house, our crews also gain knowledge and the core experience that is needed to grow the business.

Employees are focusing on more effective and efficient ways to perform their jobs.

In transmission, we also reduced costs by increasing our complement of engineering and project management resources and added about 200 new positions. These decisions have led to new career opportunities for employees while addressing a business need.

We made several changes in our procurement organization to be more efficient, reduce costs and improve processes, focusing on reducing cost to our customers. In 2013, for example, we centralized procurement functions for Distribution and Transmission. This move resulted in cost savings and opportunities to standardize operations across AEP. The advantages of this move include:

- Standardizing procurement procedures, terms and conditions, systems, contracts, processes and paperwork;
- Standardizing contractor safety requirements and benchmarks;
- Leveraging purchases; and
- Improved pairing of contractors with projects.

Many of these initiatives come down to common sense, but it is this type of engagement and empowerment that promotes entrepreneurial thinking and leads to cost and work efficiencies that really add up.

# Awards & Recognition

The work we do to keep the lights on, minimize our impacts to the environment, and improve the quality of life in our communities is second nature to us. We don't do it for awards; we do it to make a difference. It is gratifying when our efforts are recognized for adding value and having positive impact.

## 2013 Organized Labor at AEP

Labor Union	Number of Employees
International Brotherhood of Electrical Workers	3,334
Utility Workers Union of America	1,111
United Steelworkers of America	490
United Mine Workers of America	245
International Union of Operating Engineers	2

We are proud of the diversity in our work force and of the diverse opportunities and benefits we offer to our employees. We are also proud of our employees who are innovative and have exceptional technical expertise. These attributes of our culture were recognized in different ways during 2013.

AEP was recognized as one of the nation's top 100 "military-friendly" employers by *G.I. Jobs Magazine* in 2014. This year's honorees were selected from among more than 5,000 employers with annual revenues of at least \$500 million. Companies were selected based on their assets dedicated to military hiring, the strength of their recruiting programs, and their policies regarding National Guard and reserve service, among other criteria. AEP has a generous military leave policy. Approximately 10 percent of AEP employees have served in the military.

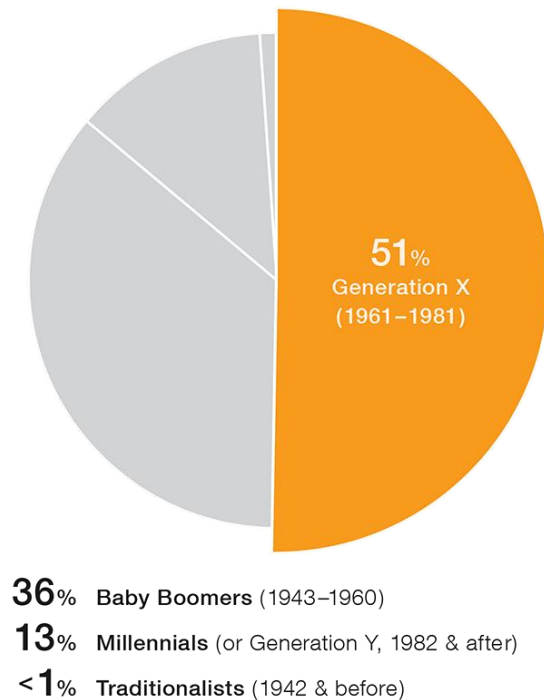
Scott Smith, senior vice president for transmission strategy and business operations at AEP, shared his personal experience with *Intelligent Utility*, as well as AEP's strategy to help returning veterans transition into utility jobs. Read his story - <http://www.intelligentutility.com/article/13/09/aep-reaches-out-veteran-community>

A coalition of more than 130 employers, including AEP, set a goal to hire 100,000 U.S. military veterans by 2020. The coalition surpassed that goal by the end of 2013, hiring a total of 117,437 military veterans – seven years early. The 131 companies now involved have revised their pledge to hire 200,000 veterans by 2020.



AEP was recognized for its commitment to gay, lesbian, bisexual and transgender (GLBT) workplace equality by the Human Rights Campaign Foundation. AEP received a score of 80 out of 100 on the Foundation's 2014 Corporate Equality Index, a national benchmarking survey and report on corporate policies, benefits and practices for members of the GLBT community. We support our GLBT community by offering benefits to same-sex couples and families.

