



Search



About Our Business

Business Performance

Technology & Innovation

Customers & Communities

Our Work Force

Reports & Facts

2015 Corporate Accountability Report

# Powering The Future



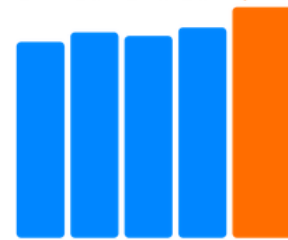
## 2014 Fast Facts

<b>Revenues History</b> in billions GAAP <b>\$17</b>	<b>Net Income</b> in billions GAAP <b>\$1.6</b>	<b>Earnings Per Share</b> GAAP <b>\$3.34</b>
<b>Transmission</b> in miles approx <b>40,000</b>	<b>Distribution</b> in pole miles <b>222,000</b>	<b>Generating Capacity</b> in MW <b>37,600</b>
<b>Renewables</b> (regulated) in MW <b>2,715</b>	<b>CO<sub>2</sub> Emissions</b> in million metric tons <b>122.7</b>	<b>Total Assets</b> in billions <b>\$59.6</b>
<b>AEP Customers</b> in millions <b>5.3</b>	<b>AEP Employees</b> system wide <b>18,529</b>	<b>Philanthropic Giving</b> in millions <b>\$25.3</b>

## Revenue History

in billions GAAP

\$14.4 \$15.1 \$14.9 \$15.4 **\$17.0**



Generally Accepted Accounting Principles.

## Building a bright future

The electric utility industry is undergoing a major transformation that will result in a cleaner, stronger, more flexible, reliable and resilient grid. We envision a grid that is more intelligent and responsive and is valued for the services it provides. To achieve this, we are embracing change by building upon our commitment to operational excellence and being adaptable, solutions-oriented and innovative.

### Message from the Chairman



The utility that powers the future will operate a modern grid that supplies two-way flows of power and information, is adaptable, flexible and reliable. This is a challenging but exciting time for our company and our industry, and I am confident in our ability to respond as we strive to build a more prosperous future.

Leadership Diversity by Gender



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

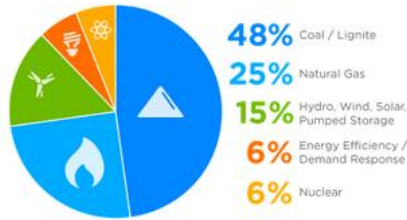
Charitable Giving by Area of Focus in 2014\*

- 26.7% Education
- 16.2% Community
- 11.9% Safety & Health
- 10.8% United Way
- 9.1% Arts & Culture
- 8.9% Hunger & Housing
- 5.8% Environment
- 5.4% Youth
- 4.7% Economic Development
- 0.3% Disaster Relief



There is nothing more important to us than the safety and health of our employees, contractors and the public. Our industry is actively engaged in educating the public about the danger of coming into contact with live electrical equipment and promoting how to safely work around power lines and other facilities.

2026 Generating Capacity by Fuel



\*Includes scheduled payments



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.



**BOLD Transmission**

AEP Transmission used cutting edge technology with the design of a new and compact extra-high voltage 345-kV line, called BOLD™. The new line design is being built for the first time in the rebuilding and expansion of an existing 138-kV line near Fort Wayne, Indiana.

**Material Issues**

Identifying and reporting on the most relevant, material issues for a company and its stakeholders are the foundation of sound disclosure. The level of disclosure that is being sought has never been higher, nor has there been as much at stake in terms of transparency of environmental, social and governance performance. Today, the emphasis on materiality extends beyond financial reporting to encompass sustainability disclosure.

[Read more about AEP's material issues](#)

**Board of Directors Statement**









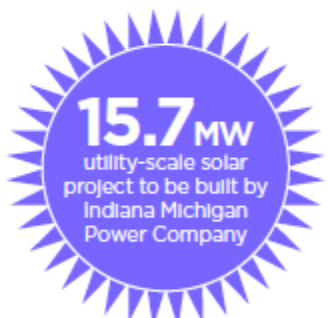





The AEP Board of Directors has assigned responsibility for monitoring and overseeing the company's sustainability initiatives to the Board's Committee on Directors and Corporate Governance. This is the sixth year AEP has integrated its sustainability reporting with financial reporting. The Committee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

[Read the full Board statement](#)

# Powering the Future

AEP 2014 Performance



Leadership	<b>FORTUNE</b> <b>WORLD'S MOST ADMIRABLE COMPANIES 2014</b>	<b>38,000</b> MegaWatts generating capacity 	<b>\$10 million</b> committed by AEP Foundation through Credits Count™ program to support STEM education 	<b>22%</b> of AEP's Board of Directors are Female 
Shareholders	<b>+100</b> years of consecutive quarterly dividends	 <b>\$3 billion</b> will be invested in additional transmission assets through 2017	 <b>\$3.34</b> (GAAP) Earnings Per Share	<b>35%</b> total shareholder return
Work Force	<b>80/100</b> Corporate Equality Index Score 	<b>16%</b> of AEP employees are Millennials	 <b>\$1.7 billion</b> paid in employee wages in 2014	 <b>10%</b> of AEP employees served in the military
Customers	 <b>15.7 MW</b> utility-scale solar project to be built by Indiana Michigan Power Company	<b>2,880 miles</b> of rebuilt transmission lines between 2015 & 2019 	<b>\$56.9 million</b> in energy assistance provided to customers 	<b>47%</b> number of customers who pay their bills online
Communities	<b>6,500 MW</b> retiring coal-fueled generation in 2015 & 2016 	 AEP named to Top 10 Utilities for economic development	<b>\$629.2 million</b> in local taxes paid	 <b>\$25.3 million</b> grants made by the AEP Foundation to support more than 2,500 community organizations
	<b>\$2.4 million</b> contributions made to communities to support economic development			

AEPsustainability.com

## 2015 Corporate Accountability Report – Index of Content

- I. About Our Business**
  - a. Message from the Chairman – Executive Summary
  - b. Our Value Creation Story
  - c. Corporate Governance
  - d. Energy Policy
  - e. Managing Risk
  - f. Generation Transformation
  - g. Future Outlook
- II. Business Performance**
  - a. Financial Performance
  - b. Safety & Health Performance
  - c. Environmental Performance
  - d. Energy Reliability
- III. Technology & Innovation**
  - a. Employee Innovation
  - b. The Integrated Grid
  - c. gridSMART
  - d. Developing Technologies
- IV. Customers and Communities**
  - a. How We Engage
  - b. Our Customers
  - c. Strong Communities
  - d. Economic & Business Development
  - e. Sustainable Procurement
- V. Our Work Force**
  - a. Work Force Planning
  - b. Culture Commitment
  - c. Continuous Improvement
  - d. Diversity at AEP
  - e. Awards & Recognition
- VI. Reports & Fast Facts**
  - a. About This Report
  - b. Report History
  - c. Material Issues
  - d. GRI
  - e. Coal Supplier Survey
  - f. Participate and Discuss
  - g. Contact Us



# About Our Business

Message from the Chairman ▶

Corporate Governance ▶

Our Value Creation Story ▶

Energy Policy ▶

Managing Risk ▶

Generation Transformation ▶

Future Outlook ▶




Home About Our Business

## Powering The Future

“To become the utility that the future demands, we must continue to enhance and improve the reliability, connectivity and resiliency of the grid. Our ongoing responsibility is to make sure our service is available wherever and whenever it is needed or wanted. While that responsibility won’t change, the way we do it will continue to evolve.”

- Nick Akins, chairman, president and chief executive officer

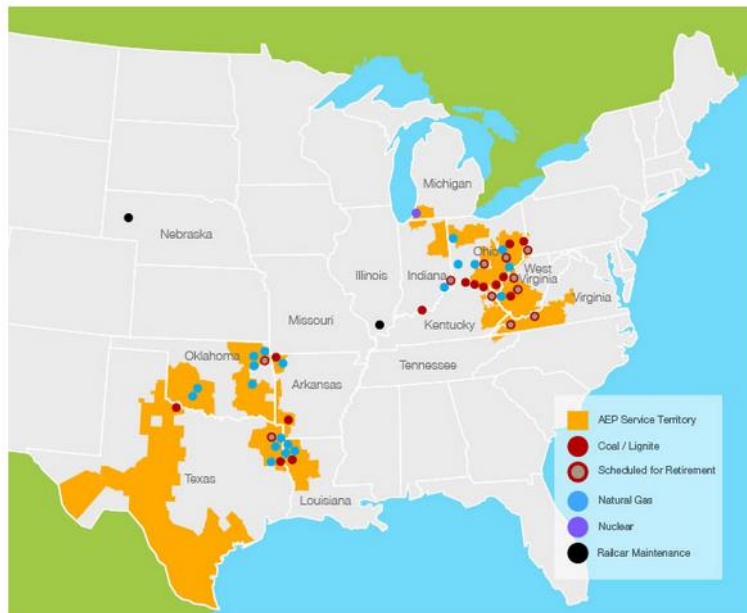
### 2014 Performance Summary

	<b>Earnings Per Share</b> Transmission <b>\$0.29</b>
	<b>Annual Dividend Growth</b> <b>6.4%</b>
	<b>Planned Coal Unit Retirements</b> <b>6,533 MW</b>
	<b>Peak Demand Reduction</b> <b>1,200 MW</b>
	<b>Customers</b> AEP regulated <b>5.3 million</b>

### Our Plan for Sustainable Growth

Our strategy for growth and the transition to build the utility model of the future is to embrace change by building upon our commitment to operational excellence and being adaptable, solutions-oriented and innovative. Our investments enable the electric grid to be more reliable, resilient and flexible. We are learning about and investing in the development of an integrated grid that will provide greater connectivity as well as the two-way information flows that customers want. And, we are investing in developing our current and future work force to meet the challenges and opportunities as we transition to the utility of the future.

 Generation



# Message from the Chairman

I am pleased to share with you this report on American Electric Power's 2014 performance, our plans for 2015, and our vision and strategy for the future. Our company and our industry continue to undergo fundamental change. The catalyst for this transformation includes new environmental regulations, evolving customer needs, changing markets, new technologies and the need to produce electricity from a more balanced set of generation resources. In the future, our investments will be more focused on natural gas, renewables and energy efficiency, as well as optimizing the grid around transmission. The utility that powers the future will operate a modern grid that supplies two-way flows of power and information, is adaptable, flexible and reliable. This is a challenging but exciting time for our company and our industry, and I am confident in our ability to respond as we strive to build a more prosperous future.



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

The transition we are undergoing creates many new opportunities for AEP. To provide greater reliability and efficiency to offset the retirement of generating capacity, we are investing significant capital in our transmission business unit. Transmission is a key to achieving the flexibility needed to enable expanded use of renewable resources and the resiliency that a modern grid needs. In addition, as the availability and use of natural gas to generate power continues to grow, more electric transmission capacity will be needed. Our view is that as new technologies emerge and customer needs evolve, the grid will need to work more like a technology integration network.

To prepare for this, we are investing in technologies to optimize the use of data to improve service to our customers. We know that many customers prefer to communicate with us electronically. Taking that a step further, we are working on ways to use technology to digitize more of the interactions we have with customers, making it easier for them to do business with us. We are also working to create a data hub, allowing us to securely and responsibly store and analyze the data we collect from smart meters and distribution equipment to better anticipate and serve customers' needs. In addition, we will explore how predictive analytics could help us determine where a storm will strike and estimate the damage, so we can notify customers in advance and efficiently mobilize resources to restore power afterward. These are examples of how AEP is preparing the electric grid to power the future.

We believe the industry should focus its resources on those technologies with the greatest promise, rather than investing in small advances in a large number of technologies. As the electric grid evolves and new technologies mature or emerge, policymakers should avoid picking winners and losers and allow the market to identify the best solutions.

When major changes are made to the electric grid, as are happening today, we need to take the time to assess, plan and respond appropriately if we are to protect the grid's reliability and ensure this essential service remains affordable. This is especially true as we retire more than 6,500 MW of coal-fueled generating assets starting in 2015. The risks include the possibility of not being able to adequately support electric reliability, especially during extreme weather events, when our families, businesses and communities need it most. Although we are upgrading and building vital new transmission infrastructure at an unprecedented rate and increasing our use of wind, solar and natural gas, we must make these changes in a thoughtful and deliberate way to ensure the electric grid continues to operate safely and reliably for our economy and our way of life.

As these issues are debated, we are educating our customers about the impacts of regulatory mandates and state laws, and helping to create options and opportunities so that their voices can be heard. We are also working to ensure that regulators and policymakers have all the facts as they make important decisions about our nation's energy future.

To become the utility that the future demands, we must also continue to enhance and improve the reliability, connectivity and resiliency of the grid. Our ongoing responsibility is to make sure our service is available wherever and whenever it is needed or wanted. While that responsibility won't change, the way we do it will continue to evolve.

We believe that our investments in infrastructure and in our employees, our focus on enhancing the customer experience, our commitment to continuous improvement and our fiscal discipline provide a solid foundation for building a sustainable model of the utility of the future.

## **Our Employees and Our Culture Lead Us Forward**

AEP's culture is shaped by our focus on workplace safety, customer satisfaction and our employees' strong desire to contribute to the company's success. Our performance is driven by hard working, highly skilled and deeply committed employees. Employee engagement is a leading indicator of better business results and our 18,529 employees consistently demonstrate this value to AEP.

Our employees have taken the lead to find and implement "LEAN" initiatives and other process improvements to reduce costs, improve efficiency and, in some cases, generate revenue. For example, our five Transmission Dispatch Centers collectively achieved a 99.9992 percent switching accuracy in 2014. Switching requires the energizing or de-energizing of equipment in a specific sequence in order to safely route the flow of power. Such an accuracy rate improves safety, saves time and money, and can only be attained by the concerted, collaborative and sustained effort of engaged employees who care deeply about performance and each other.

We believe that our culture is a critical element of our future success. In 2014, we conducted our second culture survey to gauge our progress. It revealed that our culture has changed for the better and that our focus on zero harm is our strongest culture attribute. Employee safety has been a foundation of our culture for many years and has become a source of pride and inspiration to our entire organization.

While there is still work to do, this is a journey and we have both a firm foundation and the commitment needed to move forward. We plan to conduct another survey in 2015 to keep the momentum going.

Although we had a very good year from a financial standpoint, our most important achievement was related to the safety of our people. For the first time since we began keeping statistics in 1970, we have gone three consecutive years without an employee fatality. I am profoundly grateful to everyone in our organization for helping us reach this important milestone. Our approach to workplace safety and health is about mutual care. Reaching top decile in performance requires a focused commitment, planning, thinking ahead and looking out for each other – and that’s our goal.

During the past decade we have achieved a positive, downward trend in the number and severity of injuries occurring in the workplace. But we are still a long way from achieving our goal of zero harm. The number and overall severity of injuries in 2014 increased, with slips, trips, falls and overexertion as the leading causes of injury and lost time or restricted duty work days. We take the approach that every injury can be avoided. We treat each injury, no matter how small, as if it could have been more severe and as if it were the beginning of an alarming trend. We will improve on safety and health, and be relentless in our drive to prevent any and all harm. We are doing it by engaging our employees to identify solutions to help us achieve our goals.

We reached another important employee milestone in 2014. For the first time in our history, AEP negotiated a multi-year collective bargaining agreement with our largest union, the International Brotherhood of Electrical Workers, which was ratified in early 2015. With a three-year agreement in place, we are committed to strengthening our relationships with union leaders and employees in order to meet our business goals. We are also working to negotiate multi-year contracts with our four remaining unions throughout 2015.

AEP was again named as one of Fortune magazine’s [2015 World’s Most Admired Companies](#) in the electric and gas utilities sector. In April 2015, AEP was also ranked as America’s eighth most trustworthy large cap company by GMI Ratings, now part of MSCI ESG Research. This list recognizes companies for transparent accounting practices and strong governance, both of which are key areas of focus from our board of directors to all of our employees. We are pleased to be honored for our work providing safe, reliable and affordable electricity to our customers, and financial rewards to our investors. Our success is due to the talented men and women of AEP and we are working hard to give them a culture and workplace where they can continue to thrive.

## **Financial Performance**

We achieved solid financial results in 2014 that validated our earnings growth strategy. Our focus on infrastructure investments in our core, regulated businesses, and the identification of process improvements delivered significant value for our customers and investors. Our year-end share price was \$60.72, putting us in the top five best-performing utility stocks in 2014 with a total shareholder return of 35 percent, exceeding both the S&P 500 Electric Utilities Index total return of 31 percent, and the S&P 500 total return of nearly 14 percent. We also increased our annual dividend by 6 percent on an annual basis.



Our positive financial performance reflects a strong balance sheet, solid credit metrics and adequate liquidity. Our debt-to-capitalization ratio remained steady, ending the year at 54.4 percent.

We ended 2014 with Generally Accepted Accounting Principles (GAAP) earnings of \$1.63 billion or \$3.34 per share, compared with \$1.48 billion or \$3.04 per share in 2013.

Operating earnings were \$1.67 billion or \$3.43 per share, compared with \$1.57 billion or \$3.23 per share in 2013. Operating earnings were higher than GAAP earnings primarily due to the termination of a long-term coal contract. Despite mild summer temperatures in 2014, our financial results were strong, driven largely by record cold winter weather that drove up sales and the reliable, steady operation of our system to meet that energy demand.

<b>AEP Earnings &amp; Dividend Data</b> (\$/per share)					
	2010	2011	2012	2013	2014
Earnings Per Share (GAAP)	\$2.53	\$4.02	\$2.60	\$3.04	<b>\$3.34</b>
Operating Earnings Per Share	\$3.03	\$3.12	\$3.09	\$3.23	<b>\$3.43</b>
Cash Dividends Per Common Share	\$1.71	\$1.85	\$1.88	\$1.95	<b>\$2.03</b>

In 2014, AEP Transmission Holding Company contributed 31 cents per share, exceeding our expectations by 2 cents per share, and grew net plant assets by approximately \$1.1 billion to \$2.7 billion, an increase of 65 percent.

Several additional factors contributed to our performance – successful regulatory proceedings in several states; an increase in off-system sales, driven largely by strong performance during extreme cold weather events; accelerated growth of our transmission business, which exceeded earnings expectations; positive overall load growth; and cost savings and enhanced revenue sources identified through employee-led continuous improvement efforts.

In addition to our strong performance, we are proud that we were able to continue our 108-year history of paying a quarterly dividend to our investors.

## Operational Performance and Challenges

We provide a vital service that is essential to the nation’s health, welfare, security and economy. This is both a great honor and a great responsibility.

During the winters of 2014 and 2015, extreme weather events tested the capacity and reliability of the grid. We are likely to face more challenges ahead when about 20 percent of the nation’s coal-fueled generating capacity will be retired between 2010 and 2022. During these harsh weather events, most of AEP’s coal-fueled plants that will be retired in mid-2015 were providing power, keeping businesses running and homes warm and safe.

With the retirement of these units, the performance of the transmission system and other generating technologies will be more critical to maintaining grid reliability. In the PJM Interconnection region alone, an estimated \$3 billion will be invested by utilities, including AEP, to maintain reliability.

In addition to compensating for major changes in the location of generating resources, transmission system growth enables other renewable resources to come online, such as wind and solar energy, which are important to a balanced resource portfolio. Our efforts to expand our renewable portfolio as well as our plans to build utility-scale solar in Indiana and large solar projects with two universities, will broaden our experience in deploying, owning and operating these renewable power assets.

The flawed capacity market in the PJM Interconnection does not adequately incentivize generators to invest in new or replacement capacity, especially in Ohio where generation is deregulated. The retirement of coal units creates more reliability risk if adequate new generation resources are not developed in a timely manner. The 2013 PJM capacity auction set prices for the 2016-2017 period 56 percent lower than in the previous auction. This decline in prices, however, does not reflect the value that generating capacity provides to the grid.