## 2013 AEP Work Force Demographics



For the seventh consecutive year, AEP was named one of the most adoption-friendly workplaces by the Dave Thomas Foundation for Adoption in 2013. The rankings are based on the maximum amount of financial reimbursement and paid leave per adoption. We also provide families with adoption assistance for eligible adoption-related expenses and provide up to 40 hours of paid leave for new adoptive parents. AEP has assisted its employees with 72 adoptions since 2007.

AEP River Operations' Chesterfield, Mo., office was recognized as one of The St. Louis Post-Dispatch Top Workplaces in 2013. The Top Workplaces are determined solely on employee feedback. AEP's Chesterfield office had a response rate of 92 percent. These confidential surveys are a great way for employers to gauge how their employees feel about their work environment. We are honored to have been selected for this award, especially by our own employees.

## Recognition for Technical Work

Many of our employees routinely engage in technical work and research that results in breakthroughs that benefit both AEP and our industry. Each year, the Electric Power Research Institute (EPRI) recognizes individuals, work teams, companies and industry collaborators for this work. AEP received several EPRI Technology Transfer Awards in 2013 for a variety of projects:

- AEP led one of the first major collaborations between the automotive and utility industries on modern plug-in vehicle technology. Our work demonstrated how to incorporate original equipment manufacturer-engineered plug-in hybrid prototype vehicles into everyday fleet and company operations.
- AEP was involved in a project to develop a communication interface specification that makes it easier to deploy demand response programs for consumers. It led the Consumer Electronics Association to release a new standard that enables off-the-shelf consumer products, such as water heaters, thermostats and dryers, to be compatible with any utility demand response system. Similar to a USB port on a computer, the new standard allows the user to plug in a communication module enabling easier access to demand response programs. The communication module can easily be changed out as technology changes, or when consumers move, they can take it with them to be served by a new utility.
- By understanding the level of investment, the cost to operate and maintain, the land needed, and potential savings from energy generated, we can then determine if a distributed solar generation

project is the best solution for our customers. We used EPRI's Solar Power Fact Book to gather data and compile it into a single manual that uses well-documented assumptions, enabling us to better serve our customers who are interested in these technologies.

- AEP was recognized for deploying equipment, collecting data, conducting analyses and ultimately creating case studies of our gridSMART® initiatives over four years.
- We initiated a project to evaluate the likelihood of fly ash to statically liquefy to support appropriate design and loading of ash ponds, especially during pond closure. This will help us to understand the safest way to close these ponds as regulations change.
- A collaboration between AEP and other electric utilities on a research project about water withdrawal and consumption for electric power generation identified improvements we can make to be more efficient in our use of water. The project looked at how our industry compares to water use in other industries and how conservation options can be used to reduce consumption. We presented the findings to the Texas House of Representatives Water Resources Committee to inform the debate on how to achieve sustainable water resources in Texas.
- AEP collaborated with other utilities to investigate the root cause of severe corrosion occurring in flue gas desulfurization (FGD) systems installed in U.S. coal-fueled power plants and to develop new inspection and mitigation strategies. FGDs are installed on several AEP power plants to control emissions.

### 2013 AEP Wages Paid by State\*

(approximate \$ in millions)

Sate	Total
Ohio	\$634.3
Texas**	\$204.4
West Virginia	\$165.7
Michigan	\$132.5
Oklahoma	\$126.3
Indiana	\$93.2
Virginia	\$77.4
Louisiana	\$77.0
Kentucky	\$51.7
Arkansas	\$28.2
Missouri	\$16.9
Illinois	\$5.2
Tennessee**	\$5.3
Pennsylvania	\$2.7
Alabama	\$1.6
Nebraska	\$1.4
District of Columbia	\$0.03

\* Only includes wages paid from AEP's payroll system. Does not include wages from other AEP subsidiaries.

\*\* Based on state unemployment wages (no state income tax)

## Our Work Force

AMERICAN ELECTRIC POWER - 2013 SUMMARY

★ ~10%

total AEP employees who are veterans

36%

AEP employees who are

**Baby Boomers**

\$2.2 billion wages

90 employee focus groups held

7 consecutive years named one of the most adoption-friendly workplaces by Dave Thomas Foundation

99%

funding of qualified pension plan

51%

AEP employees who are **Gen X**

employee resource groups **5**

15  employees serve on newly formed Culture Advisory Board



We **power** life's possibilities™







**Reports and Fast Facts**

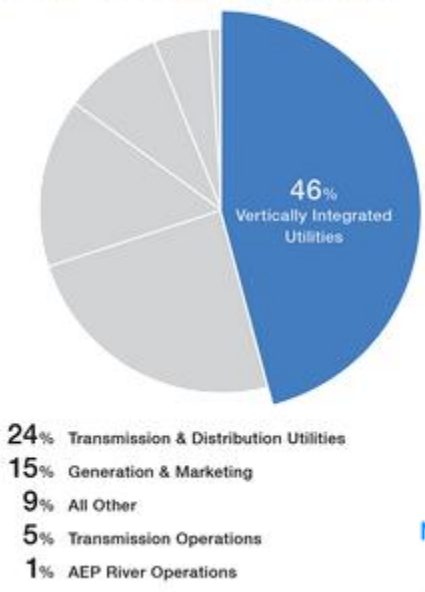
- About This Report
- Material Issues
- GRI
- Carbon Disclosure Project
- Report History
- Mid-Year Updates
- Coal Supplier Survey
- Participate and Discuss
- Contact Us

# Reports and Fast Facts

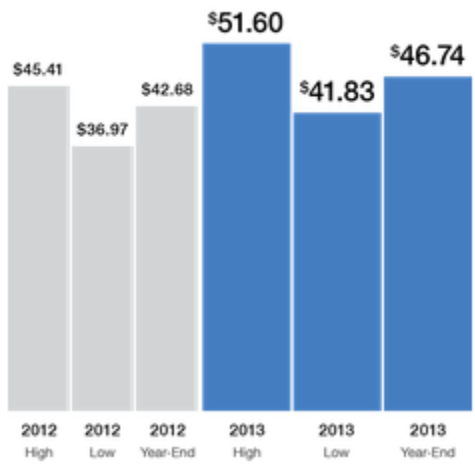
## AEP's 2013 Performance Summary

- Operating Performance:** 14.2% increase in earnings, 18,521 MW capacity, \$15.4 billion revenue, 40,000 employees, 711 zero-outage days.
- Market Performance:** 21% increase in market share, 6,586 MW capacity, 6.4% increase in earnings, \$0.29 average price per MMBtu.
- Customer Satisfaction:** 100%+ 2013, 4+ million customers, 894 MW of new capacity, \$540 million in investments, 460 MW of new capacity.
- Environmental & Safety:** \$21.1 billion in investments, 27% reduction in CO2 emissions, No. 1 in safety, 44% reduction in lost time incidents, 215,000 hours of safety training, 2,200 safety incidents.
- Financial Performance:** +10% increase in earnings, 36% increase in cash flow, \$2.2 billion in investments, 99% of earnings from operations, 51% of earnings from operations.

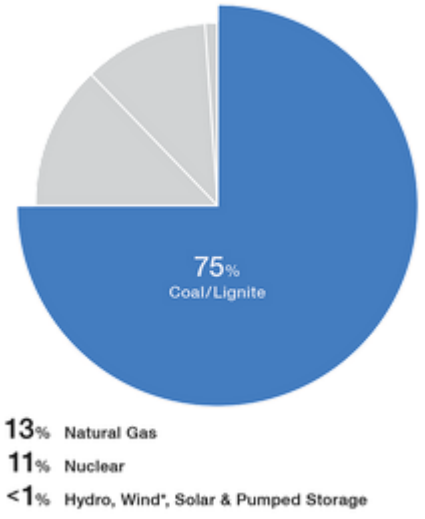
2013 AEP GAAP Earnings Contribution



AEP Market Price – Common Stock



2013 AEP System Fuel Usage



### Natural Gas – AEP System Plants

	2011	2012	2013
Total Delivered (billion cubic feet)	166.8	220.0	158.3
Average Price Per MMBtu of Purchased Natural Gas	\$4.48	\$3.01	\$4.01

\* Does not include purchased or wholesale wind generation

## Company Overview 2013

American Electric Power has been providing electric service for more than 100 years and is one of the nation's largest electric utilities, serving more than 5.3 million customers in portions of 11 states.