The PJM capacity market structure creates significant financial risk for generators, including AEP, and must be fixed. AEP formed a coalition with several generation owners, utilities and electric cooperatives in 2013 to work with PJM to do so. We believe the capacity auction, which is a forward looking auction, should create long-term price signals for energy resources and must compensate generators appropriately for their investments in generating capacity. The current rules encourage volatility and speculation. PJM has made or proposed several changes, but we believe more changes are necessary to encourage the type of investment that is really needed.

Our operating companies are committed to providing reliable, affordable service to our customers. Unfortunately, in 2014, we experienced increases in the frequency and duration of service disruptions. Other than weather, aging infrastructure and vegetation continue to be main causes. We work with state regulators to implement vegetation management programs and gain support for investments to replace older equipment. However, significant additional investment is required if we are to make improvements needed to meet new regulatory requirements and customer needs.

Aging infrastructure is not unique to AEP, but in 2014, the impact that aging infrastructure can potentially have on us became clear. Disruptions occurred at three of our 16 underground networks in three states. We are planning to invest more than \$300 million between 2014 and 2018 to upgrade and enhance these networks. We are also installing an underground monitoring system to give us greater monitoring capability to prevent such failures in the future.

Another challenge we face as a company and an industry is the need to prepare our work force for the future. As more employees approach retirement age, we are taking steps now to fill the talent gap that will develop as a result. Our business units are preparing comprehensive staffing plans that evaluate our needs and form the basis for action plans. When we hire new employees, we actively recruit military veterans because they have many of the technical skills we need. We work towards providing a diverse slate of candidates to hiring managers because diversity in our work force brings new and fresh perspectives, ideas and views that strengthen our ability to strategize, communicate and deliver results.

## **Environmental Performance**

Overall, our environmental performance is excellent and we continuously work to improve it.

Our Environmental Performance Index, which measures spills, opacity and water quality permit compliance in our generation business, achieved its best performance since the index was created in 2003. This index is not required for compliance but serves as a measure that helps us continuously improve our environmental performance. In 2014 we received one formal enforcement action for storm water runoff issues at the Dolet Hills Mine in Louisiana and took remedial actions to address these issues and improve performance.

Environmental performance and stewardship are important in every one of our business units. AEP's River Operations business unit achieved a significant milestone in January 2015, when it recorded two calendar years without a single environmental spill to the water. This achievement earned this business unit the U.S. Coast Guard's Rear Admiral William M. Benkert Silver Award for Environmental Excellence in 2014.

## **Climate Change**

Our position on climate change has not changed; we believe it is a global issue. AEP is a much less carbon intensive company today than a decade ago and, as we retire coal units, that trend will continue. We factor the potential impacts of carbon policies and regulations into our long-range planning processes. We strongly believe that any policy or regulation to reduce carbon emissions must be rational in terms of timing, scope and reduction targets. Absent that, the economy as well as the reliability of the electric grid, is at risk.

We believe the EPA's proposed Clean Power Plan (CPP), designed to decrease carbon in the electric sector, unnecessarily threatens the reliability and stability of the electric grid. The proposed regulation, expected to be finalized in 2015, relies on inaccurate data and flawed technical and legal assumptions in calculating an estimated 30 percent reduction in electric sector carbon emissions. In addition, the proposal does not give credit to companies and states that have already achieved significant CO<sub>2</sub> emission reductions. In AEP's case, we have achieved a 15 percent reduction in carbon emissions since 2005 that unfairly would not be credited under the proposed regulation.

In the next two years, we will have fewer emissions when approximately one-quarter of our coal-fueled generating fleet is retired. Additional retirements that could be imposed by the CPP would further jeopardize the reliability of the electric grid. We conducted a reliability model of the CPP on our transmission system in PJM, using an EPA scenario. The results were alarming – a grid so stressed that it resulted in widespread voltage collapses, cascading outages, and brownouts and blackouts. That is why we are advocating for a thorough reliability assessment of the rule's impact on the electric grid. These concerns have been echoed by a number of regional transmission operators and independent system operators.

The CPP requires states to develop implementation plans and sets 2020 interim targets for compliance which we believe will be impossible to achieve while maintaining grid reliability. States need more time and flexibility to develop and implement compliance plans that make sense for their resource mix and local economies. Utilities need more time to build transmission lines, natural gas pipelines and new generation facilities that will be needed to maintain reliability of the grid.

We will continue to advocate for more extensive reliability analysis and a more flexible and realistic plan that includes all regional transmission operators.

## **Grid Data and Security**

The constant threat of cyber and physical security attacks against the electric grid continues to be of significant concern to AEP and our industry. High profile breaches in the financial, health care and entertainment industries, as well as in our industry, highlight the risk. Although our major focus is on protecting the grid and our facilities, we also engage and train our employees to become protectors of critical infrastructure information and observers to help us recognize potential threats.

We aggressively protect the grid and important physical assets, such as substations, by investing in cyber and physical security measures, providing training to our employees, working with industry peers at all levels of government, and requiring cyber security measures of our suppliers to help us protect our systems. AEP also participates in drills with other stakeholders, including government agencies, to enhance our measures for prevention, detection and recovery actions to respond to emerging threats.

## **2015 and Beyond**

When I reflect on our success in 2014 and early 2015 and consider the future, I am confident in our employees and their ability to execute on our strategy. We are prepared to take advantage of the transformation that is taking place in our industry and with the electric grid. The shale gas industry, for example, should continue to provide growth opportunities for AEP. In addition to an aging infrastructure and the retirement of coal-fueled generating assets, the demand for transmission to serve this industry is one of the key drivers behind new infrastructure investments in 2014 and is expected to continue in 2015 and beyond.

Our path forward is clear and challenging. Deregulation in Ohio and the weak results in the 2016-2018 PJM capacity market pose financial challenges for AEP, especially in 2016. We will continue our disciplined approach to allocating capital, controlling costs and working through regulatory proceedings to improve customer service and strengthen our financial position. We project an operating earnings range of \$3.40 to \$3.60 per share in 2015 and \$3.45 to \$3.85 per share in 2016. Transmission will continue to be an important contributor and is expected to contribute 38 cents per share in 2015.

We will continue to expand our ability to leverage data and technology to improve our service to customers as well as to make smart investments that allow a smooth integration of distributed resources with the grid. We will stay focused on executing our plan to maintain our earnings growth beyond 2016.



Our employee-led continuous improvement efforts, already successful, will be critical as we move forward.

## **Continue Our Focus on Safety**

We are intensifying our focus on safety and health to reduce the number and severity of injuries, with particular attention on slips, trips, falls and overexertion. The safety and health of our employees, contractors and the public is a priority for AEP. We were saddened when two contractors working on AEP's behalf were fatally injured in 2014. We will continue to provide the tools, training, education and information needed to prevent harm on all fronts and strengthen our culture of looking out for each other.

## **Transitioning Our Fleet**

2015 will mark a significant milestone in AEP's 108-year history as we begin to retire approximately 6,500 MW of coal-fueled generation in response to new environmental regulations. These units have provided reliable, affordable power to millions of customers for decades. They have also provided well-paying jobs, supported local economic growth and public services, such as education and public safety, and have been deeply involved with their local communities. We are proud of the contributions we have made over the years in these communities, but the transition we are undergoing has become a necessary reality as our generation fleet changes.

The more than 450 employees affected by these retirements have been a priority for AEP. In anticipation of the retirements, we formed a plant decommissioning team two years ago to work with affected employees and prepare detailed plans to ensure the plants are closed safely and have long-term environmental compliance monitoring plans in place.

We worked hard to find these employees other jobs within AEP and to provide support as they transitioned into new roles. We are proud of every employee in those plants who came to work every day, committed to running the plants safely and efficiently to keep the lights on for our customers.

We will continue to diversify our generation resources. We are increasing our use of natural gas and we continue to cost-effectively increase our renewable portfolio. For example, in 2014, we began converting units at the Big Sandy and Clinch River plants from coal to natural gas and we achieved our highest level of renewable resources on our system. We now have 2,183 MW of wind energy and 10 MW of solar, serving customers across our system. In 2015, Indiana Michigan Power Company received approval to build a utility-scale solar project totaling 15.7 MW. This project, in addition to two others with The Ohio State University and Denison University, will give us valuable experience in deploying, owning and operating utility-scale solar. Our renewable portfolio will continue to grow to meet the individual needs of each of our operating companies and support the resource choices our customers tell us they want.

## **An Advocate for Engagement Leaves Us**

On a more personal note, AEP lost a good friend and leader in 2014 with the death of former AEP board member Robert Fri. Bob served on our board from 1995–2008 and was a champion of transparency and stakeholder engagement. In 2004, when investors asked for more transparency about how the company planned to manage its emissions risk, Bob led a team that included board members, AEP experts and external stakeholders. They released a ground-breaking board report that was a catalyst for our current level of commitment to performance reporting and stakeholder engagement. In addition to his board service to AEP, Bob was a former deputy director of the U.S. Environmental Protection Agency and of the Energy Research and Development Administration. He was 78 years old.

## The Utility of the Future

Advanced technology will be critical as the grid is required to handle more distributed generation and smarter appliances, as well as customers who demand greater flexibility and more information. To protect our economic and national security, the grid must become more reliable and resilient. We will continue to advocate for policies that allow technologies to mature while ensuring those who use the grid pay their share of the costs to maintain the grid.

To prepare for the future, we are participating in research and development of an integrated grid through the Electric Power Research Institute and through an association with a venture capital firm that invests in alternative and developing energy technologies. In addition, AEP led the industry in research to better connect and manage those connections between regional transmission systems, setting us on the path to improved connectivity. Through these efforts and others, we are learning as much as possible about evolving technologies, such as energy storage and micro grids.



The transition of our generation resources, the investments we are making in transmission and distribution to prepare the grid for the future and a culture of innovation among our employees are essential. Innovation, optimization of resources and agility will win the day for the utility of the future.

One thing that will remain constant is that our future will depend on the skills and qualities of our current and future employees. AEP and the AEP Foundation are investing in STEM education (science, technology, engineering, mathematics) for middle and high school students to help develop the skills they, and industries like ours, will need. Through the AEP Foundation, we created the Credits Count<sup>SM</sup> program to help fill in learning gaps, eliminate barriers to higher education and put students on the path for a college education while they complete high school. By

graduation, students may earn credits that count toward a STEM-related certificate or college degree. The Foundation has now established Credits Count programs in Columbus, Ohio; Tulsa, Oklahoma; and

Bossier City, Louisiana, all of which are in our service territory. So far, the Foundation has committed nearly \$10 million over multiple years for Credits Count.

I am confident that we are on the right path for sustainable growth, and I believe our investors agree. We are adapting to the changing environment around us by leveraging our strengths as a regulated electric utility and engaging our employees to grow our business sustainably. As we redefine AEP's future, our culture of safety, customer commitment, engagement, technology innovation and entrepreneurship give us every reason to believe that we will succeed.



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

## Corporate Governance

The board of directors is at the heart of AEP's corporate governance. The board is the protector of investors' interests with a responsibility to ensure those who invest in the company earn a fair return on their long-term investment. Our [commitment to effective corporate governance](#) is reflected largely in our Principles of Corporate Governance, Principles of Business Conduct, and our charters for the Audit, Directors and Corporate Governance and Human Resources Committees of the Board.

The independence of directors is a hallmark of strong corporate governance. AEP's Board of Directors is comprised of independent directors, with the exception of Nick Akins, who serves as chairman, president and chief executive officer.

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, allowing us to adapt successfully to change.

## *AEP's Board of Directors*



From Left to Right:

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

**Richard C. Notebaert**

Committee Membership: Directors and Corporate Governance, Human Resources, Policy  
Director Since: 2011  
Age: 68

**J. Bernie Beasley, Jr.**

Committee Membership: Audit, Nuclear Oversight, Policy  
Director Since: 2014  
Age: 63

**Sandra Beach Lin**

Committee Membership: Audit, Directors and Corporate Governance, Policy  
Director Since: 2012  
Age: 57

**Lionel L. Nowell III**

Committee Membership: Audit (Chairman), Directors and Corporate Governance, Executive, Finance, Policy  
Director Since: 2004  
Age: 60

**Steve Rasmussen**

Committee Membership: Committee on Directors and Corporate Governance, Finance, Policy  
Director Since: 2012  
Age: 62

**Nicholas K. Akins**

Committee Membership: Executive, Policy  
Director Since: 2011  
Age: 54

**Thomas E. Hoaglin**

Committee Membership: Directors and Corporate Governance (Chairman), Human Resources, Executive, Policy

**Sara Martinez Tucker**

Committee Membership: Audit, Directors and Corporate Governance, Policy

**Oliver G. "Rick" Richard III**

Committee Membership: Human Resources, Nuclear Oversight, Policy



Director Since: 2007  
Age: 65

**David J. Anderson**

Committee Membership: Audit,  
Finance, Policy  
Director Since: 2011  
Age: 65

Director Since: 2009  
Age: 59

**Linda A. Goodspeed**

Committee Membership: Audit,  
Nuclear Oversight, Policy  
(Chairman)  
Director since: 2005  
Age: 53

Director Since: 2013  
Age: 62

**Ralph D. Crosby, Jr.**

Committee Membership:  
Executive, Human Resources  
(Chairman), Nuclear Oversight,  
Policy  
Director Since: 2006  
Age: 67

## AEP's Executive Team



From left to right:

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

# Statement of AEP's Board of Directors

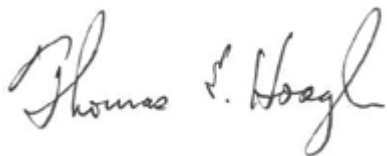
*AEP's Board of Directors demonstrates its commitment to accountability, sustainability and transparency by issuing a statement each year, expressing its support of the company's annual Corporate Accountability Report and its intent to hold management accountable. The Board began issuing this statement in 2007, when AEP issued its first sustainability report.*

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 sixth 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 its adoption of a formal resolution approving the report.

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, including the ongoing transition of the company's business model, the obligation to provide reliable, affordable service while understanding the need to address climate change in a thoughtful, cost-effective way, the importance of investment in the grid and technology and innovation in meeting our customers' expectations, understanding that a culture involving engaged employees that maintain the highest level of ethical behavior is a key to the company's success, having a diverse, balanced generation portfolio, the need to be a good corporate citizen and environmental steward, the prioritization of safety and health, as well as a keen focus on cyber and physical security, have been the subject of active discussion at the Board meetings.

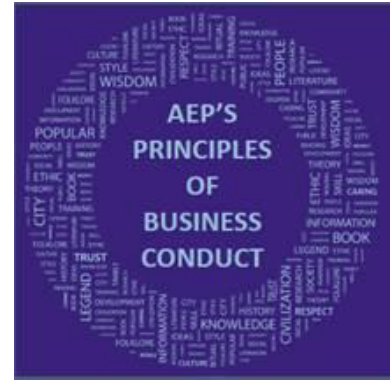
The Committee believes this document is a reasonable and transparent presentation of the company's plans and of its environmental, social and financial performance. The Board has emphasized to management that it will continue to be evaluated by its success in executing the company's strategic plan to 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 8, 2015

# 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. If employees are unwilling to report an ethics or compliance violation because of a 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 and culture.

In 2014, AEP's Office of Ethics & Compliance completed a company-wide ethical risk assessment and the results were encouraging. The purpose of the assessment was to ensure that proper attention and resources are focused on areas of the company where ethical risk has the potential to be prevalent, or where exposure to ethics-related violations of policy or law may exist. The risk assessment also serves as a benchmark to track improvement for AEP's ethical culture. The last assessment was conducted in 2011.

The assessment, conducted by Ernst & Young LLP, surveyed 5,000 randomly selected employees and was combined with one-on-one interviews with more than 30 AEP leaders. The results concluded that AEP has a strong culture of compliance; employees have a good sense of where to go for help and a good sense of trust in the leadership of the company – especially trust in their individual supervisors. Top areas of risk identified by the assessment included NERC, cybersecurity, FERC, the U.S. Commodity Futures Trading Commission and safety performance. None of these were a surprise and are areas where AEP has already dedicated significant resources and invested heavily in oversight of these high-risk areas.

We will use the findings to revise our Principles of Business Conduct training and will continue to seek other ways to use it to add value for employees and help improve the culture within AEP.

# Lobbying and Political Activity

We belong to, participate in or support several state, local and national organizations, including the National Conference of State Legislatures, the [Edison Electric Institute](#), the [Business Roundtable](#), the U.S. Chamber of Commerce 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. In June 2015, AEP CEO Nick Akins assumes the chairmanship of EEI for a one-year term. In addition, he chairs the BRT's Energy and Environment Committee.



We actively participate in the political process to advance the long-term interests of our customers, employees, investors and other stakeholders. 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 28 percent of the employees eligible to participate in our federal PAC do so. AEP's federal PAC, the AEP Committee for Responsible Government, contributed more than \$705,000 to candidates for public office in 2014. 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 2014, we spent about \$6.5 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 disclose our political contributions, as well as the portion of membership dues to various organizations 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 2014](#).

From time to time, many, if not most, of the organizations to which we belong reach conclusions or take positions with which we disagree. When appropriate, 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 believe 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.



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.

## Our Value Creation Story

“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 above 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 focused as we adapt to a constantly 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 investors. Our history is rich with ingenuity and technology breakthroughs that have enhanced the quality of life for our customers, delivered safe, reliable electricity to power economic growth, significantly reduced our environmental impacts and developed a highly skilled work force. Our industry is in a time of significant transition. The business model that made us so successful during the first 108 years is undergoing its own transformation. We continue to navigate these changes as we build a new model for the future.

The utility of the future will be a cleaner, stronger, flexible and more diverse regulated utility that invests in resources and infrastructure that bring shared value to our customers, employees, investors and other stakeholders. We are pursuing a long-term plan to meet those future demands.

Our investments are improving the resiliency and security of the grid while allowing easier, faster connections to new and emerging technologies and resources to bring them to market. Our focus on the customer experience is already leading to process and technology improvements. And we are defining an employee culture that enables the adaptability, flexibility and entrepreneurship that the utility of the future will demand.

We will continue to be a solid investment choice for investors, as we continue to demonstrate our commitment to and focus on delivering consistent earnings and dividend improvement through our investment strategy. For AEP, it is all about discipline and execution.

Our values are the foundation of our business. Developed collaboratively with employees, these values will see us through industry challenges so that we can be successful.

## Our Business Model

Our principal business is the regulated operation of the generation, transmission and distribution of electric power. We serve more than 5.3 million customers in our regulated businesses and approximately 240,000 through our competitive operating retail energy unit. AEP's business in Ohio was restructured in 2013 to separate our competitive generation business, which was required by the Public Utilities Commission of Ohio.

## Regulated Operations

Our regulated businesses have well-defined service territories and customer tariffs that are approved by state and federal regulators. Our operating company presidents have primary responsibility for their companies' balance sheets, earnings, capital allocation, regulatory relationships and overall performance in order to meet the needs of their customers. This approach strengthens relationships with the communities served and provides a better understanding of local needs.

### Company Overview 2014

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 5.5 million regulated and competitive customers in portions of 11 states.