U.S. Customers (year-end, millions)	<b>5.3</b>
GAAP Revenues (billions)	<b>\$15.4</b>
GAAP Net Income (billions)	<b>\$1.5</b>
GAAP Earnings Per Share	<b>\$3.04</b>
Cash Dividends Per Share	<b>\$1.95</b>
Service Territory (square miles)	<b>200,000</b>
Transmission (miles)	<b>40,000</b>
765-kV Lines (miles)	<b>2,110</b>
Distribution (miles)	<b>222,000</b>
Generating Capacity	<b>37,600 MW<sup>1</sup></b>
Generating Stations	<b>65<sup>2</sup></b>
Renewable Portfolio (hydro)	<b>285 MW<sup>3</sup></b>
Pumped Storage	<b>586 MW<sup>4</sup></b>
Regulated Renewable Portfolio (wind, solar)	<b>1,993 MW<sup>5</sup></b>
Total Kilowatt-hour Sales (millions)	<b>200,855<sup>6</sup></b>
Rail Cars	<b>5,700</b>
Barges	<b>3,000</b>
Towboats	<b>60</b>
Harbor Boats	<b>25</b>
Total Assets (billions)	<b>\$56.4</b>

<sup>1</sup> Does not include Ohio Valley Electric Corporation Indiana-Kentucky Electric Corporation or Power Purchase Agreements

<sup>2</sup> Includes facilities jointly owned with other utilities and two AEP-owned wind farms

<sup>3</sup> Nameplate capacity, excludes pumped storage

<sup>4</sup> Nominal capacity

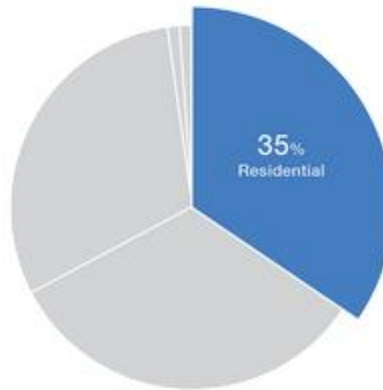
<sup>5</sup> Wind and solar Power Purchase Agreements that are in service (nameplate capacity)

<sup>6</sup> Includes Vertically Integrated and Transmission and Distribution Utilities

## Coal – AEP System Plants

	2011	2012	2013
Average Cost Per Ton Delivered	\$46.76	\$49.22	<b>\$51.38</b>
Total Delivered (millions of tons)	63	60	<b>54</b>
Total Consumed (millions of tons)	65	57	<b>55</b>

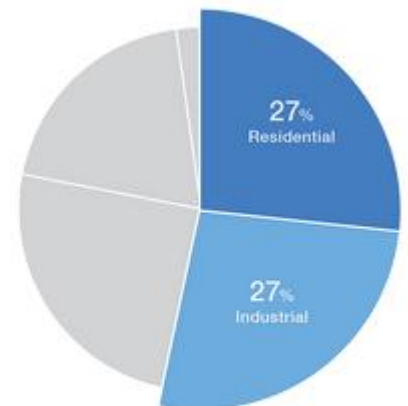
## AEP's 2013 Energy Sales (based on kWhs) Transmission & Distribution Utilities



33% Commercial  
31% Industrial  
1% Miscellaneous  
<1% Wholesale\*

\* Wholesale includes sales to municipal and cooperative power systems, other wholesale and miscellaneous retail sales

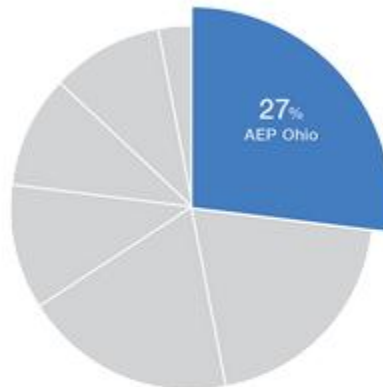
## AEP's 2013 Energy Sales (based on kWhs) Vertically Integrated Utilities



25% Wholesale\*  
20% Commercial  
<2% Miscellaneous

\* Wholesale includes sales to municipal and cooperative power systems, other wholesale and miscellaneous retail sales

## Percentage of AEP Customers in 2013 by Operating Company



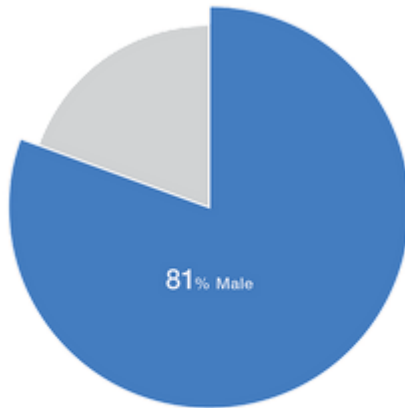
20% Appalachian Power Company  
19% AEP Texas  
11% Indiana Michigan Power Company  
10% Public Service Company of Oklahoma  
10% Southwestern Electric Power Company  
3% Kentucky Power Company

## AEP Capital Investments (\$ in millions)

	2013 Actual	2014 Estimated Spend
Transmission	\$651	\$848
Distribution	\$1,018	\$1,086
Regulated Environmental Generation	\$415	\$465
New Generation	\$21	\$0
Nuclear	\$264	\$201
Regulated Fossil/Hydro Generation	\$287	\$209
Corporate and Other	\$134	\$131
Generation and Marketing	\$0	\$182
AEP River Operations	\$7	\$9
AEP Transmission Holding Co.	\$890	\$919
<b>Total Capital &amp; Equity Contributions</b>	<b>\$3,687</b>	<b>\$4,050</b>

Excludes AFUDC debt and equity and cash flow adjustments

### Leadership Diversity by Gender

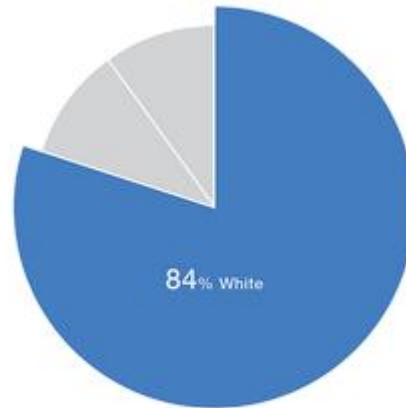


**19% Female**

Includes AEP's Board of Directors, Executive Management and Regional Utility Presidents

On our Board of Directors, 20 percent of its members are women

### Leadership Diversity by Ethnicity



**10% Hispanic or Latino**

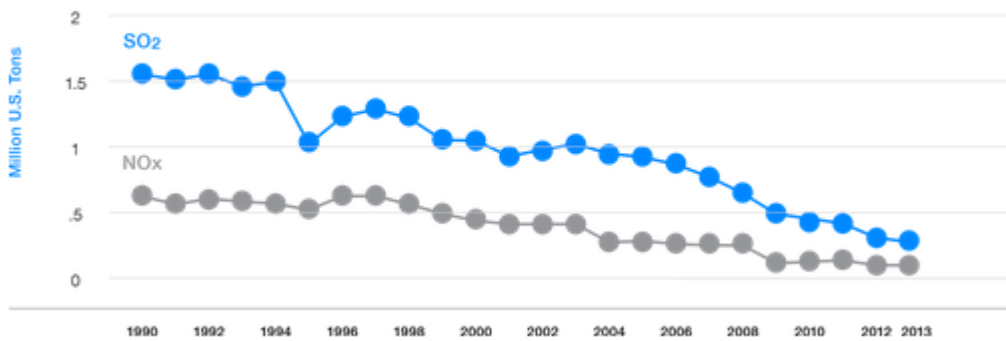
**6% Black or African American**

Includes AEP's Board of Directors, Executive Management and Regional Utility Presidents

### Total AEP System Mercury Emissions (2013 mercury emissions number not available until Q3 2014)



### Total AEP System Emissions 1990-2013



# About this Report

This is AEP's fifth integrated report combining the Annual Report to Shareholders with the Corporate Sustainability Report. This is our eighth year of reporting our sustainability performance. This website — [www.AEPsustainability.com](http://www.AEPsustainability.com) — includes significant data and information about AEP's performance and is based largely on calendar year 2013 with exceptions for early 2014 data as noted. For more information about AEP, visit [www.AEP.com](http://www.AEP.com). AEP's reporting aligns with the Global Reporting Initiative (GRI) and also integrates principles of the International Integrated Reporting Council (IIRC). In addition, we review the work of the Sustainability Accounting Standards Board (SASB) to apply principles that are appropriate.