	2014
U.S. Customers (year-end, millions; regulated and competitive)	5.5
Employees	18,529
GAAP Revenues (millions)	\$17,020
Operating Income (millions)	\$3,232
GAAP Net Income (millions)	\$1,638
GAAP Earnings Per Share	\$3.34
Cash Dividends Per Share	\$2.03
Service Territory (square miles)	200,000
Transmission (miles)	40,000
765-kV Lines (miles)	2,110
Distribution (miles)	222,000
Generating Capacity	37,600 MW <sup>1</sup>
Generating Units	212 <sup>2</sup>
Renewable Portfolio (hydro)	285 MW <sup>3</sup>
Pumped Storage	586 MW <sup>4</sup>
Regulated Renewable Portfolio (wind, solar)	2,193 MW <sup>5</sup>
Total Kilowatt-hour Sales (millions)	207,211 <sup>6</sup>
Rail Cars	4,990
Barges	2,800
Towboats	47
Harbor Boats	20
Total Assets (millions)	\$59,633

<sup>1</sup> Does not include Ohio Valley Electric Corporation (OVEC), Indiana-Kentucky Electric Corporation (IKEC) or Power Purchase Agreements

<sup>2</sup> Includes facilities jointly owned with other utilities, hydro and two AEP-owned wind farms

<sup>3</sup> Nameplate capacity, excludes pumped storage. Regulated and competitive.

<sup>4</sup> Nominal capacity

<sup>5</sup> Wind and solar contracts that are in service (nameplate capacity) and delivering energy in 2014; some current year Renewable Energy Credits (RECs) are sold and/or replaced with other RECs so claims to renewable benefits are reduced accordingly.

<sup>6</sup> Includes Vertically Integrated and Transmission and Distribution Utilities

**Vertically integrated public utilities —**

This business segment owns and operates generation facilities and transmission and distribution lines and other facilities. 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, and Kingsport Power Company. AEP Generation Company (AEPGCo) sells power at wholesale to AEP Generation Resources, I&M and Kentucky Power. AEPGCo is part of AEP’s vertically integrated utilities segment.



As of December 31, 2014, AEP’s vertically integrated public utility subsidiaries owned or leased approximately 27,000 MW of generation.

**Transmission and distribution utilities —**

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 more than 1 million customers. These companies are often referred to as “wires only” businesses. Texas North Company owns approximately 55 percent of the Oklaunion Plant. While 100 percent of AEP Texas customers purchase generation supply from competitive retail electric suppliers, AEP Ohio purchases energy and capacity to serve customers who have not selected their own supplier.

**AEP GAAP Earnings** (in millions)

	2012	2013	2014
Vertically Integrated Utilities	\$800	\$677	<b>\$708</b>
Transmission & Distribution Utilities	\$389	\$358	<b>\$355</b>
AEP Transmission Holding Company	\$43	\$80	<b>\$151</b>
Generation & Marketing	\$100	\$228	<b>\$367</b>
AEP River Operations	\$15	\$12	<b>\$49</b>
Corporate & Other*	\$88	\$125	<b>\$4</b>
Earnings Attributable to AEP Common Shareholders	\$1,259	\$1,480	<b>\$1,634</b>

\* While not considered a reportable segment, Corporate and Other primarily includes the purchasing of receivables from certain AEP utility subsidiaries. This segment also includes Parent’s guarantee revenue received from affiliates, investment income, interest income and interest expense and other nonallocated costs.

**Transmission & Distribution Utilities** (in millions)

	2012	2013	2014
Revenues	\$4,818	\$4,478	<b>\$4,814</b>
Purchased Electricity	\$2,071	\$1,627	<b>\$1,520</b>
Amortization of Generation Deferrals	—	—	<b>\$111</b>
<b>Gross Margin</b>	<b>\$2,747</b>	<b>\$2,851</b>	<b>\$3,183</b>
Other Operation & Maintenance	\$911	\$1,003	<b>\$1,276</b>
Depreciation & Amortization	\$561	\$591	<b>\$658</b>
Taxes other than Income Taxes	\$428	\$435	<b>\$453</b>
<b>Operating Income</b>	<b>\$847</b>	<b>\$822</b>	<b>\$796</b>
Interest & Investment Income	\$4	\$2	<b>\$11</b>
Carrying Costs Income	\$24	\$16	<b>\$27</b>
Allowance for Equity Funds Used During Construction	\$6	\$8	<b>\$12</b>
Interest Expense	(\$291)	(\$292)	<b>(\$280)</b>
<b>Income Before Income Tax Expense</b>	<b>\$590</b>	<b>\$556</b>	<b>\$566</b>
Income Tax Expense	\$201	\$198	<b>\$211</b>
<b>Net Income</b>	<b>\$389</b>	<b>\$358</b>	<b>\$355</b>
Net Income Attributable to Noncontrolling Interest	—	—	—
<b>Earnings Attributable to AEP Common Shareholders</b>	<b>\$389</b>	<b>\$358</b>	<b>\$355</b>

Year ending December 31.

## Competitive Operations

The Generation and Marketing 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, transmission constraints, 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) owns or has rights to more than 11,000 MW of generating capacity. 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 manages most of AEP Ohio’s former generating assets in the competitive generation market.

In January 2015, AEP engaged Goldman Sachs to help evaluate strategic alternatives for its merchant fleet of power plants. Options may include keeping the units, spinning off the

competitive generation company, potentially selling the units or other alternatives. AEP has not made a decision regarding these options nor have we set a specific timeline for a decision.

- **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. In 2014, AEP Energy entered the natural gas market in Ohio giving customers greater choice of service providers for electricity and natural gas. AEP Energy has approximately 240,000 retail customer accounts 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 adequate financial returns 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 Electric Reliability Council of Texas ([ERCOT](#)), the Midcontinent Independent System Operator ([MISO](#)) and the [PJM Interconnection](#), LLC. 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 liquids, 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 21 million tons of coal and other consumables to AEP facilities and 48 million tons of coal, grain and other bulk goods for commercial customers in 2014. Coal represented 52 percent of total tons hauled in 2014, followed by agriculture (24 percent) and steel (12 percent). Over time, AEP River Operations grew to be one of the largest barge company transporting dry bulk commodities (coal, limestone, grain, iron ore, etc.) on the inland waterways.



As the business grew, its success became increasingly tied largely to the volatility often seen in commodity markets as well as weather. For example, in 2012, droughts reduced crop yields which reduced shipping needs and, in turn, impacted earnings in 2012 and 2013. Seeking to minimize this kind of financial risk, AEP River Operations shifted its strategy to become more versatile by diversifying its business line and refocusing its dry bulk business. We did this by entering the liquids transportation business.

Throughout the second half of 2014, we took delivery of 40 new 10,000-barrel tank barges. This allows us to serve both current and new customers that transport liquid commodities and creates new opportunities for business growth. The timing of our entry into this business line correlates with the recent significant growth of barge transportation of oil and gas products. We will take delivery of another 40 10,000-barrel tank barges in 2015 and 2016.



In March 2015, AEP engaged Morgan Stanley & Co., LLC to help explore strategic alternatives for our competitive barge transportation subsidiary, AEP River Operations. There is no specific timeline to complete the review but we are committed to completing the process as promptly as is practical. This review does not include the captive barge transportation business, which delivers coal to AEP's regulated coal-fueled power plants owned and operated by Appalachian Power, Kentucky Power and Indiana Michigan Power.

## AEP Transmission

AEP Transmission Holding Company (AEPTHCo) is a holding company for all AEP Transmission companies (AEPTranCos) and for joint ventures with other utilities. The AEP Transmission Holding Company's (AEPTHCo) contribution to company earnings in 2014 totaled \$151 million, exceeding a \$141 million target. On an earnings-per-share basis, that equates to \$0.31 per share vs. a target of \$0.29 per share. AEPTHCo's \$1 billion in capital spending and joint venture equity contributions in 2014 exceeded a target of \$782 million.



### *AEPTranCos*

The TranCos own and operate transmission assets that are physically connected to AEP's existing system. As of December 31, 2014, AEP's TranCos had \$1.8 billion of transmission assets in service with plans to build approximately \$3 billion of additional transmission assets through 2017.

The TranCos rates are regulated by the [Federal Energy Regulatory Commission](#) (FERC). The TranCos are independent of, but overlay, the service territories of AEP's regulated state 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 Transmission Company has received conditional approval from the Virginia State Corporation Commission, subject to project-by-project review and approval. The application for regulatory approval of AEP Southwestern Transmission Company (SW TranCo) was denied by the Arkansas Public Service Commission in an order issued Jan. 2, 2015. The application for SW TranCo in Louisiana is still pending.

The TranCos are geographically located to align with our utility operating companies and are focused on:

**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 more than 6,500 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 projects:** 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 \$12 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 the Eagle Ford formation and Permian Basin 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 2015 and 2019 will result in approximately 270 new or enhanced stations, more than 1,000 line miles of new transmission lines and more than 2,880 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 Berkshire Hathaway Energy Company (formerly MidAmerican Energy Holding Company), 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 and two 138-kV transmission line rebuilds (approximately 590 pole miles) and other facilities, 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 addition to CREZ, ETT is currently working on projects totaling nearly 320 miles of transmission lines and 12 company-owned substations with various in-service dates through 2022.

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

[Electric Transmission America](#) (ETA) is a 50/50 joint venture between subsidiaries of AEP and Berkshire Hathaway Energy Company (formerly known as MidAmerican Energy Holdings Co). ETA has a 50 percent ownership interest in Prairie Wind Transmission; 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 \$160 million line enhances the delivery of electricity in Kansas and supports the state's expansion of renewable energy. This project was completed in 2014.

## **Pioneer Transmission**

[Pioneer Transmission](#) is a 50/50 joint venture between AEP and Duke Energy to build and operate transmission lines and related facilities in Indiana. The total project calls for 286 miles of new 765-kV transmission line linking Duke Energy's Greentown substation near Kokomo, Indiana, to AEP's Rockport substation near Evansville, 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 this segment, which is scheduled to be completed in 2018 and has a total estimated cost of \$350 million.

## ***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 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 smaller of the two projects is expected to be in-service in 2015 while the larger project has an expected in-service date of 2017.

The main driver behind AEP's competitive transmission business is FERC Order 1000, which was issued in 2011. The Order 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.

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

**AEP Transmission Holdco** (in millions)

	2012	2013	2014
Transmission Revenues	\$4,818	\$78	<b>\$192</b>
<b>Gross Margin</b>	<b>\$2,747</b>	<b>\$78</b>	<b>\$192</b>
Other Operation & Maintenance	\$9	\$12	<b>\$29</b>
Depreciation & Amortization	\$3	\$10	<b>\$24</b>
Taxes other than Income Taxes	\$5	\$20	<b>\$32</b>
<b>Operating Income</b>	<b>\$7</b>	<b>\$36</b>	<b>\$107</b>
Carrying Costs Income	\$1	—	—
Allowance for Equity Funds Used During Construction	\$14	\$30	<b>\$45</b>
Interest Expense	(\$3)	(\$10)	<b>(\$23)</b>
<b>Income Before Income Tax Expense</b>	<b>\$19</b>	<b>\$56</b>	<b>\$129</b>
Income Tax Expense	\$17	\$29	<b>\$63</b>
Equity Earnings of Unconsolidated Subsidiaries	\$41	\$53	<b>\$85</b>
<b>Net Income</b>	<b>\$43</b>	<b>\$80</b>	<b>\$151</b>
Net Income Attributable to Noncontrolling Interest	—	—	—
<b>Earnings Attributable to AEP Common Shareholders</b>	<b>\$43</b>	<b>\$80</b>	<b>\$151</b>

Year ending December 31.

## Energy Policy

Many diverse 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 and sustainable manner over the long term.

## ***National Policy***

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 abundant and becoming more cost competitive with traditional fuel sources. 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 resource planning 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.

We believe the following elements are essential to a national policy that will actually move the country forward:

- **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. Research and development for low emission, high reliability fossil and nuclear technologies should be a priority.
- **Investing in infrastructure and developing transmission:**  
In addition to environmental compliance costs, the electric utility industry will need to make significant investments to refurbish and replace existing infrastructure and to build new facilities to meet the nation’s future energy needs as well as accommodate the significant number of coal plant retirements that are forthcoming. 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 electricity services provided, including use of the grid.
- **Creating rational energy and environmental regulations:**  
Because Congress has not been able to enact legislation, the [U.S. Environmental Protection Agency](#) (EPA) is using what it believes to be its authority under existing environmental laws to adopt new regulations that will impact this industry over the near and long-term. 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 may be required to comply with pending EPA regulations.

# Gas/Electric Market Harmonization

As new environmental rules limit the use of coal for electric generation, many observers assume we will switch to natural gas, but it's not that simple. While some new gas plants are being built to replace that base load generation, significant transmission upgrades are needed in order to reroute power and ensure grid reliability when the coal units go offline. Over \$3 billion of transmission upgrades are now under construction in the PJM

Interconnection region alone in order to maintain reliability standards.

## AEP Fuel Usage – Vertically Integrated Utilities

	2012	2013	2014*
Coal/Lignite	71%	75%	<b>72%</b>
Natural Gas	17%	13%	<b>11%</b>
Nuclear	11%	11%	<b>16%</b>
Hydroelectric & Other**	<1%	<1%	<b>1%</b>

\* 2014 does not include AEP Generation Resources

\*\* Does not include purchase power agreements

In addition, there are infrastructure and scheduling challenges between the natural gas pipeline system and the electric grid. As the electricity sector relies more heavily on natural gas for power generation, this growing interdependency presents challenges as well as opportunities.

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 maintaining reliability or minimizing consumer costs. This issue has lingered for two decades but has only recently come to the forefront of energy policy discussions. Read more about this issue in our white paper, [“Gas-Electric Harmonization: An AEP perspective.”](#)

## Generation Reliability in Ohio

A legal requirement to separate AEP's generation assets from its transmission and distribution assets in Ohio made the energy they produce subject to market prices starting in 2014. Historically, regulated utility rates have provided a hedge for customers, protecting them from the volatility of market prices.

A significant amount of generation in the state of Ohio will be retired by mid-2015, turning the state into a large importer of energy for the foreseeable future. Current market conditions are such that even environmentally compliant plants may be forced to shutter for economic reasons, resulting in Ohio's reliance on other states for energy.

In response, AEP Ohio filed two requests with the Public Utilities Commission of Ohio (PUCO) for the establishment of a Purchase Power Agreement (PPA) rider and for the authority to either collect or credit to customers the financial effect of selling the output of several Ohio generating units under the requested PPA rider. The goal of the PPA construct is to provide customers with more stable electricity



prices during periods of market volatility while supporting the economic viability of Ohio's generation, which is at risk due to the numerous challenges in the current PJM market construct. Without this agreement, Ohio is facing a period of unprecedented uncertainty related to the future supply of low-cost reliable energy.

The PUCO took a significant step forward in approving the creation of the PPA Rider, but has not yet authorized the inclusion of any of the requested generating assets in retail rates. Some of our stakeholders have opposed the proposed plan. They believe that the proposed plan is designed to keep coal plants open and will depress market prices, thereby preventing investment in new generation within the state of Ohio. However, AEP Ohio estimates, based on a 10-year projection, the agreement would provide significant incremental cost-saving benefits for customers. And, it would provide for a better economic growth platform for Ohio in the form of more stable electricity prices and would ensure the continued benefits of having local generation resources.

## Inland Waterways

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 U.S. Army Corps of Engineers, which maintains the waterways.



According to the Congressional Research Service, only one lock along the Ohio River has received funding to be replaced through the 2016 fiscal year. The Corps predicts that total domestic freight traffic is expected to increase by approximately 70 percent by 2020 yet, lock unavailability and delays have more than doubled over the past decade.

Why does this matter so much to AEP? Through our [River Operations business unit](#), we transported 69 million tons of cargo over these waterways in 2014 – and more than 44 million tons of that cargo was transported on the Ohio River Basin, serving many of our power plants.

Five major lock closures in 2014 that resulted in 319 days of delay contributed to significant delays in delivering commodities, creating financial risk. We take action 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.

AEP continues to support the 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 included parts of the capital development plan and important process reforms – Water Resources Reform and Development Act of 2014 – became law in June 2014. Legislation to increase the fuel charge also passed 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.

## **Managing Risk**

We are faced with an array of risks, many of them 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 investors.

### ***How we Manage Risk***

Our enterprise risk management process continuously evaluates our levels of acceptable risk based on internal targets and guidelines, external environment and 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.

We implemented a new tool to quantify the risks associated with our competitive businesses. The tool simulates market prices, various components of the generation portfolio and other contract variables to produce risk measures, such as gross margin and cash flow at risk. In addition, stress test and hedge sensitivities are used when analyzing the financial risks of the business.

We also started a commercial compliance program, which builds on our existing control framework and organizational experience to comply with multiple regulations, including those issued by the Federal Energy Regulatory Commission and the Commodities Futures Trading Commission. Primary enhancements include mandatory compliance training for commercial trading functions, a defined policy and organizational structure, and surveillance and monitoring of transactions. These enhancements further mitigate the risks of a potential violation.

### ***Risk Governance***

AEP's Enterprise Risk Oversight (ERO) 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. To further the process of identifying, evaluating and understanding risks, the ERO facilitates business unit risk assessments. 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 could impact the company's goals. These are monitored, reported and discussed on a regular basis with the Audit Committee of the AEP Board of Directors.

## Cyber and Physical Security

Our dependence upon information technology and telecommunications systems to ensure reliability of the electric power grid makes cyber and physical security and data privacy critical priorities for our industry. Like all utilities, AEP collects and maintains data in order to provide service to customers. We continuously work to protect the confidentiality of customer information and to prevent unauthorized use.

Several high profile attacks affecting the financial, healthcare, retail and entertainment industries demonstrate the potential impacts of the threats. As these events become known, we continually assess our own cybersecurity tools and processes to determine where we might need to strengthen our defenses.

At AEP, we maintain an array of programs, procedures and processes to help us identify emerging threats, strengthen our defenses, minimize the risk of a security breach, react effectively when it does occur, and protect intellectual and physical property.

## Cyber Security

The electric grid is one of the most complex and important physical assets in the United States because all other sectors of the economy rely upon it to deliver essential services. Protecting those assets is increasingly important and challenging. 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.



AEP benefits from strong executive sponsorship for all cybersecurity programs. An Enterprise Security Advisory Council, with representatives from each business unit and security management, is responsible for governance, implementation and operation of AEP's cybersecurity program. In addition, the management of physical and cyber security report monthly to the chief executive officer, chief operating officer, chief risk officer and other executives on

current and emerging security events and trends.

We protect our system by working with government, utility industry and non-utility industry partners to coordinate our efforts, sharing information and best practices, and staying current with emerging threats

and risks. Further, we take actions to protect AEP's information systems, technology and data that support our assets, infrastructure and business networks.

As we push cyber security deeper into the supply chain, we work with our vendors to help them build cybersecurity protections into their services, product design and manufacturing processes. In partnership with our procurement team, we developed a set of security requirements for our vendors that help us better protect the grid.

## ***Regulatory Framework***

The Federal Energy Policy Act of 2005 gave the Federal Energy Regulatory Commission (FERC) the authority and responsibility to oversee the reliability of the bulk power system. Given this authority, FERC designated the North American Electric Reliability Corporation (NERC) to be the nation's Electric Reliability Organization (ERO) to establish, monitor and enforce mandatory reliability standards. These mandatory standards include, but are not limited to, Critical Infrastructure Protection (CIP) cybersecurity standards. The first version of the CIP standards became enforceable in 2008 when FERC approved them and concurrently directed NERC to develop modifications to address specific concerns.

In 2016, a new version of the CIP standards becomes enforceable. This version expands protections against physical and cyber-attacks on the power grid. In 2015, NERC is expected to file another new version of the CIP standards (version 7) with FERC that will seek to further enhance the industry's approach to infrastructure protection against physical and cyber-attacks.

AEP complies with cybersecurity standards for the Donald C. Cook Nuclear Plant through the Nuclear Regulatory Commission (NRC). The NRC 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 cybersecurity regulations.

## ***Information Sharing***

AEP partners with a number of other utilities and the Edison Electric Institute to keep legislators and regulators informed about 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.