## ***GRI***

AEP follows the Global Reporting Initiative (GRI) reporting principles in terms of data quality, report content and organizational boundaries. We use GRI's G3.1 guidelines, the GRI Electric Utility Sector Supplement for reporting on industry-specific information, as well as some aspects of GRI's fourth generation of Guidelines, G4, as we begin to transition from G3.1 to G4.

## ***Audit Review Of This Report***

AEP Audit Services performed a limited review of company performance statements contained within the 2014 AEP Corporate Accountability Report. Financial information was reconciled with AEP's audited financial statements, if applicable, or to such other sources as deemed appropriate. Processes used in accumulating the significant nonfinancial data were reviewed and the data reconciled to the sources(s). The appropriateness of the context in which data are presented was also reviewed. Finally, forward-looking information was verified as consistent with other public information disclosed by AEP. Based upon our review as of April 25, 2014, we believe the performance information contained within the Report is appropriately stated, and that the processes followed in accumulating both the financial and nonfinancial information are reasonable.

A handwritten signature in black ink that reads "Richard A. Mueller".

Richard A. Mueller  
Vice President, Audit Services  
April 25, 2014



# Material Issues

Knowing what issues are most important to the company and its stakeholders is a key factor when disclosing performance. We consider material issues to be those that have affected, or that are reasonably likely to affect, the company's reputation, liquidity, capital resources or results of operations. Material issues can also include those that stakeholders consider important to their interests and to AEP's sustainability.

In 2012, AEP conducted a formal materiality assessment to evaluate the sustainability issues of importance to our stakeholders and our business. We also sought to identify opportunities for improving our presentation of information. We used the Global Reporting Initiative, the International Integrated Reporting Council and the Sustainability Accounting Standards Board as guidance to give us perspective on expectations for performance reporting. And we got an analyst's view to help us see how investors view our reporting and what they need to be able to make more informed decisions about AEP.

This exercise allowed us to see the connections between issues our stakeholders say are important to them and our business strategy, risks and opportunities. Understanding these linkages allows us to be more focused in our engagement and to allocate resources where there is the greatest opportunity for sustainable growth while mitigating potential risks.

## *AEP Materiality Matrix*

### **Description of Matrix**

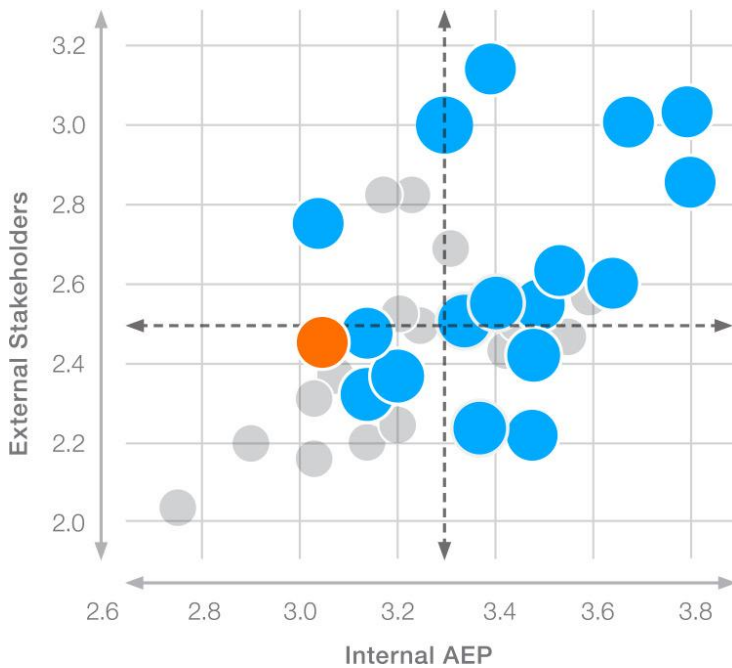
The matrix highlights those issues identified as AEP's new priority issues, based on the survey results. These priority issues are represented in blue. The numbers on the X and Y axis represent the degree of materiality as assessed by the survey. We defined how materiality should be interpreted for all stakeholders who participated, recognizing that each individual stakeholder group would have a different perspective. They were asked to respond to each issue, ranking them as not applicable/not material, low materiality, medium materiality, or high materiality. The X axis represents the scoring for internal stakeholders; the Y axis represents the average scoring for external stakeholders.