Our efforts to strengthen our threat detection and prevention capabilities go well beyond compliance and we have been an industry leader in promoting private sector cooperation through our Cyber Security Operations Center (CSOC) threat and information sharing program. This was initially designed as a pilot cyber threat and information-sharing center specifically for the electric sector and today is in full operation. The CSOC works with a leading defense contractor to leverage its experience and capabilities.

In 2014, the Department of Energy (DOE), as part of its Cybersecurity Risk Information Sharing Program, invested nearly \$2 million in a platform that provides early warning of potential cyberattacks. AEP participates in this program. Since 2010, the DOE has invested more than \$150 million in cybersecurity research, development and commercialization projects in which AEP has participated.

We work with a consortium of utilities across the country and the Electricity Subsector Coordinating Council (ESCC), a CEO-led industry group that meets three times a year with senior officials from the DOE, Department of Homeland Security, Department of Defense, White House, FERC and the Federal Bureau of Investigation. Outcomes have included deployment of tools and technologies to improve situational awareness and to develop coordinated plans to respond to an attack on the grid.

AEP also participates and shares threat information with our sector's threat sharing organization, the Electricity Sector Information Sharing and Analysis Center (ES-ISAC). The ES-ISAC establishes situational awareness, incident management, coordination and communication capabilities within the electricity sector through timely, reliable and secure information exchanges. The ES-ISAC, in collaboration with the DHS, DOE and the ESCC, serves as the primary security communications channel for the electricity sector and enhances the ability of our industry to prepare for and respond to cyber and physical threats, vulnerabilities and incidents.

All AEP employees must complete Security Awareness Training annually, covering physical and cybersecurity. In addition, we frequently communicate and educate our employees about their risk of being targeted. The training gives employees information and tools to help 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.

AEP will again participate in the GridEx III exercise in November 2015. Sponsored by NERC, the exercise brings together over 200 organizations, including NERC, industry and government agencies and participants from Canada and Mexico. GridEx is an example of the industry's ongoing efforts to be proactive on cyber and physical security. It is the largest, most comprehensive effort addressing security by the electricity industry to date and serves as an example of the commitment of stakeholders to continuously improve physical security and cybersecurity defenses.

## Physical Security

In 2014, FERC took an unprecedented step toward protecting the physical security of the most critical assets of the nation's bulk power system. The agency approved a new physical security reliability standard that was proposed by NERC. The new standard "requires owners and operators of the bulk power system to perform a risk assessment of their systems to identify critical facilities; evaluate potential threats to, and vulnerabilities of, those facilities; and develop and implement a security plan to protect against attacks on those facilities."

The standard was developed following an incident in California in which a major substation was damaged by gunfire. The new standard requires owners and operators of transmission facilities to

protect critical transmission stations, substations and control centers whose damage by physical attack could threaten the reliability of the system.

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. In addition, we believe that resiliency is part of a robust mitigation strategy. To that end, we are investing in building more redundancy in our transmission grid and maintaining spares of critical equipment.



The new standards are important to protect critical infrastructure from physical threats but will increase the cost of compliance as additional investments will 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.

## Business Continuity

Major disruptions to business are why companies rely on detailed plans that allow them to keep functioning, even in a diminished capacity, while recovery occurs. In 2014, a significant event occurred that put AEP's business continuity plans to the test and led to new procedures and practices, replacement of aging infrastructure and increased use of redundant systems.



On February 28, 2014, an underground network in downtown Columbus caught fire, cutting off power to a portion of the city's downtown district. The power outage was the catalyst for a series of events that affected almost every aspect of AEP's operations. Phones, email, access to customer records, and other IT systems were disrupted.

Following the Columbus event, AEP conducted an inspection of its network facilities across its system. During this inspection period, subsequent underground network incidents occurred outside of Ohio, highlighting the significant risk posed by aging infrastructure – an issue that is not unique to AEP. Fortunately, there were no injuries and no significant damage in all of these incidents. As part of remediation efforts, AEP plans to invest more than \$300 million in upgrades and enhancements between 2014 and 2018 to ensure the reliability of its 16 underground networks.



In addition, AEP has launched a project to install an underground network monitoring system that will give our operating companies greater insight into the status and health of the underground networks. The Underground Network (UGN) monitoring project will change the way AEP collects, communicates and uses data to support the Operations, Engineering and Planning functions of the operating companies' critical UGN systems. Specifically, the system is expected to provide real-time monitoring of the status of AEP's underground network assets.

In addition, we built a new Tier III data center that will be in use by the end of 2015. Tier III data centers do not require shutdowns for equipment replacement and maintenance. We also implemented a new, flexible communication system to enable more timely communications with our employees.

## Capacity Markets

A significant financial risk for AEP is the outcome of annual Reliability Pricing Model (RPM) capacity auctions. The auctions determine the prices AEP will be paid for its generating capacity. Traditionally volatile, the PJM capacity auctions determine prices paid for capacity three years in advance. The May 2015 auction, which will now take place in late July or early August due to a delay by the Federal Energy Regulatory Commission (FERC), following a request by PJM, will cover 2018-2019 capacity needs. Capacity payments represent an important portion of a plant's income. AEP Generation Resources may experience increased revenue and earnings volatility due to its exposure to PJM's capacity market in addition to fuel and power prices.

The May 2014 auction covered the delivery period of June 2017 through May 2018. In the 2014 auction, the capacity price cleared at \$120 per megawatt-day, up from \$59/MW-day the prior year. Much of this increase in price was due to a series of changes in the capacity auction rules in late 2013 and early 2014. The changes were directed at assuring more reliability performance for demand response resources, and ensuring the imports into PJM, which were sold as capacity, could be relied on during emergency events.

In 2013, the flawed auction structure caused the clearing price to drop to half of what it had been the previous year. In response, AEP organized a group of utilities intent on reforming some of those flaws. Referred to as the Utilities Coalition, the group includes AEP, Dayton Power & Light, First Energy, Buckeye Power and Eastern Kentucky Power Cooperative. Together, these companies represent more than 40 percent of the generation in the

### PJM Capacity Auction

PJM Auction Period	PJM Base Auction Price (per MW-day)
June 2013 - May 2014	<b>\$27.73</b>
June 2014 - May 2015	<b>\$125.99</b>
June 2015 - May 2016	<b>\$136.00</b>
June 2016 - May 2017	<b>\$59.37</b>
June 2017 - May 2018	<b>\$120.00</b>

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

PJM Interconnection region. The Coalition has been successful in influencing changes to four major auction flaws. A fifth issue is still being reviewed by the Federal Energy Regulatory Commission.

The result is that the changes made so far, though not perfect, have improved reliability and capacity prices. But it is still far from being a stable market. The key areas tackled by the Coalition were:

- Import limits. Previous rules allowed unlimited imports to bid into the auction, even without firm transmission. FERC accepted PJM's proposed changes to those rules, which now require firm transmission and other actions to assure import reliability.
- Demand response (DR) megawatt (MW) caps. FERC accepted recommendations to place reasonable MW limits on summer-only DR resources.
- Demand response operational issues. FERC accepted recommendations to allow PJM more flexibility and shorter lead times to use DR resources for reliability.
- Slope of demand curve. FERC accepted PJM's proposal, supported by the Coalition, to flatten the demand curve used in the auction. This should improve price formation and reduce volatility starting in 2018 and 2019.
- Incremental auctions. The PJM tariff still retains certain provisions that allow certain entities to make speculative bids into the auction, artificially suppressing clearing prices. This issue remains open even into 2015.

Despite the one-year improvement in the clearing price in 2014, AEP still has deep concerns about the auction process and the resulting negative reliability impacts it may have over the long term.

Our Coalition believes the capacity auction should create long-term price signals for all resources and compensate generators for investing in generating capacity. 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 generation, much less encourage the construction of new plants.

## Capacity Performance Filing

In December 2014, PJM filed with FERC a new type of capacity product, the Capacity Performance product (CP). This primarily addresses the structural flaws highlighted by the 2014 polar vortex. According to the filing, PJM intends to raise the level of capacity performance and reliability during emergencies by:

- Assessing higher penalties for non-performance;
- Allowing higher offers into the auction without fear of manipulation determinations by the market monitor; and,
- Requiring generators to ensure they can perform reliably during emergencies, with adequate fuel and operational abilities.

PJM's Capacity Performance proposal is redefining how capacity is viewed and how it can be offered into the market. However, there are a lot of unanswered questions as to whether PJM's new proposal strikes the appropriate balance between risk and reward.

These initiatives were debated with PJM's stakeholder group (with AEP support) and filed at FERC in late 2014.

## **Generation Transformation**

In 2015 and 2016, AEP's power generation business will undergo a major transformation. During this time, AEP will retire approximately 6,500 megawatts (MW) of coal-fueled capacity to comply with new environmental regulations, and to respond to weak electricity demand growth, aging infrastructure and continued competition from natural gas, among other reasons. The shift will transform our generation fleet, reduce impacts to the environment and create new opportunities to develop generation and transmission resources.

## **Coal Unit Retirements**

The costs associated with decommissioning the coal units, retrofitting or refueling of other units, purchasing power, or developing future generation or transmission resources will have significant rate impacts for customers. In addition, the loss of significant base load generation creates greater electric grid reliability risks that must be mitigated by strengthening and expanding the current transmission system. These drivers require us to continue to plan, design and implement cost-effective and sustainable strategies for managing our generation and transmission resources.

Compliance with environmental regulations has dominated our capital investment strategy for more than two decades. 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 \$2.8 billion to \$3.3 billion between 2013 through 2020. These amounts include investments to refuel some of our coal units to natural gas. In addition, cost estimates will change depending on the to-be-determined scope of requirements, implementation timeline and compliance flexibility of future regulatory programs.

## **Reliability Concerns**

The magnitude and timing of planned generating unit retirements across the AEP system and throughout the utility industry introduces a number of concerns, including those related to maintaining the reliability and stability of the electric grid, especially during periods of extreme demand. We are concerned with the process and timing to not only evaluate these concerns, but also to plan, design and implement cost-effective solutions to mitigate any significant risks once the planned retirements occur. We saw how critical many of these units were to the overall system during severe cold events in the winters of 2014 and 2015. During these periods of prolonged cold temperatures across broad regions of the country, operation of these units was increased and they were heavily relied upon to meet energy demands, including within regional transmission organizations that AEP operates.

The risk to reliability could potentially be compounded if the EPA decides to finalize standards in their current form to reduce carbon emissions from the electric sector. Among other concerns, this regulation could effectively remove additional coal units from service. Having a diverse generation resource mix is important to ensuring reliability of the grid. But, the premature retirement of additional coal units hurts our ability to achieve this fuel diversity and puts reliability at risk. When major changes are made to generation, we must have adequate time to assess the reliability impacts from both a generation and transmission perspective. This reliability assessment is critical to allow us to identify risk and address it cost-effectively.

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

Company	Plant Name & Unit	State	Generating Capacity	Expected Retirement
Appalachian Power	Clinch River Plant Unit 3	Virginia	235	Mid-2015
Appalachian Power	Glen Lyn Plant	Virginia	335	Mid-2015
Appalachian Power	Kanawha River Plant	West Virginia	400	Mid-2015
Appalachian Power/AEP Generation Resources	Phillip Sporn Plant	West Virginia	600	Mid-2015
Indiana Michigan Power	Tanners Creek Plant	Indiana	995	Mid-2015
Kentucky Power	Big Sandy Plant Unit 2	Kentucky	800	Mid-2015
AEP Generation Resources	Kammer Plant	West Virginia	630	Mid-2015
AEP Generation Resources	Muskingum River Plant	Ohio	1,440	Mid-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>6,533</b>	

## Plant Decommissioning

As coal units are taken off line, a new chapter in plant decommissioning begins. For over two years a plant decommissioning team from our Generation, Fuels, Environmental Services, Corporate Communications and Human Resources business units worked together to develop a plan and processes to retire coal units and work with displaced employees to help them find new jobs. The plan ensures the plant retirements are completed safely and in a manner that complies with all environmental requirements. In addition to the environmental monitoring that will be required at the plant sites well into the future, and final disposition of buildings and equipment, there will be long-term social and community impacts.

Our concern for our employees led to a comprehensive staffing plan, developed in 2012, to provide support, training and job opportunities in anticipation of unit retirements. When the units are closed in mid-2015, more than 450 employees will be displaced. Most will retire, with others either taking jobs elsewhere within AEP or moving on to other endeavors with the aid of severance and outplacement services.

Although most of the units will be retired in mid-2015, the disposition of the physical buildings, equipment and landfills and ash ponds will continue to be managed into the future. To ensure continued compliance with all safety, security, environmental and regulatory requirements, we plan to maintain oversight of each location for these efforts. We will continue to investigate potential options for the retired facilities such as reuse of the properties by other industries, sale of the structures and equipment for spare parts or scrap, and sale of the properties. We will also be exploring demolition for each site.

Our plants have historically been 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. Our Economic & Business Development team is working and investing in communities to promote economic growth throughout our service territory, including where our retiring plants are located.

There also are financial ramifications for AEP resulting from coal unit retirements. We expect to recover the remaining net book value of our retired regulated generating assets through the normal regulatory process. However, we were not able to recover the full cost of the retiring units in our competitive generation business and took pretax impairment charges totaling \$441 million during 2012 and 2013. In addition to asset cost recovery, there are expenses associated with retiring coal units primarily related to asbestos removal, ash pond closure and other mitigation efforts such as closing water intake tunnels to the plants.

## **Plant Retrofits and Refuels**

One way to comply with new environmental regulations is to retrofit or refuel coal units, allowing them to continue providing the reliable electricity they have been producing for decades. To comply with impending regulatory requirements, including the Mercury and Air Toxics Standards and regional haze rule, we will retrofit with new or additional environmental controls or refuel with natural gas more than 7,200 MW of generating capacity.

In Kentucky, we are converting the Big Sandy Plant's 278 MW Unit 1 to burn natural gas instead of coal. The conversion will cost up to \$60 million which will allow part of the plant to remain open, preserving several jobs. In addition to Big Sandy's Unit 1, two units at the Clinch River Plant in Virginia will also be refueled to natural gas.

Our Southwestern Electric Power Company (SWEPCo) is installing additional environmental controls at four generating facilities to maintain critical reliability in three states and to meet stringent new environmental regulations. The projects include the coal-fueled Flint Creek and Welsh Power Plants and the lignite-fueled Pirkey and Dolet Hills Plants.

In Arkansas, the 528 MW Flint Creek Plant is installing a dry flue gas desulfurization (DFGD) scrubber system, a fabric filter technology and an Activated Carbon Injection (ACI) system to reduce emissions. The facilities will be in service by the end of May 2016; the Arkansas Department of Environmental Quality granted a one-year extension from the 2015 federal compliance deadline for MATS to allow this construction to be completed. SWEPCo's share of the \$408 million project is \$204 million. SWEPCo owns 264 MW and operates the plant.



In Texas, SWEPCo is investing approximately \$410 million to retrofit its Welsh Power Plant Units 1 and 3 (528 MW each) with an ACI system to reduce mercury emissions, along with new fabric filter technology that reduces particulate matter and mercury emissions. The facilities will be in service in 2016; the Texas Commission on Environmental Quality has granted a one-year extension beyond the April 2015 MATS compliance deadline. Also, new controls have been installed at the Pirkey Plant in Texas (SWEPCo owns 580 MW and operates the plant) and the Dolet Hills Plant in Louisiana (SWEPCo owns 257 MW of the plant).

In Oklahoma, a U.S. EPA-approved state implementation plan will require Public Service Company of Oklahoma (PSO) to retire one of two coal-fueled electric generating units at its Northeastern Station in 2016 to comply with regional haze rules. PSO will replace the capacity from that unit with power purchased from an Oklahoma natural gas-fueled facility. In addition, PSO is required to install emission controls on the second coal-fueled unit at Northeastern Station by 2016 and later retire that unit in 2026. Replacement power for that facility will be determined by evaluating the best options for PSO customers at that time.

In Indiana, the Rockport Plant installed emission controls on its coal units. This project uses dry sorbent injection (DSI) technology, which will provide significant savings to customers of our Indiana Michigan Power Company (I&M). The traditional dry scrubber would have cost an estimated \$1.4 billion, but I&M investigated alternatives and ultimately identified this lower cost technology.

#### AEP Competitive Environmental Investments

Operating Company	Plant Name & Unit	MW	Type of Retrofit
AEP Generation Resources	Conesville Plant Units 5 & 6	810	Gore
AEP Texas North Company	Oklauion Plant*	355	ACI, CaBr Injection
<b>Total Competitive Retrofits</b>		<b>1,165</b>	

\* Purchase Power Agreements; Operated by Public Service Company of Oklahoma

## AEP Regulated Environmental Investments

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

\*Existing Coal Plant 235 MW

\*\*Existing Coal Plant 278 MW

ACI (Activated Carbon Injection)

DSI (Dry Sorbent Injection)

FGD (Flue Gas desulfurization)

SCR (Selective Catalytic Reduction)

## A Legacy of Reliable Power

In 2015 and 2016, AEP will retire approximately 6,500 megawatts (MW) of coal-fueled generating capacity as part of our plan for complying with the new federal Mercury Air Toxics Standards for existing power plants. For decades, these units have supplied reliable, affordable power to millions of customers, supported local economic growth, provided local and state tax revenue that supported education, public safety and other services, and provided well-paying jobs for thousands of people. We thank the leaders and citizens of these communities for the opportunity to live and grow with them.

## Powering the Future

The resources and generating technologies used to produce and distribute electricity in the future will blend the traditional with the alternative. AEP's fuel portfolio has steadily become more diverse and balanced as we increased our use of natural gas and renewable resources, as well as energy efficiency.

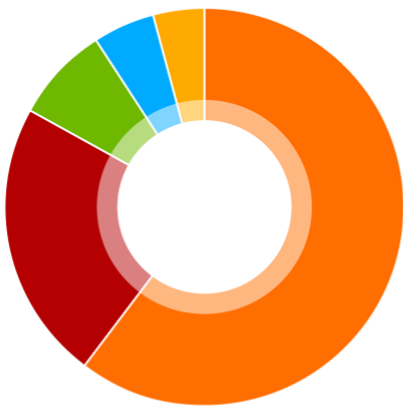
Since 2004, AEP has added nearly 5,000 MW of natural gas generating capacity to our portfolio and we have secured long-term contracts for 2,183 MW of wind and 10 MW of solar generation. Currently, AEP is developing its first 15.7 MW utility-scale solar project in Indiana. In addition, we are investing in our two nuclear units at the Donald C. Cook Nuclear Plant to enhance performance during its extended life. These are among the many efforts under way to increase the diversity of our generating fleet and provide greater flexibility to adjust to changing fuel prices and market conditions.

We project AEP’s generating capacity to shift from approximately 61 percent coal and 23 percent natural gas in 2014 to approximately 48 percent coal and 25 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.

The values shown for energy efficiency and demand response represent anticipated incremental growth of these programs that are over-and-above energy efficiencies anticipated from emerging federal codes & standards, which are already embedded in our load forecast. In addition, our energy efficiency and demand response programs generally reflect AEP offering an incentive to simply advance the adoption of a more efficient technology; actual growth is driven by our state regulators. Other factors impacting this include AEP’s low retail rates, low load growth and low avoided cost.

### 2015 AEP Owned Generating Capacity<sup>1</sup> by Fuel (42,715 MW)

- **60%** Coal/Lignite
- **23%** Natural Gas
- **8%** Hydro, Wind, Solar & Pumped Storage<sup>2</sup>
- **5%** Nuclear
- **4%** Energy Efficiency/Demand Response<sup>3</sup>



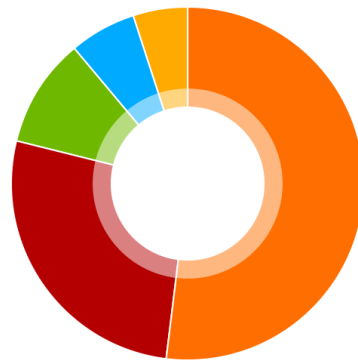
<sup>1</sup> Capacity includes AEP’s ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Winter Net Real Power Capability as of January 2014.

<sup>2</sup> Includes installed capacity, not the actual output.

<sup>3</sup> Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity.

### 2016 Projected AEP Owned Generating Capacity<sup>1</sup> by Fuel (37,829 MW)

- **51%** Coal/Lignite
- **28%** Natural Gas
- **11%** Hydro, Wind, Solar & Pumped Storage<sup>2</sup>
- **6%** Nuclear
- **5%** Energy Efficiency/Demand Response<sup>3</sup>



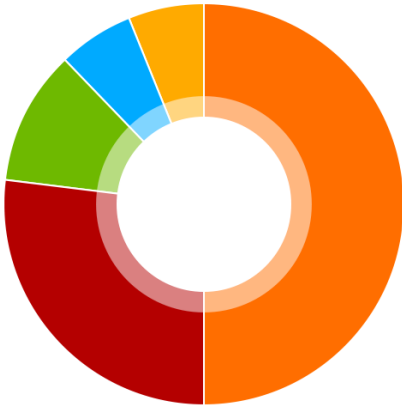
<sup>1</sup> Capacity includes AEP’s ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Winter Net Real Power Capability as of January 2014. Includes approx. 5,600 MW coal retired (Glen Lyn Units 5 & 6, Muskingum River Units 1-5, Clinch River Unit 3, Tanners 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).

<sup>2</sup> Includes installed capacity, not the actual output.

<sup>3</sup> Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity.

## 2020 Projected AEP Owned Generating Capacity<sup>1</sup> by Fuel (37,703 MW)

- **49%** Coal/Lignite
- **28%** Natural Gas
- **11%** Hydro, Wind, Solar & Pumped Storage<sup>2</sup>
- **6%** Nuclear
- **6%** Energy Efficiency/Demand Response<sup>3</sup>



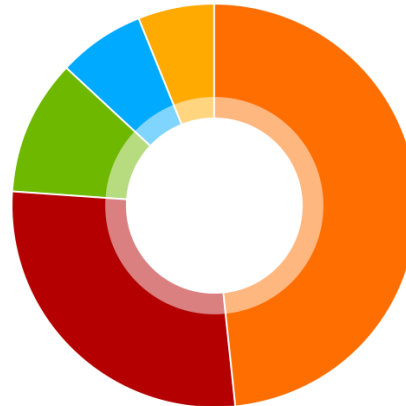
<sup>1</sup> Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Winter Net Real Power Capability as of January 2014. Includes retirement of Northeastern Unit 4 (470 MW) and Welsh Plant Unit 2 (528 MW) between 2016 and 2020.

<sup>2</sup> Includes installed capacity, not the actual output.

<sup>3</sup> Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity.

## 2026 Projected AEP Owned Generating Capacity<sup>1</sup> by Fuel (37,565 MW)

- **48%** Coal/Lignite
- **25%** Natural Gas
- **15%** Hydro, Wind, Solar & Pumped Storage<sup>2</sup>
- **6%** Nuclear
- **6%** Energy Efficiency/Demand Response<sup>3</sup>



<sup>1</sup> Capacity includes AEP's ownership interest in OVEC/IKEC and purchased power agreements that include capacity attributes. Winter Net Real Power Capability as of January 2014. Includes retirement of Northeastern Station Unit 3 between 2020 and 2026.

<sup>2</sup> Includes installed capacity, not the actual output.

<sup>3</sup> Energy efficiency/demand response capacity does not represent a physical asset but avoided capacity.

## Natural Gas

According to the American Petroleum Institute's (API) "The State of American Energy Report 2015," demand for natural gas in the power sector is expected to be the biggest driver of growth in the natural gas industry this year. As coal units are retired across the United States, natural gas is capturing a growing share of the resource mix for base load power generation. The electric industry continues to be the natural gas industry's largest customer.

In 2014, AEP's total system consumed over 146 billion cubic feet (bcf) of natural gas to generate electricity to serve our customers. While AEP's natural gas-fired generating capacity has increased over

the past several years with the addition of two combined cycle gas plants, implementation of the Southwest Power Pool market and changes to how AEP's natural gas fleet is dispatched resulted in decreased use in 2014.

### Natural Gas – AEP System Plants

	2012	2013	2014
Total Delivered (billion cubic feet)	220.0	158.3	<b>146.1</b>
Average Price Per MMBtu of Purchased Natural Gas	\$3.01	\$4.01	<b>\$4.60</b>

A game changer for natural gas has been shale gas development, which provides significant opportunities for economic growth and a secure energy future for America. According to API, shale gas development has helped the U.S. vault past Russia to

become the world's largest natural gas producers, and the U.S. is projected to become a net exporter within the next decade. Several major shale gas formations are located, in part, across eight of 11 states in AEP's service territory, including the fastest growing areas: the Utica and Marcellus in Ohio and West Virginia, the South Texas Eagle Ford formation and the Permian Basin in West Texas.

## Gas/Electric Market Harmonization

As new environmental rules limit the use of coal for electric generation, many observers assume we will switch to natural gas, but it's not that simple. While some new gas plants are being built to replace that base load generation, significant transmission upgrades are needed in order to reroute power and ensure grid reliability when the coal units go offline. Over \$3 billion of transmission upgrades are now under construction in the PJM

Interconnection region alone in order to maintain reliability standards.

In addition, there are infrastructure and scheduling challenges between the natural gas pipeline system and the electric grid. As the electricity sector relies more heavily on natural gas for power generation, this growing interdependency presents challenges as well as opportunities.

### AEP Fuel Usage – Vertically Integrated Utilities

	2012	2013	2014*
Coal/Lignite	71%	75%	<b>72%</b>
Natural Gas	17%	13%	<b>11%</b>
Nuclear	11%	11%	<b>16%</b>
Hydroelectric & Other**	<1%	<1%	<b>1%</b>

\* 2014 does not include AEP Generation Resources

\*\* Does not include purchase power agreements

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 maintaining reliability or minimizing consumer costs. This issue has lingered for two decades but has only recently come to the forefront of energy policy discussions. Read more about this issue in our white paper, "[Gas-Electric Harmonization: An AEP perspective.](#)"

# Coal

The combination of stringent new environmental regulations, increased development of other generation technologies and evolving market conditions are driving a reduction in the use of coal as a fuel source for power generation in the U.S. Nevertheless, coal remains the biggest domestic source of fuel for generating electricity. While coal will continue to be important for the foreseeable future, a balanced resource portfolio of diverse generation resources is needed to maintain affordable and reliable supplies of electricity for our customers.

The 600-MW John W. Turk, Jr., Power Plant, in Arkansas, reflects our continued commitment to the use of coal as part of a balanced portfolio of generation resources. The Turk Plant, which began commercial operation in late 2012, is the only operating power plant in the United States to use ultra-supercritical technology 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.

### Coal - AEP System Plants

	2012	2013	2014
Average Cost Per Ton Delivered	\$49.22	\$51.31	<b>\$49.99</b>
Total Delivered (millions of tons)	60	54	<b>59</b>
Total Consumed (millions of tons)	57	55	<b>58</b>

In 2014, SWEPCo was recognized for its leadership in deploying advanced technologies that deliver ultra-low emissions by Peabody Energy’s inaugural Advanced Energy for Life “Clean Coal Awards.” The honors recognize the best environmental performance achieved among U.S. coal power plants in 2014 based on key emission rates. The award recognized Turk Plant as the most efficient coal plant in the country based on carbon dioxide efficiency.

We are very proud of our accomplishment with the Turk Plant. And while the Turk Plant stands as a state-of-the-art representation of our technology leadership, increasing environmental regulatory pressures present significant challenges for the development of future coal-fueled generation. However, we must continue to pursue and develop technology solutions to address these challenges so that coal will remain a key component of a balanced portfolio of resources.

We continue to strongly advocate for the research and development of new and transformational technologies that will be ready for deployment post-2025, both in the U.S. and abroad, to significantly reduce global carbon emissions and enable coal’s continued use in a low-carbon environment.



# Renewable Energy

According to the U.S. Energy Information Administration (EIA), total renewables consumption for electric power and heat generation will increase by 4.5 percent in 2015. Electricity generation from wind alone is expected to contribute 4.7 percent of total electricity generation in 2015.



With significant growth in renewable energy in the U.S. over the past decade, AEP's vast transmission network serves a critical function in connecting these resources and delivering them to customers across the country. Over 7,500 MW of renewable generation is interconnected via AEP's transmission system today, and considerably more is in the queue for the future. AEP has also received approval from RTOs for over

\$2.2 billion in new regional transmission projects intended to directly support renewable resource integration.

Seven 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 and Virginia. The requirements in Indiana, Oklahoma and Virginia are voluntary whereas the others are mandatory. On Feb. 3, 2015, West Virginia's governor signed legislation repealing that state's Alternative & Renewable Energy Portfolio Act. In Indiana, the state legislature approved additional legislation to further define the original framework.

During the last decade, AEP has been steadily increasing its renewable energy portfolio through renewable energy power purchase agreements. At the end of 2014, our operating companies were receiving deliveries of renewable energy from projects with long-term contracts for 2,183 MW of wind (which includes 200 MW added at the end of the year for I&M) and 10 MW of solar power. Recent advancements in technology have allowed for significant gains to be realized in the efficiencies and cost-effectiveness of solar energy. As solar energy becomes more viable and customers are more interested in it as a resource, now is the right time to move forward with a utility-scale solar power pilot project. This project is an opportunity that helps us to innovate to serve our customers in new and better ways and offer them the choices they want.

While solar growth has historically been concentrated in customer-sited distributed generation installations, utility-scale solar capacity slightly more than doubled in 2013. The EIA expects that utility-scale solar capacity will nearly double again between the end of 2013 and the end of 2015.

On February 4, 2015, AEP's Indiana Michigan Power Company (I&M) received approval to build a Clean Energy Solar Pilot Project from the Indiana Utility Regulatory Commission. The pilot project will consist of four to five separate solar facilities totaling 15.7 MW, most of which will be on property on or near existing and future substations. Locating them in this way helps to minimize the cost of delivering

the energy to the transmission grid. The addition of solar also meets the increasing interest of customers who want to use more renewable energy to meet their needs.

This is AEP’s first self-built utility-scale solar project and would further broaden the diversity of our generation sources in a logical, progressive and disciplined manner. Significantly, this project would give I&M and AEP hands-on experience in the design, deployment and operation of utility-scale solar projects, integrating it reliably into the PJM Interconnection transmission grid.

When the renewable projects that are under development and/or pending regulatory approval are added to AEP’s renewable portfolio, AEP will have a total of 2,715 MW to serve our regulated operating company customers, net of one wind contract (151 MW) that will expire at the end of 2015.

In 2014, Ohio and Indiana each passed legislation impacting their states’ mandated energy efficiency requirements. Ohio placed a two-year freeze on the mandated levels while a legislative committee reviews whether changes should be made. While this issue is resolved, AEP Ohio intends to continue to offer energy efficiency programs to its customers. Renewable contracts designed to meet the standard will also remain in place.

Indiana law set aside an energy efficiency mandate, statewide energy efficiency targets and the statewide third-party administrator program – all created by a prior regulatory order. The 2014 legislation allowed utilities to instead propose energy efficiency program levels to the regulators for approval. In 2015, the state legislature is poised to approve additional legislation to further define the original framework.

Overall, we expect renewable energy to become an increasingly larger piece of our energy portfolio across AEP.

**AEP’s Renewable Portfolio**<sup>1</sup> (nameplate capacity)

<b>Contributions by Regulated Operating Companies</b>	<b>MW</b>
AEP Ohio	<b>209.10</b>
Appalachian Power <sup>2</sup>	<b>375.00</b>
Indiana Michigan Power <sup>3,4</sup>	<b>465.70</b>
Kentucky Power <sup>5</sup>	<b>58.50</b>
Public Service Company of Oklahoma <sup>6,7,8</sup>	<b>1,288.50</b>
Southwestern Electric Power Company	<b>469.15</b>
<b>Total</b>	<b>2,714.75</b>

<sup>1</sup> Excludes hydro generating resources.  
<sup>2</sup> APCo from time to time sells a portion of the renewable energy credits (RECs) associated with its Beech Ridge (100.5 MW) and Grand Ridge (100.5 MW) contracts and replaces these REC sales with purchased RECs from other third-party renewable projects.  
<sup>3</sup> Includes the 200 MW wind contract that initiated deliveries to I&M on Dec. 23, 2014.  
<sup>4</sup> Includes I&M’s clean energy solar pilot project (15.7 MW) that is under development.  
<sup>5</sup> Represents a biomass contract (58.5 MW) that was approved by the Kentucky Public Service Commission.  
<sup>6</sup> Excludes one wind contract (151 MW) that will expire at the end of 2015.  
<sup>7</sup> Includes three wind contracts (599 MW total) that are expected to begin deliveries in January 2016.  
<sup>8</sup> PSO retains RECs associated with Oklahoma renewable service offerings, but sells RECs not used in Oklahoma service offering program.  
 As of March 2015

### AEP's Renewable Portfolio Standards by State

AEP Operating Company	State	Description of Standard(s)	Compliance Date(s)
Ohio Power	Ohio*	Mandatory Renewable Energy Standard – phased in starting at 0.5% and increasing to 12.5% by end of 2027. Mandatory Advanced Energy Standard – 12.5% by 2027. <i>Both of these requirements are frozen at 2014 levels, pending legislative review.</i>	2009 – 2024
Indiana Michigan Power	Michigan	Mandatory Renewable Energy Standard – phased-in program increasing to 10% by 2015.	2012 – 2015
Indiana Michigan Power	Indiana	Voluntary Renewable Energy Standard – phased-in program starting at 4% and increasing to 10%.	2013 – 2025
Appalachian Power	West Virginia	On Feb. 3, 2015, Governor Ray Tomblin signed House Bill 2001, repealing the West Virginia Alternative Renewable Energy Portfolio Act. However, the Commission's rules governing alternative renewable and portfolio standards remain in effect.	N/A
Appalachian Power	Virginia**	Voluntary Renewable Energy Program – phased in starting at 4% and increasing to 15% by 2025.	2010 – 2025
Public Service Company of Oklahoma	Oklahoma	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	Kentucky	No RPS	
Kingsport Power	Tennessee	No RPS	
Southwestern Electric Power Company	Texas	Mandatory Renewable Energy Standard – starting at 2,280 MW and increasing to 10,000 MW (statewide) by 2025.	2007 – 2025
Southwestern Electric Power Company	Louisiana	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
Southwestern Electric Power Company	Arkansas	No RPS	

\* Substitute Senate Bill 310, effective June 13, 2014, created a two-year freeze on renewable and EE/PDR standards in Ohio.

\*\* Wind and solar count double towards Virginia goals.

As of March 2015.

# Nuclear and Hydro

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 electricity to I&M customers. Cook's two units generate more than 2,100 MW to serve I&M customers. Together, the two units produce enough energy to power approximately 1.5 million homes and represent approximately 48 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.



In 2013, utility commissions in Michigan and Indiana granted I&M approval of its Life Cycle Management Project (LCM), enabling the plant to make necessary investments to continue operating effectively during the plant's license extensions. Ultimately, the goal for LCM is to replace or upgrade systems or components before they become obsolete or worn-out.

Since the 2011 Japanese earthquake, tsunami and subsequent nuclear accident at Fukushima, seismic analysis and the potential for damage to a U.S. nuclear plant from an earthquake has been under review. AEP's Cook Plant was among an initial group of 10 plants required to complete the analysis. The 10 plants, including Cook, must submit a detailed risk analysis to the NRC by June 30, 2017.

Hydroelectric power is another source of cost-effective energy. AEP operates 17 hydroelectric and pumped storage projects in five states. These projects produce approximately 850 MW of generation. In 2014, Appalachian Power Company (APCo) received new licenses from the Federal Energy Regulatory Commission (FERC) for its London, Marmet and Winfield hydroelectric facilities located on the Kanawha River in West Virginia. The new licenses extend the operations of these facilities by APCo through January 31, 2064. These facilities have a total capacity of 43.6 MW.

APCo also received FERC approval for an updated shoreline management plan for its Smith Mountain pumped storage generation project in Virginia. The plan describes how the company manages its relationship with the environment, property owners and the public outside of its primary function of generating power at both the Smith Mountain and Leesville hydroelectric facilities.

## Energy Efficiency

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.

Energy efficiency and demand response are tools that help meet state energy reduction goals as well as giving consumers tools to manage their energy use. In addition to partnering with customers to achieve higher levels of efficiency in their homes and businesses, AEP is also reducing energy consumption in our own operations.

Energy efficiency and demand response 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.

Starting in 2008, AEP ramped up efforts to reduce peak demand and energy consumption through energy efficiency and demand response programs. AEP’s operating companies have since implemented more than 100 programs across our service territory. From 2008 through 2014, our operating companies invested approximately \$700 million and achieved reductions in demand by over 1,500 MW and energy consumption by over 5.2 million MWh. These results are preliminary and subject to third party verification as required. In addition, for the 2014/15 PJM delivery year, AEP has approximately 575 MW of demand response capability in the PJM Interconnection.

**AEP System Energy Efficiency Results\* for 2014**

<b>Operating Company</b>	<b>MW Saved</b>	<b>MWh Saved</b>	<b>Total Spend (in millions)</b>
AEP Ohio	82.4	641,497	\$76.6
AEP Texas	48.0	75,681	\$16.8
Appalachian Power	4.6	69,927	\$8.6
Indiana Michigan Power	27.0	158,123	\$18.9
Kentucky Power	3.2	21,892	\$3.7
Public Service Company of Oklahoma	66.4	84,274	\$23.6
Southwestern Electric Power Company	27.1	51,859	\$11.5
<b>Total</b>	<b>258.7</b>	<b>1,103,253</b>	<b>\$159.8</b>

With increasing efficiency standards, such as the implementation of more efficient lighting and appliance 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 mandated through a utility’s rates due to the cost and achievability concerns as well, as we have seen in Ohio and Indiana.

Further, certain state mandated requirements may be virtually unachievable from an economic perspective. In other words, the cost to attain

\* Results represent programs/projects implemented in 2014 only. Preliminary results subject to third-party Evaluation, Measurement and Verification (EM&V), as appropriate.



participation rates necessary to achieve the targets could be much higher than the overall benefits associated with the corresponding impacts.

We have also taken measures to reduce energy consumption in our office buildings and service centers. We reduced our kilowatt-hour (kWh) usage by 26 percent by the end of 2014, compared with the 2007 baseline. The equivalent accumulated savings from reduced energy consumption at more than 300 facilities exceeds \$24 million. We achieved these energy consumption reductions through equipment investments, such as new heating and cooling systems, and an employee education campaign.

## Resource Planning

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

The potential for carbon regulation has been part of our integrated resource planning process and is continuously evolving as more definitive requirements emerge from Congress and federal regulators. AEP’s planning process considers all available resource and market options to achieve the most economical outcome for us and our customers.

Several AEP operating company subsidiaries are required to develop periodic integrated resource plans (IRP) that are filed with state public utility commissions. Not all states require them. IRPs help the companies and state regulators to plan for meeting customers’ energy needs over a certain period of time. [Learn more about resource planning](#) at AEP.