Increases in the temperature of the earth's atmosphere, caused either by natural cycles or human activity, and their potential impact on AEP's operations, including its fuel mix; its environmental compliance; the cost of electricity; and the company's financial performance.

In November 2012, we sought opinions from more than 250 internal and external stakeholders. This outreach extended to the six-member Committee on Directors and Corporate Governance of the AEP Board of Directors, as well as the board chairman, all of whom completed the survey. This committee has oversight of AEP's sustainability reporting and initiatives and was deemed the most appropriate board engagement for this first assessment. In the future, we will engage the entire board.

The materiality matrix that resulted from the survey reflects AEP’s environmental, economic and social impacts and aligns with our business strategy and material risks. Although this assessment provided guidance, it reflects a specific point in time. In preparing our 2014 Corporate Accountability Report, we sought to test the continued relevance of these priority issues as well as identify any new or emerging issues.



To do this, we organized a half-day workshop with subject matter experts from more than 15 business units and departments across AEP. Facilitated by SustainAbility, a consultant that works with us on stakeholder engagement, the discussion was robust and thoughtful. These experts questioned how issues were described and offered ideas for greater clarity; they identified disconnects between the initial assessment and today’s changing environment; and they identified new and emerging issues that are now on our radar screen.

For example, the way we look at cybersecurity has expanded to include potential threats from the supply chain as suppliers gain access to our systems. The group also identified the growing impact of distributed generation, such as rooftop solar, to AEP’s business model and

strategy. In the wake of Super Storm Sandy and other extreme weather events, grid hardening has also become a higher priority.

We also identified three additional priority issues during our review. Customer relationships/satisfaction, engaging our employees, and market competitiveness were issues deemed material in 2012, but not identified as priority issues. These new priority issues reflect the strategies put in place in 2013 to help execute our strategy for growth. Improving our customer experience, engaging our employees and advancing our competitive businesses will continue to be our focus in 2014 and beyond.

In addition to an internal review, we met with environmental groups and investors to discuss these issues in November 2013. We asked them what they wanted to talk with us about and then wove several of our material issues into the discussion. Some of the questions and issues they raised mirrored those of our internal stakeholders. For example, our external stakeholders also raised the issue of distributed generation and its impact on AEP’s business and the industry.

Climate change remains a priority issue for our stakeholders, as it is for AEP. Stakeholder interest in AEP’s internal culture and its influence on business strategy and success was unexpected. They saw it as a reflection of how the company is integrating its strategic focus with employee engagement to manage those issues that are shaping AEP’s future. The discussions and subsequent interactions we had with all of our stakeholders validate the priority sustainability issues for AEP.

A third component of our materiality review in 2013 was an external review of AEP's Corporate Accountability website. Specifically, we asked SustainAbility to review the content organization and structure and make recommendations for improving accessibility and presentation of information for different stakeholder audiences. This was a very helpful exercise and the organization of this year's report and website reflect this evaluation. Among their specific recommendations was to use simpler and clearer language and descriptions. For example, in this year's report, "Fleet Transformation" is now called "Coal Unit Retirements." SustainAbility also recommended tailoring online communications to engage different stakeholder groups.

AEP also received an analysis of its environmental, social and governance reporting – prepared by the Analyst Desk<sup>SM</sup> – a partnership between MetaVu and Wall Street investment analytics firm CRD Analytics. The analysis looked at reporting transparency, availability, completeness and syntax. We found this to be a valuable input to our process because it provided an investor's view by reviewing our reporting through the lens of the NASDAQ OMX CRD Global Sustainability Index. This index tracks companies that are taking a leadership role in sustainability performance reporting.

The sum of our review process has given us a sharper focus on priority issues, improved online navigation and prompted us to use more straightforward language in describing parts of our business. It has also brought us closer to providing more tailored communications for different stakeholder groups. We have taken all of this input into consideration in preparing the 2014 report. Each time we go through this process, we deepen our understanding of the importance of integrated financial and nonfinancial performance reporting.