<b>AEP Operating Company by State</b>	<b>Case Number/Docket</b>
Appalachian Power Co. - Virginia	<a href="#">VSCC Case No. PUE-2013-00097</a>
Appalachian Power Co. – West Virginia	N/A
Indiana Michigan Power Co. - Indiana	<a href="#">IURC Case No. 44413</a>
Indiana Michigan Power Co. - Michigan	N/A
Kentucky Power Company	<a href="#">KPSC Case No. 2013-00475</a>
AEP Ohio	<a href="#">PUCO Case No. 10-501-EL-FOR</a> and <a href="#">10-502-EL-FOR</a>
Public Service Company of Oklahoma	N/A
Southwestern Electric Power Co. - Louisiana	<a href="#">LPSC Docket No. R-30021</a>
Southwestern Electric Power Co. - Arkansas	<a href="#">APSC Docket 07-011-U-Doc. 21</a>

## Future Outlook

Our strategy for growth and the transition to become the representative utility of the future is underpinned by our fiscal discipline, continuous improvement efforts, expanding our knowledge of and



experience with new and emerging technologies, making strategic investment decisions and doing what we say we're going to do for our customers, employees and investors.

We believe it makes good business sense to anticipate, assess and plan for the opportunities and challenges that will be presented to the utility of the future. The picture isn't completely clear except that we know technology will be fundamental to the future of electricity.

Increasing use of distributed resources, changing usage patterns and expectations from customers, the constant threat of cyber and physical attack, a major transformation of our generation resources, and greater demand for a resilient, flexible grid are among the many changes we are adapting to. In addition, we are taking steps to develop our future work force, investing in STEM (science, technology, engineering, math) education, recruiting military veterans whose skills match our needs and providing our current employees with more training to prepare them for this transition. To be successful, we will need to embrace change by building upon our commitment to operational excellence and being adaptable, solutions-oriented and innovative.

As we build a utility model of the future for AEP, the following principles will influence our strategy:

- Emphasize and value the safety of our employees, contractors and the public along with the system that generates and delivers electricity to our customers;
- Maintain a diverse and balanced generation resource portfolio with fewer environmental impacts;
- Invest in building a modern, resilient grid that can further integrate distributed resources and maintain reliability and stability of the grid;
- Deliver shared value to customers and investors by prudently investing in our regulated utility operations that align with what customers value;
- Operate with integrity as we strive for operational excellence.

## Strategy for Growth

We have more flexibility than ever to focus on the growth areas of the company – our regulated businesses. Our financial health is solid and we have a regulatory compact that supports investments in infrastructure to improve the customer experience and reliability of the grid. We are focused on bringing our investments closer to what our customers want and value while advocating for policies that value the grid. We are also building a culture of engagement, entrepreneurship, technological innovation and zero harm among our employees. Our intent is to operate a modern grid that is reliable, sustainable and adaptable with new and emerging technologies to meet customer demands.

### *Our Strategic Goals – Making Progress*

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. Here is an update on our progress:

## **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, 2015, AEP Transmission Holding Company projects it will contribute an estimated \$0.38 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 adapt to this by:

- Diversifying our generation resources.
- Retiring approximately 6,500 MW of coal-fueled generation by the end of 2016 and refueling with natural gas or retrofitting with new or additional emission controls more than 7,200 MW of regulated and competitive coal-fueled generation.
- 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.
- Managing the cost profile to a competitive generation business model rather than a regulated utility model.

In January 2015, AEP engaged Goldman Sachs to help evaluate strategic alternatives for its merchant fleet of power plants. Options may include keeping the units, spinning off the competitive generation company, potentially selling the units or other alternatives. There is no specific timeframe for making a decision.

In March 2015, AEP engaged Morgan Stanley & Co., LLC to similarly explore strategic alternatives for our competitive barge transportation subsidiary, AEP River Operations LLC. While we have not set a firm timeline to complete this review, we are dedicated to completing the process as promptly as practical. This review does not affect the captive barge transportation portion of our business, which delivers coal to AEP's regulated coal-fueled power plants.

## **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.

In 2014, AEP conducted a second culture survey that reaffirmed our strong cultural attributes:

- A strong safety culture
- Employees are customer focused
- Employees want to contribute to AEP's success
- Employees want AEP to be successful
- We are committed to ethics and compliance

We began to roll out a culture leadership workshop for employees in 2014, which will continue in 2015. We are also engaging employees in various ways to support our business goals.

## **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.

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 investors. That means we will continue to deploy capital where it is needed and can do the most good. 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 first and foremost a regulated electric utility, which means the investments we make on infrastructure to improve the customer experience are generally supported by regulators and earn fair and reasonable regulated returns. AEP's infrastructure investments must balance the needs of our customers, the company and our investors. 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 investors. The Committee also works with corporate services groups to control spending and implement processes that maximize our resources and improve efficiencies.

## AEP Capital Investments (\$ in millions)

	2014 Actual	2015 Estimated
Transmission	<b>\$887</b>	\$819
Distribution	<b>\$1,060</b>	\$1,192
Regulated Environmental Generation	<b>\$459</b>	\$577
Nuclear	<b>\$209</b>	\$221
Regulated Fossil/Hydro Generation	<b>\$224</b>	\$269
Corporate and Other	<b>\$157</b>	\$184
Competitive Operations	<b>\$147</b>	\$151
AEP Transmission Holding Co.	<b>\$1,010</b>	\$1,005
<b>Total Capital &amp; Equity Contributions</b>	<b>\$4,152</b>	<b>\$4,420</b>

Excludes AFUDC debt and equity and cash flow adjustments

## 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 have active transmission projects under way in several states.



In 2014, our transmission business secured \$1.36 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. We have also advanced a set of projects that are heavily focused on improvements to local reliability and infrastructure needs driven by shale gas customer activity.

The surge in shale gas and oil has created an unprecedented demand for infrastructure to transport, store and process these resources. The development of this midstream infrastructure, namely gas processing facilities and pipeline compression stations, has occurred rapidly in AEP's service territory. We expect we will need to make significant additional investments in transmission facilities to keep up with the demand from this growth.

While electricity is needed for drilling operations, the greatest demand in the eastern Utica and Marcellus shale regions comes from customers planning to build industrial-sized natural gas processing plants in rural areas of West Virginia and Ohio. The challenge is the requests are concentrated in a region served by transmission infrastructures that cannot handle substantial customer demand growth. To accommodate the anticipated extra load, the existing undersized transmission system in this area has to be fortified.

### ***Meeting Customers' Needs***

Being innovative and delivering good customer service positions AEP to take advantage of emerging business opportunities across our service territory. Our focus on improving the customer experience is prompting creative and effective solutions to meet customers' needs. Since many shale-related facilities need to be located in remote areas with limited electric service, we have to be innovative if we want to serve these customers. Technology advances have proven to be the key to meeting customers' needs and growing our business. These are a few examples of innovative transmission solutions:

**Skid-mounted substation** — This diminutive, prefabricated substation can be built on a small lot and energized to provide temporary service while a permanent station is constructed. It is designed for easy shipment and can be used multiple times. In 2014, we installed five skid-mounted substations in Texas and Oklahoma, representing the most extensive deployment of the technology to date. By creating a basic, yet high-tech, skid-mounted substation, we can deliver power in about three months or less, depending on site availability.

**Station-in-a-box** — AEP standardized smaller to mid-sized distribution substations so that the materials and equipment needed to build it is packed into a portable steel container. It is then delivered to its permanent site. Each unit features a 'drop in control module,' or prefabricated control room that can be built in six months – half the time it normally takes to build a traditional station.

**Box bay** — This quickly installed box-shaped structure built in a right-of-way taps into an existing transmission line and runs power to a nearby customer. These may be equipped with SCADA devices, meters and remote terminal units. This allows quicker response to customer needs, especially in remote areas.

Our [Economic & Business Development](#) teams across areas with active shale plays provide expertise and tools to assist oil and gas companies and suppliers in making siting decisions for their facilities. Our online resources in AEP Texas, Public Service Company of Oklahoma and AEP Ohio help determine if a particular location is in our service territory so that we can provide information to help keep their project costs low and improve the speed of development.

Another way we are meeting customer needs is by providing an array of energy efficiency and demand response programs that are supported by our state regulators.

# Achieving Our Goals

## *Strategic Alignment*

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. In the process, we are creating shared value for customers, employees and investors.

<b>Infrastructure Investment</b>	<b>Customer Experience</b>	<b>Employee Experience</b>
<a href="#">Transmission Growth</a>	<a href="#">Energy Reliability</a>	<a href="#">Safety &amp; Health Performance</a>
<a href="#">Capital investment strategy</a>	<a href="#">Reliability and Conservation</a>	<a href="#">Transmission Growth</a>
<a href="#">Environmental investments</a>	<a href="#">Emergency Response</a>	<a href="#">Represented Employees</a>
<a href="#">Powering the Future</a>	<a href="#">Mobile Alerts</a>	<a href="#">Veterans</a>
<a href="#">Grid Resiliency</a>	<a href="#">Reliability Performance</a>	<a href="#">Our Culture</a>
<a href="#">Aging Infrastructure</a>	<a href="#">Community Investments</a>	<a href="#">Work Force Planning</a>
<a href="#">Technology &amp; Innovation</a>	<a href="#">Capital Investment Strategy</a>	<a href="#">Ethics &amp; Compliance</a>
<a href="#">Managing Risk</a>	<a href="#">Powering the Future</a>	<a href="#">Diversity at AEP</a>
<a href="#">Financial Performance</a>	<a href="#">Technology &amp; Innovation</a>	<a href="#">Awards &amp; Recognition</a>
<a href="#">Environmental Performance</a>	<a href="#">Generation Reliability in Ohio</a>	<a href="#">Continuous Improvement</a>
<a href="#">Climate Change</a>	<a href="#">Cyber &amp; Physical Security</a>	<a href="#">Volunteerism</a>



**Infrastructure Investment**

**Customer Experience**

**Employee Experience**

[Generation Transformation](#)

[Capacity Markets](#)

[Emergency Response](#)

[The Integrated Grid](#)

[Continuous Improvement](#)

[Technology & Innovation](#)

[Utility-Scale Solar](#)

[Customer Satisfaction](#)

[Supplier Engagement](#)

[Economic & Business Development](#)

[Employee Innovation](#)

[gridSMART®](#)

[Our Value Creation Story](#)

[Paperless Billing](#)

[Training](#)

[Supplier Engagement](#)

**AEP's Values**

Our values are the foundation of our business. Developed collaboratively with our employees, these values will see us through industry challenges so we can be successful.



SLIDE SHOW ▶ About Our Business

## About Our Business

AEP Corporate Accountability Report

More than  
**6,500**  
MW  
coal unit  
retirements



**\$4.1**  
billion

Capital Investments

**\$3.34**<sup>(GAAP)</sup>  
Earnings Per Share

Operating  
Earnings  
Per Share  
(GAAP)

**\$3.43**



**2,110**  
miles of  
765-kV lines

**222,000**  
miles of distribution lines







**Business Performance**

- Financial Performance
- Safety & Health Performance
- Environmental Performance
- Energy Reliability

Business Performance

## Our Performance

To achieve long-term, sustained value for customers, investors and employees requires a clear focus, thoughtful planning and an organizational culture of innovation and engagement. We are in the business of producing and delivering reliable, safe and affordable electricity to our customers. This is both a great honor and a great responsibility.

We measure our success by our financial performance, the reliability of our system, the customer experience, our environmental performance and compliance, the safety and health of our employees, contractors and the public, and the relationships we have with our various stakeholders. We are focused on fiscal discipline, continuous improvement and investing to modernize the grid.

### 2014 Performance Summary

- Shareholder Total Return**  
35%
- Earnings Per Share (GAAP)**  
\$3.34
- Reliability Vegetation Management in 2014**  
\$281.9 million
- Planned Coal Unit Retirements**  
6,500 MW
- CO<sub>2</sub> Reduction From 2005 level**  
15%
- Water Quality Trading Program**  
5,000 credits

### Zero Harm is Achievable



For the first time since we began keeping statistics in 1970, AEP achieved a major milestone in 2014: Three consecutive years without an employee fatality. There is nothing more important to us than the safety and health 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](#)

Fiscal discipline, continuous improvement and prudent investments are fundamental to sustainable growth.

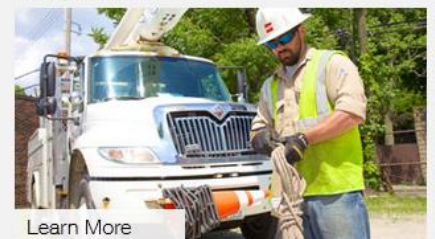
### Environmental Performance



[Learn More](#)

Overall, AEP's environmental performance is excellent. A major transformation of our generation business due to new environmental regulations will affect customers and grid reliability.

### Safety & Health



[Learn More](#)

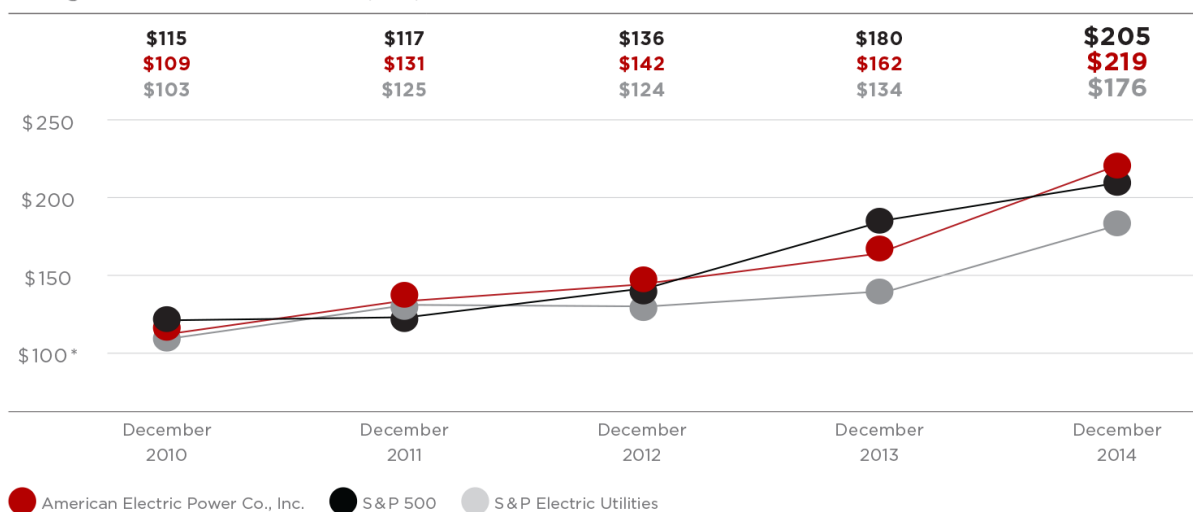
Safety and health are a top sustainability priority at AEP. We continue making progress toward our goal of zero harm.

# Financial Performance

A company’s ability to achieve long-term sustained value requires clarity of focus, a sound plan and an organizational culture of innovation and engagement. At AEP, that is our commitment. Our strong performance in 2014 demonstrates we are delivering on that commitment. Our understanding of the social and economic value of electricity to our service territory and society at large underpin our strategy to achieve the level of operational and financial performance that will be required of the utility of the future. Our mission is to enhance the customer experience, deliver fair returns to our shareholders, meet our obligations to our lenders, and engage employees. By doing this we are also able to fulfill our environmental and social commitments.

## 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, 2009 in stock or index, including reinvestment of dividends

Fiscal year ending Dec. 31

In 2014, AEP delivered solid performance. Our focus on infrastructure investments in our core regulated businesses and our employees’ success in identifying sustainable cost savings resulted in AEP being among the top five best performing utility stocks in 2014. We believe our track record demonstrates we are well-positioned to be a premium regulated electric utility that is attractive to investors.

Our emphasis on executing our strategy, engaging employees in continuous improvement, and exercising fiscal and strategic discipline was rewarded in the marketplace in 2014. AEP shareholders received a 35 percent total return, including dividends, compared with the 31 percent total shareholder return of our peers in the S&P 500 Electric Utilities Index and a total return of nearly 14 percent in the S&P 500. Our annual dividend increased 6 percent and we continue to target a 60 percent to 70 percent dividend payout ratio.

We reaffirmed our guidance range of \$3.40 to \$3.60 per share for 2015, with a 4 percent to 6 percent annual earnings growth rate. To achieve this, we will continue to focus on growth in our regulated businesses, efficiently allocating capital while maintaining O&M discipline, and continue moving forward with our continuous improvement initiatives.

## 2014 Performance

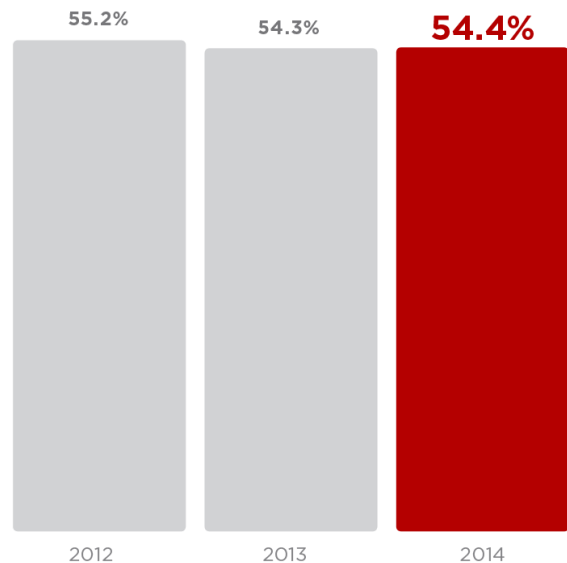
Contributing to AEP’s financial success in 2014 were a number of factors: the accelerated growth of our transmission business; successful regulatory proceedings in several states; strong off-system sales; annual load growth in all customer classes; and, sustainable savings and enhanced revenue sources identified through employee-led continuous improvement efforts.

AEP also benefited from the reliable performance of our generation fleet during extremely cold weather in 2014 that produced sufficient earnings to allow us to advance O&M spending from future years. These shifts, combined with ongoing fiscal discipline, will help us manage the revenue challenges we face in 2016 as a consequence of the Ohio deregulation transition and the poor 2016/2017 PJM capacity auction results.

AEP’s earnings for 2014, based on Generally Accepted Accounting Principles (GAAP), totaled \$1.6 billion or \$3.34 per share, compared with \$1.4 billion or \$3.04 per share for 2013. AEP’s operating earnings in 2014, or GAAP earnings excluding special items, totaled \$1.6 billion or \$3.43 per share, compared with \$1.5 billion or \$3.23 per share in 2013. AEP Transmission Holding Company (AEPTHCo) contributed 31 cents per share in 2014 – \$0.02 higher than originally forecasted – reflecting its accelerated growth. We expect AEPTHCo to contribute \$0.38 per share to operating earnings in 2015. 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.

2014 operating earnings were higher than GAAP earnings due to the exclusion of charges related to a coal contract termination and a mark-to-market adjustment for hedging activities. Weather-adjusted retail sales of electricity grew one percent in 2014. Our 2014 industrial sales increased 0.4 percent compared with 2013, despite the closure of Ormet, a large aluminum company. Excluding Ormet, our industrial sales volume increased by 3.9 percent. In 2014, 9 of our top 10 industrial sectors experienced growth compared with 2013. Residential and commercial sales also increased by 1.1 percent and 1.7 percent, respectively, compared with 2013.

### AEP Total Debt/Capitalization - GAAP



The strongest growth came from customers in our oil and gas-related industrial sectors. In 2014, we saw 30 percent growth in our shale counties compared with 2013. This shale region growth is significant for AEP because 17 percent of our industrial sales are located in shale gas counties. The recent downturn in oil and gas prices could impact that growth in 2015. However, because AEP has a diversified industrial base within our service territory, we are shielded from the effects of downturns in any one specific industry. This is an example of how AEP's makeup provides not only a geographically diverse buffer for exposures to weather extremes, but also diverse regional economies that afford steady growth in spite of various economic conditions.

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.

Our operations and maintenance (O&M) expense was higher in 2014 than in 2013, due in part to planned incremental spending and increased employee-related costs. Depreciation expense was also higher due to increased capital investments.

**2014 AEP Liquidity Summary** (\$ in millions)

	Amount*	Maturity
Revolving Credit Facility	\$1,750	Jun-17
Revolving Credit Facility	\$1,750	Jul-18
<b>Total Credit Facilities</b>	<b>\$3,500</b>	
Cash & Cash Equivalents	\$163	
<b>Total Liquidity Sources</b>	<b>\$3,663</b>	
<b>Less</b>		
Commercial Paper Outstanding	\$602	
Letters of Credit Issued	\$63	
<b>Net Available Liquidity</b>	<b>\$2,998</b>	

\*As of Dec. 31, 2014

At AEP, we strive to align our investments to provide our customers with reliable, sustainable service, at a fair and reasonable rate that allows us to reward our investors. That's the philosophy driving our capital investment strategy. Customers want safe, reliable and affordable electricity. About 97 percent of our capital funds are forecasted to be invested in our regulated operations. In 2014, we invested \$4 billion in our regulated businesses (excluding AFUDC debt and equity). Of that, we invested approximately \$3 billion in our transmission and distribution functions and approximately \$0.9 billion in our regulated generation, mostly for environmental compliance and life cycle management at the Cook Nuclear station.

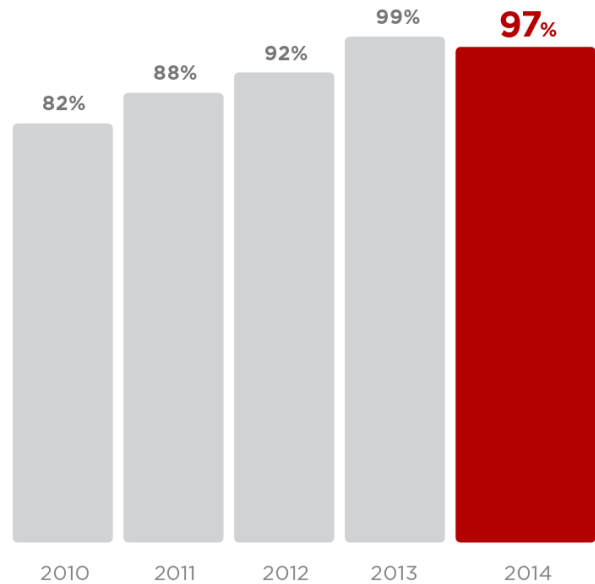
In 2014, our total debt-to-capitalization ratio remained strong at 54.4 percent. This compares with a debt-to-capitalization ratio of 54.3 percent at the end of 2013 and 57.2 percent in 2009. This is important because a lower ratio positions AEP well in the debt capital markets when it seeks capital for infrastructure development.

Our other credit metrics remain strong as well. In 2014, AEP maintained its liquidity position – the ability to gain access to cash when it's needed. AEP's liquidity position of approximately \$3 billion is underpinned by our two revolving credit facilities. Our strong balance sheet and solid credit metrics reflect adequate liquidity to support our growth strategy.



Our qualified, defined benefit pension plan was 97 percent funded at the end of 2014. Our pension contribution in 2014 was \$71 million. We expect to make a contribution of \$87 million in 2015. In 2014, the value of our pension plans' assets increased to \$5 billion compared with \$4.7 billion in 2013. Our strategy has been to maintain the funded status of the plan to the benefit of our employees, retirees and customers. 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 2014, the qualified plan paid \$289 million in benefits to plan participants.

## Qualified Pension Funding



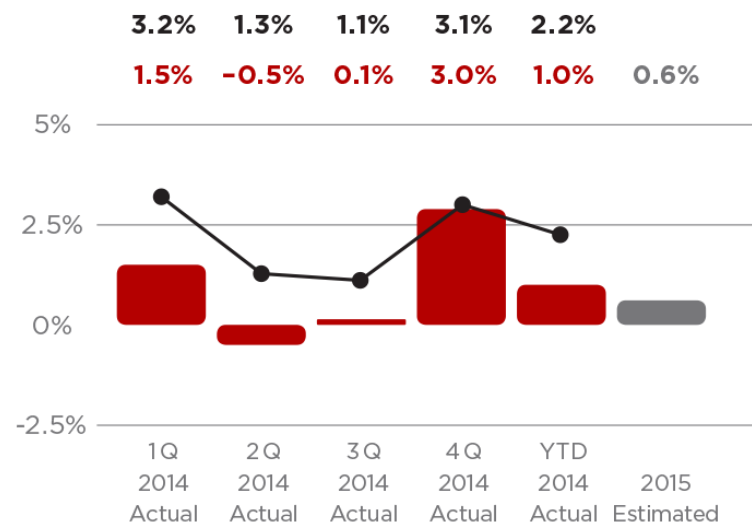
## Executing Our Strategy

AEP's disciplined approach to allocating capital, controlling costs and successfully working through regulatory proceedings continues to strengthen our financial position. Our business model is simple. We have a proven track record of putting capital to work for the benefit of our customers and then earning a return on that investment by efficiently getting it into rates. We do not have major investments in new plants or technologies that put our financial health at risk, allowing us to focus on executing our operational plans.

As a result, investors have a clear picture of AEP's plan for the future and have expressed confidence in our strategy and ability to deliver, based on our current performance.

### AEP Total Normalized GWh Sales

(% change vs. prior year)



Line represents retail excluding Ormet Corp.

As AEP's future takes shape, the road ahead has some challenges. Chief among them is a significant revenue shortfall in 2016 due to the drop in the level of capacity revenues from the PJM capacity auction. We are confident that the investments we are making in our regulated businesses, our efforts to shift costs from future years and ongoing continuous improvement efforts by our employees will close the gap. Our current forecasts show that we will be able to maintain our 4 percent to 6 percent growth rate over the long term as long as we stay the course.

By engaging our employees in the solutions, we are achieving savings and efficiencies that make us more agile and able to adapt more quickly as our industry

undergoes significant transformation. One example of how we are doing this is by moving from standard procurement practices to strategic sourcing. This process engages the business units to understand their value drivers, while balancing operational risk with cost considerations. Definitions are developed for measuring cost savings and are tracked internally to validate the value Procurement is bringing to the organization.

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 evaluating our strategic alternatives for our merchant generation fleet as well as our competitive barge operations.

AEP is in the midst of a transformational transition to shape the utility model of the future. We have capital to invest, and we are deploying it predominantly in our regulated business where it delivers shared value for customers and investors. Our projected annual 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**

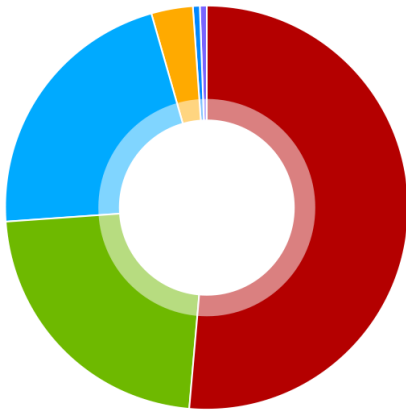
Our projected operating earnings range is \$3.40 to \$3.60 per share for 2015, and \$3.45 to \$3.85 per share for 2016. We expect to achieve these results through a combination of robust capital investments with timely recovery in our regulated utilities, and continued cost control.

We intend to keep O&M spending in check and expect to invest approximately between \$3.8 billion and \$4.4 billion per year in capital between 2015 through 2017. If there is unallocated capital in generation and distribution, we will continue 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 2014, the AEP Board approved an incremental \$300 million of capital to invest in our transmission business. Our investments are focused on delivering value to our customers and our investors.

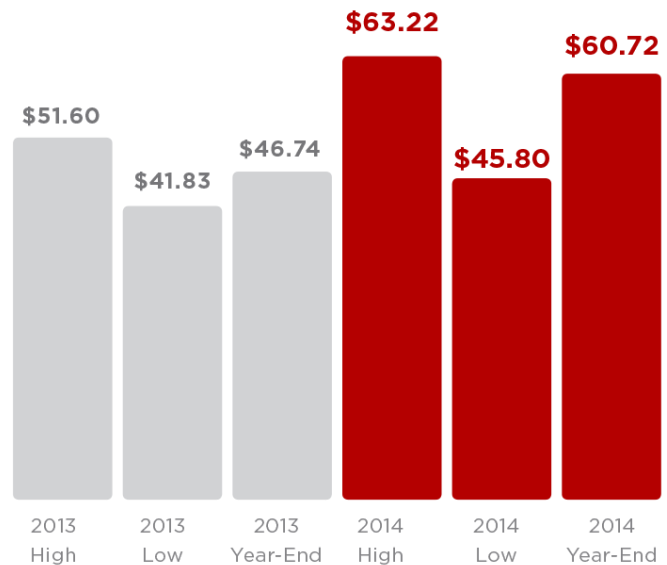
We are optimistic about AEP's future. We have a clear vision for the future as we're investing in our infrastructure to better serve our customers, engaging our employees, and learning to adapt to transformative changes in our industry. Our success will pay financial rewards to our investors, our work force will be engaged and our customers will realize greater reliability. At AEP, we assume success and we manage, plan and work to realize it.

## 2015 Forcasted Capital Equity Contributions (in millions)

- **\$2,289** Vertically Integrated Utilities
- **\$1,005** AEP Transmission Holding Co.
- **\$966** Transmission & Distribution Utilities
- **\$142** Generation & Marketing
- **\$9** AEP River Operations
- **\$9** Corporate & Other



## AEP Market Price - Common Stock



## Safety & Health Performance

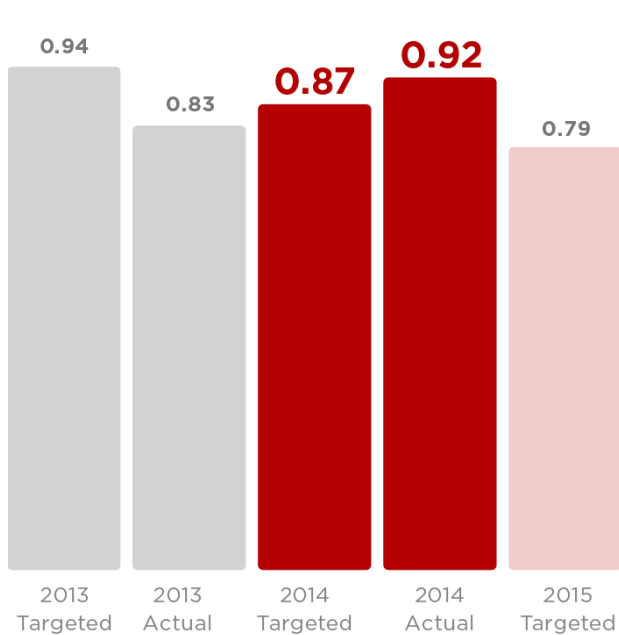
There is nothing more important to us than the safety and health of our employees, contractors and the public. The road to zero harm is long and challenging, but we have also had successes along the way. Each successful year brings us closer to our goal of achieving top decile in overall safety performance. We have made great progress in the past decade. This was possible because we provided employees with training, tools, resources and data to help them prevent harm. We also made safety personal and committed to looking out for each other.

We achieved a significant safety and health milestone at the end of 2014 when we marked our third consecutive year without an employee fatality, which hasn't been achieved since we began keeping statistics in 1970. 2014 also proved to be a challenging year for us as both the number and severity of workplace injuries increased. In 2014, our employee recordable incident rate (as defined by the [Occupational Safety & Health Administration](#)) was 0.92, which was higher than our target of 0.87. Our employee severity rate (the severity of injuries that occur) in 2014 was 24.21 versus the target of 17.35. Severity days (lost work days and restricted activity days due to injury) increased from 4,094 in 2013 to 4,237 in 2014, a 3.5 percent increase.

In 2014, 45 percent of all recordable events were either slips, trips and falls or cases of over-exertion resulting in strains and sprains. Eighty-one percent of those events resulted in severity days where employees could not work or were on restricted duty. Any of these events could have resulted in a life-altering injury or even a fatality, so we must work to reverse this troubling and unacceptable trend. It is our mission in 2015 to refocus our efforts to prevent harm to our employees.

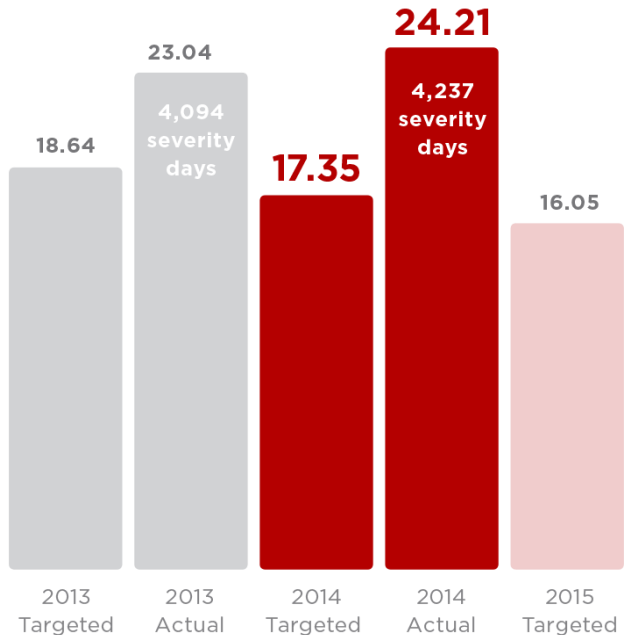
## AEP Employee Safety & Health – Path to Excellence

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.

There were several work locations across the AEP System that demonstrated by their impressive safety records and safety initiatives that zero harm is achievable and sustainable.

AEP River Operations has seen a steady downward trend in its recordable rate. In 2011, the recordable rate was 0.82 – their best year. 2014 was their second-best year with a recordable rate of 0.91. In early 2014, River Operations reached an important milestone – completion of one million man-hours without a recordable injury across their entire maritime fleet.

The AEP distribution group improved its preventable vehicle accident (PVA) rate by 17 percent going from 182 PVAs in 2013 to 150 PVAs in 2014. The group’s recordable rate for 2014 was unchanged from 2013 staying at 1.12; however, their average severity rate improved by 28 percent from 44.20 in 2013 to 31.94 in 2014. The reduced PVA rate can be credited in part to driver safety training.

In addition to looking at leading indicators, we use job site observations (JSO) to prevent injuries. Direct observation is a powerful tool to assess how well an activity is going and is valuable when checking on

the level of safety and health involved in the job. In order to be effective, an observation needs to include active communication with the people doing the task, not just a visual by the observer. In 2014, the number of JSOs for the Utilities group (not including Transmission) was 13,479 in 2014 compared to 5,906 JSOs in 2013, an increase of 128 percent. Although JSOs are not new to our work practices, we began formally tracking them in 2013.

We use Job Hazard Assessments to determine if a job or work site is safe and when it's not, we require employees to stop the work, reevaluate and make adjustments to prevent harm. In 2014, employees and contractors in Transmission and Distribution began using smart phones to record and disseminate safety and health information from job site observations. This allows field employees to share information with other work groups more quickly, effectively and easily. This kind of communication also helps managers keep safety and health in the forefront of all activities.

We began the "See Something, Say Something...Do Something" initiative in 2014 to renew, reinvigorate and refocus our safety and health efforts. The program encourages us to look out for the well-being of our co-workers and the public, and to communicate important information to prevent harm, without fear of retaliation. It is a responsibility that can feel overwhelming and intimidating at times. But we believe it is one of the best ways to stay focused on safety.

It is encouraging to see our employees embrace this concept and share their successes. It also demonstrates progress in our journey toward a culture where all employees are fully engaged in our outcomes. This initiative gained a lot of momentum in 2014, and we plan to build on that enthusiasm to prevent harm in 2015.

## The Path Forward

The increase in our recordable and severity rates last year will be a major focus of our safety and health efforts in 2015. To improve our overall safety and health performance, we have a number of proactive activities planned beginning with an initiative to discover what we can do to significantly prevent slips, trips and falls as well as incidents related to over-exertion (sprains and strains). We are using employee safety summits and analysis techniques such as the "slip simulator" to dissect employee safety-related behaviors. A "slip simulator" teaches employees how to safely walk on different types of surfaces without falling.



We are also focusing more attention on identifying and addressing precursors that could potentially lead to serious injury or even fatality. Our goal is to proactively identify potential exposures and precursors that could lead to serious events. The intent is to move from "how could this happen" to "how can we manage and control these precursors."

# Safety Recognition

Recognition plays an integral part in our safety and health efforts. In 2014, several business units and employees were recognized for extraordinary for their commitment to safety and health on and off the job.



AEP Chairman, President and CEO, Nick Akins, presents two employees from APCo's Clinch River Plant a Chairman's Life Saving Award in 2014.

AEP's Chairman's Life Saving Award recognizes employees who display extraordinary compassion for others in saving or attempting to save another person's life without putting their own safety at risk. In all, nine employees received Chairman's Life Saving Awards in 2014 across AEP.

AEP River Operations was recognized for having 38 vessels that operated for two full years or more without a crew member losing a full turn at watch because of an occupational injury. The Chamber of Shipping of America's Devlin Award publicly recognizes the skills and dedication of the men and women who are responsible for safe ship operations. AEP's River Operations received Devlin awards in 2014 for each of these vessels.

The Cook Nuclear Plant's Reactor Operator Initial License Training Program performance has achieved Nuclear Regulatory Commission (NRC) exam pass rates of 100 percent since 2005. The rigorous training program requires approximately 20 months for each candidate to complete. The pass rate achievements of the Operators and Training Staff have been providing highly trained, knowledgeable and professional licensed Operators who are key to providing for the health and safety of the public and our employees.

The Cook Nuclear Plant's Reactor Operator Initial License Training Program performance has achieved Nuclear Regulatory Commission (NRC) exam pass rates<sup>1</sup> of 100 percent since 2007. The rigorous training program requires approximately 20 months for each candidate to complete. The pass rate achievements of the Operators and Training Staff have been providing highly trained, knowledgeable and professional licensed Operators who are key to providing for the health and safety of the public and our employees.

1. The passing rate is not the "throughput" measurement used by the industry and does not include operators early withdrawals from program.



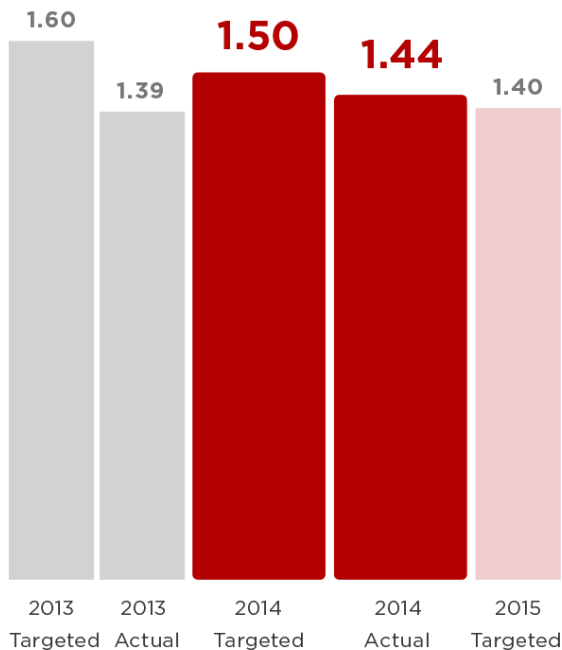
# Contractor Safety

We have many contractors working on our behalf every day, trimming trees, replacing or repairing equipment and building new facilities. We collaborate with them on safety and health, providing training and tools to help them improve their performance in a similar fashion to our employee focus on safety and health. We evaluate their safety and health programs to ensure they are taking precautions to protect their employees from harm.