### ***Materiality in the Electric Industry***

The number of electric utilities committed to sustainable electricity is growing every year. Through the Electric Power Research Institute's Sustainability Interest Group (ESIG), more than 40 investor-owned and public utilities, municipal cooperatives and merchant power generators come together regularly to share best practices and learn. In 2012, ESIG undertook an industry-wide materiality assessment (which AEP participated in) that was published in early 2013. This year, the group will publish a companion report about activities identified by stakeholders that utilities are doing or can consider to address the industry's priority issues.

[Learn more about the electric utility industry's materiality assessment.](#)

## **GRI - Global Reporting Initiative**

This report was primarily developed according to the [Global Reporting Initiative](#) (GRI) Sustainability Reporting Guidelines Version 3.1 (G3) with some integration of GRI's fourth generation of Guidelines - G4. The GRI guidelines provide a voluntary reporting framework used by organizations around the world as the basis for sustainability reporting. We are using the G3.1 standards, the Electric Utility Sector Supplement for reporting on industry-specific information, as well as some aspects of G4 as we begin to transition from G3.1 to G4.

## Carbon Disclosure Project

As a pillar of the company's commitment to social responsibility, AEP places high value and priority on transparency in our actions. By responding to the Carbon Disclosure Project (CDP) survey(s), AEP recognizes the importance of our disclosure and our commitment to the interests of our stakeholders. This is AEP's eighth year responding to CDP.

*CDP is an international, not-for-profit organization providing the only global system for companies and cities to measure, disclose, manage and share vital environmental information. They work with market forces to motivate companies to disclose their impacts on the environment and natural resources and take action to reduce them. CDP now holds the largest collection globally of primary climate change, water and forest-risk information and puts these insights at the heart of strategic business, investment and policy decisions.*

- [Carbon Disclosure Project - AEP's 2013 Response](#) (PDF)
- [CDP Water Disclosure Project - AEP's 2013 Response](#) (PDF)
- [CDP Supply Chain Disclosure Project - AEP's 2013 Response](#) (PDF)

## Mid-Cycle Reporting Update

AEP is committed to providing a mid-cycle update on our progress toward achieving our goals. This update focuses on the key commitments that stakeholders ask about most frequently. A full update on all commitments is published every April in AEP's Corporate Accountability Report.

All data reflected here are YTD through June 30, 2013, unless otherwise noted. This was the cutoff for reporting progress to AEP's Risk Executive Committee and the AEP Board of Directors.

- [2013 AEP Mid-Year Update of Key Commitments](#) (PDF)
  - [2013 Mid-Year Performance Summary](#) (PDF)
- [2012 AEP Mid-Year Update of Key Commitments](#) (PDF)
- [2011 AEP Mid-Year Update of Key Commitments](#) (PDF)
- [2010 AEP Mid-Year Update of Key Commitments](#) (PDF)
- [2009 AEP Mid-Year Update of Key Commitments](#) (PDF)

## Coal Supplier Survey

America's energy future will no doubt contain a greater diversity of energy sources but coal will continue to be the foundation of that resource base for the foreseeable future. At the same time, the life cycle of coal is of great concern to many of our stakeholders – from mining practices and combustion for energy production to disposal of coal combustion byproducts. Through our stakeholder engagement

process AEP committed to annually survey our coal suppliers to assess their environmental, safety and health performance.

The purpose of this survey is to collect information about where and how our suppliers source their coal that AEP purchases and to collect data on their overall performance in the areas of safety, health and environmental compliance. This company-specific data will not be shared publicly but will be used by AEP to help us analyze and identify best practices and begin to understand some of the social ramifications of the electric and coal industries.

This resource site provides information for our suppliers about the survey, including links to the [Global Reporting Initiative's Mining and Metals Sector Supplement](#) (MMSS). Several performance indicators from the MMSS are included in our survey. Our commitment to transparency includes making the aggregated final report and analysis public by posting it to the web.

- [2013 Coal Supplier Survey Final Report](#) (pdf)
- [2011 Coal Supplier Survey Final Report](#) (pdf)
- [2010 Coal Supplier Survey Final Report](#) (pdf)
- [2009 Coal Supplier Survey Final Report](#) (pdf)
- [GRI Mining and Metals Sector Supplement – Supplier Matrix](#) (pdf)