As we strive for zero harm with our employee work force, we seek the same level of performance among our contractors. We invest time and resources to ensure the safety of our contractor work force and we hold them accountable for their performance. This has become critically important as our contractor work force has grown to support the growth of our business.

## AEP Targeted Contractor Recordable Rate - Path to Excellence



Overall, we are making progress but it is not enough, especially when two contractors were fatally injured while working for AEP during 2014. At the same time, AEP’s major contractors outperformed the target recordable rate in 2014 with a 1.44 actual performance versus the 1.50 target. However, this performance was overshadowed by the fatalities.

No aspect of our work is more important to us than safety and health, whether it is an AEP employee or an AEP contractor. Across AEP, our focus is on prevention. We give our contractors tools, training and clear direction for working safely and we hold them accountable when they don’t. We also track performance. All construction contractors are subject to AEP’s annual contractor recordable injury goal. If an event occurs, we work with the contractor to identify the root cause and develop actions to prevent a recurrence.

Since contractors are often working side-by-side with our employees, we each have a responsibility to look out for each other. If someone sees something unsafe or someone at risk for harm, he or she has a responsibility to say something and do something.

Since contractors are often working side-by-side with our employees, we each have a responsibility

# Public Safety

Protecting the public from unsafe contact with our electrical equipment is a challenge and we are always looking for better ways to get important information to our customers and to the public. As an industry, we continue to be concerned with the number of people from the public who come into contact with power lines and equipment. Those at risk range from billboard installers and highway construction workers to homeowners doing home improvements and thieves who steal from substations and other equipment. Our industry is actively engaged in educating the public about the danger of coming into contact with live electrical equipment and promoting how to safely work around facilities.

## Copper Theft

Capitalizing on their popularity, we use our social media platforms to educate our customers about electrical safety. We instituted “Safety Saturdays” in which our posts and tweets focused on different public safety topics throughout the year. Public safety communications themes included: “Call Before You Dig,” Overhead Power Line Safety, Electricity 101, Copper Theft and Downed Power Line Safety. The most popular media post in 2014 was focused on “What’s on a Power Pole?” It details all the equipment on the pole and the function of each piece of equipment.



Each May, we send customers an email as part of National Electrical Safety Month. We use this opportunity to promote our free public safety resources, such as videos, an interactive electrical safety module and numerous factsheets.

Despite our efforts, we experienced 16 public fatalities in 2014. Nine were the result of vehicles crashing into utility poles, six were caused by contact with our electrical facilities and one resulted from attempted copper theft.

Educating students and teachers about electricity and electrical safety is an important priority. In August 2014, AEP launched a new and improved [AEP Electric Universe](#)<sup>®</sup>, an educational website targeting K-12 students and teachers. The modern, animated site is now easier to navigate. It includes online games, videos, downloadable activities for students, lesson plans, experiments, a reference section and a glossary for educators and other adults interested in teaching kids about electricity and electrical safety.

## Changing Regulations

The Occupational Safety and Health Administration ([OSHA](#)) published revisions to two standards found in the Code of Federal Regulations (CFR) that will affect how we conduct our work at AEP. The first change, 29 CFR 1910.269, addresses safety and health regulations for the maintenance portion of our work. The second, 29 CFR 1926 Subpart V, addresses regulations for construction related work.

Working with the Edison Electric Institute (EEI), we have proactively engaged OSHA to ensure there was a clear understanding of how these revisions would affect the industry. We are in the process of training employees who are affected by these revised regulations.

The revisions that have the greatest impact on AEP's operations include: changes in minimum approach distances to energized lines and equipment, fall protection, arc flash analysis, and the information we need to share with contractors regarding the characteristics of the AEP electrical system. We are very committed to safety and health and provide our employees and contractors with tools, processes, procedures and other proactive measures to prevent harm. We are currently training employees to address the changes to the regulations in each of our business units.

## Managing Performance

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 16 locations in 2014. All of the audit comments are addressed, fixed and 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) information management system to track performance and ensure compliance with requirements. Each of our power plants has electronic MESH manuals that link to corporate resources while also addressing plant-specific processes.

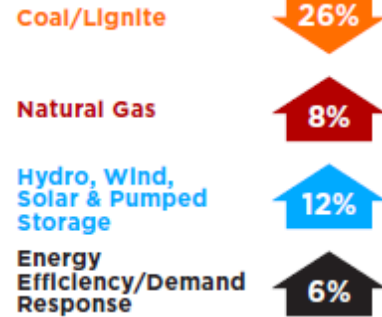
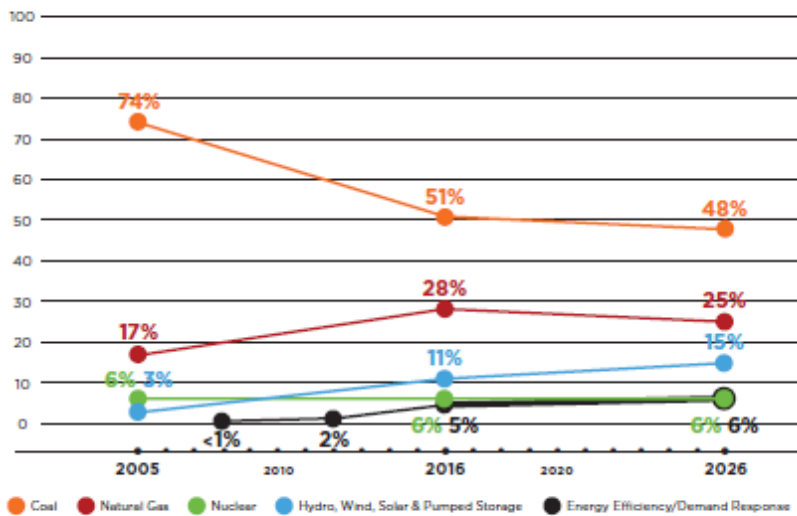
## Environmental Performance

Our environmental performance is rooted in our commitment to operational excellence and to being responsible stewards of our natural resources. We have management systems, policies and a dedicated team of environmental experts in place to guide us. Although our environmental efforts are built around compliance, we work to take advantage of additional measures to go beyond compliance and always strive for continuous improvement. Our goal is zero environmental enforcement actions.

# AEP's 2014 Environmental Performance

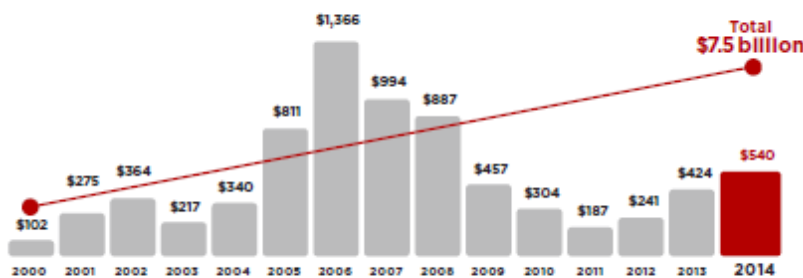


## AEP Owned Generating Capacity by Fuel (actual & projected)



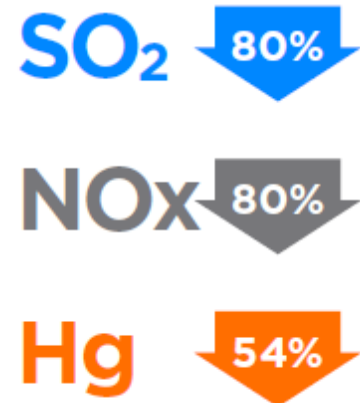
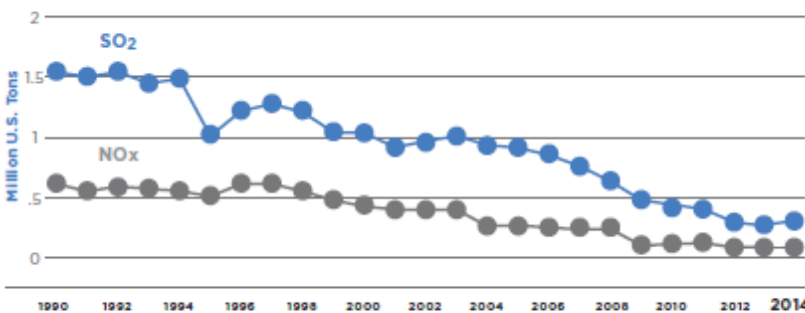
Over **7,500 MW** of renewable generation is interconnected across the U.S. via AEP's transmission system today.

## Historical Environmental Investments (in millions)

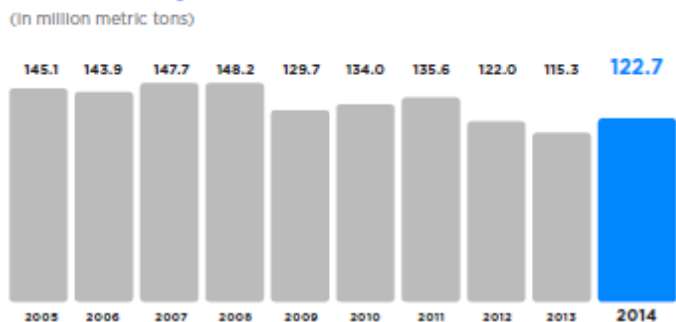


More than **6,500 MW<sub>coal</sub>** unit retirements by 2016

## Total AEP System Emissions 1990-2014



## Total AEP System - Annual CO<sub>2</sub> Emissions



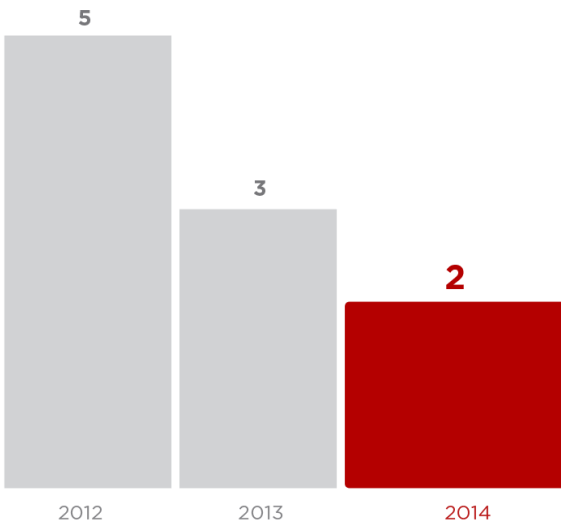
**15%** reduction in CO<sub>2</sub> emissions from 2005 levels

# Compliance Performance

Our facilities are subject to environmental regulatory and permitting requirements for which we must demonstrate compliance. In addition, environmental agencies routinely inspect our facilities through scheduled and unannounced visits. During these visits they inspect physical facilities and monitor our compliance with regulatory requirements, permit limits and recordkeeping obligations. Whenever agencies identify concerns, we proactively work with them to address those issues in a timely fashion to their satisfaction.

## AEP Generation Environmental Performance Index

(number of incidents per year)



Environmental Performance Index includes incidents for opacity, NPDES, and oil and chemical spills in our Generation business.

In 2014, the Louisiana Office of Conservation issued a fine of \$3,400 at our Dolet Hills Mine for insufficient storm water runoff controls. AEP mine management resolved the issue implementing a compliance improvement plan and holding meetings with the Louisiana agency to reaffirm our commitment to compliance.

One of many voluntary actions we take to help drive performance improvement is the use of an internal Environmental Performance Index for our generation business. We recorded two incidents in 2014, the smallest number 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. It is an example of how we continuously focus on improving our performance by reducing our environmental impacts.

In our Transmission business, we implemented a new mandatory compliance training program in 2014 to ensure all transmission-related construction projects are built in full compliance with environmental permit requirements.

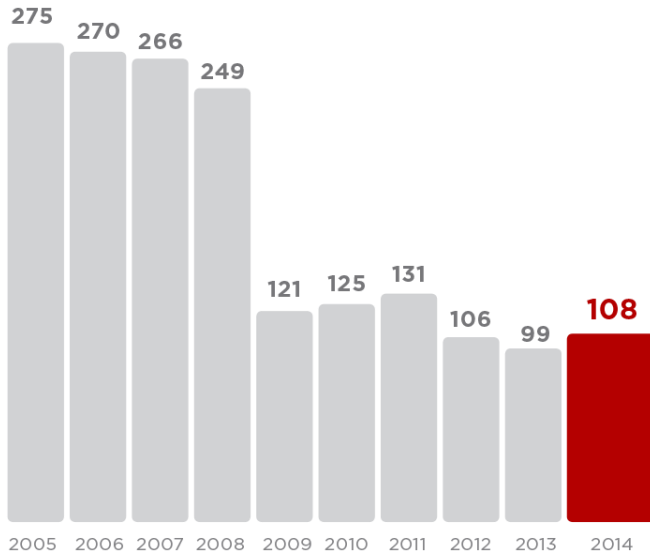
# Emissions

In 2014, AEP's SO<sub>2</sub> and NO<sub>x</sub> emissions increased based on economic and market factors leading to a six percent increase in overall generation and a seven percent increase in coal-fueled generation. However, the longer-term trend has been a steady reduction in air emissions. Since 1990, sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions each have been reduced by about 80 percent while mercury emissions have declined by nearly 54 percent since 2001. Our emissions will likely continue to decline further in the future with the installation of additional emission control systems on coal units, the retirement of other coal units and the increased use of other resources, including natural gas and renewables. Mercury emissions information is reported to the EPA under the [Toxics Release Inventory program](#).

AEP's CO<sub>2</sub> emissions increased from approximately 115 million metric tons in 2013 to approximately 123 million metric tons in 2014. This represents a 6.4 percent increase and was attributed to higher utilization of coal-fuel generation. In spite of the increase, this still represents a 15 percent reduction compared with our 2005 CO<sub>2</sub> emissions of approximately 145 million metric tons.

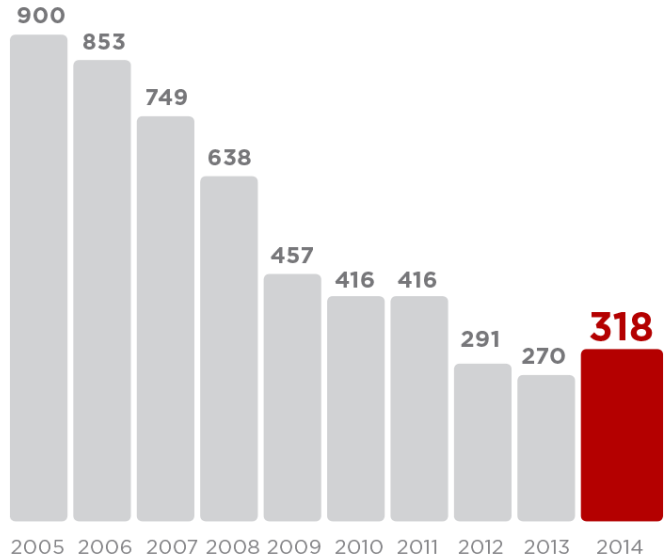
### Total AEP System - Annual NOx Emissions

(in thousand U.S. tons)



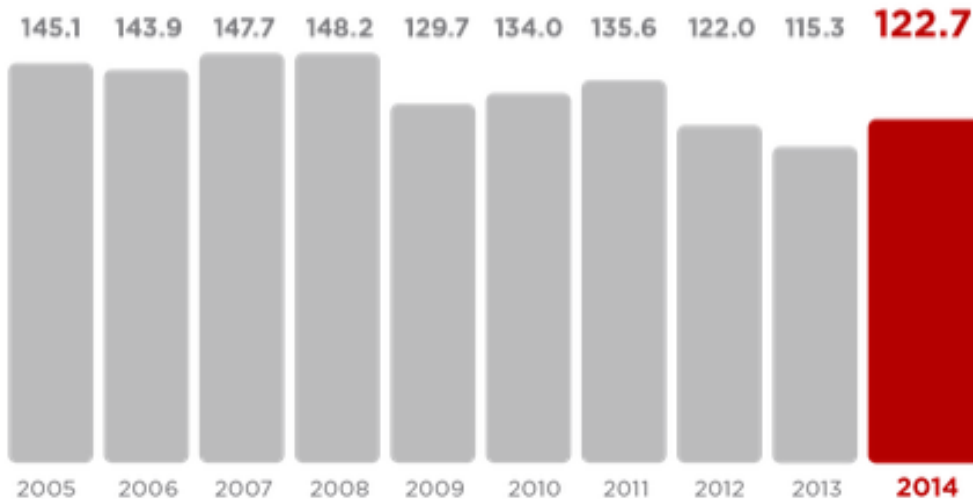
### Total AEP System - Annual SO<sub>2</sub> Emissions

(in thousand U.S. tons)



### Total AEP System - Annual CO<sub>2</sub> Emissions

(in million metric tons)





# Checks and Balances

We use our environmental, safety and health management system to improve our environmental performance and to measure, track and report our progress. We have used this tool successfully in our fossil and hydro and projects organizations, and have expanded its use to our mining operations, coal transfer facilities and river transportation operations.

We conducted internal audits of our environmental management programs at 16 locations in 2014. Audits confirmed that our programs are in place and are achieving compliance objectives. Our audits are providing additional focus on controlling risks and providing assurance that robust compliance processes are developed and implemented related to new business activities. For example, Audit Services monitored and provided input into the development of new compliance procedures related to construction permitting and projects in Transmission, Mercury and Air Toxics Standards (MATS) compliance in Generation, and liquids barging in River Operations.

Environmental requirements will continue to apply to AEP generation facilities that are retired. These include many existing state environmental requirements, in particular, those related to the management of water and coal-combustion byproducts. AEP will continue to comply with environmental requirements after these plants are retired, as applicable. We will be working with our state regulators to amend permits as we work through the decommissioning process.

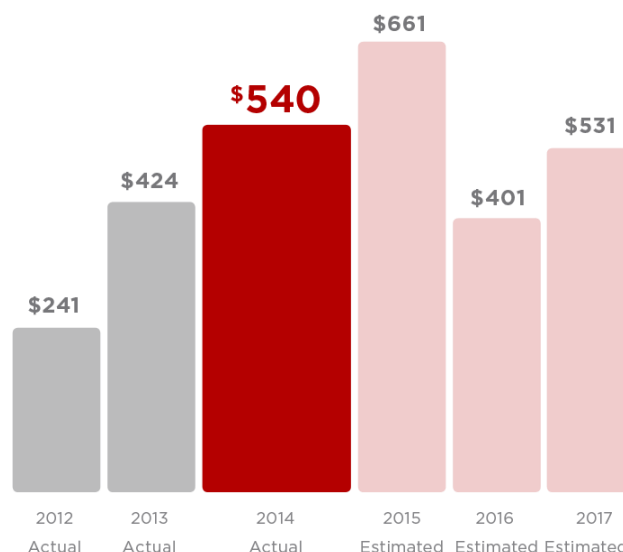
# Environmental Regulations

The increasing scope and stringency of environmental regulations pose technical and financial challenges for our industry. These challenges, including uncertainties with timing, scope and magnitude of future environmental regulations, are influencing decisions to upgrade or retire coal-fueled generating units. It also affects the planning process for new generation projects across our industry.

Across our sector, the Edison Electric Institute (EEI) estimates that nearly 70,000 MW of coal-fueled generation will be retired by 2022, which represents a 20 percent reduction of U.S. capacity since 2010. During this period, AEP will retire approximately 6,500 MW of coal-fueled capacity. Approximately another 30,000-49,000 MW of existing coal-based generation could potentially be impacted by 2020 across the country due to the EPA's Clean Power Plan (CPP). In addition, the CPP proposes to increase the use of existing natural gas combined cycle units and expand the growth of new renewable generation and energy efficiency programs. Not only will these changes have significant cost implications, but the cost to evaluate, design and implement any related upgrades to the transmission system could be equally significant. When considered in context with all of the new pending environmental requirements that apply to the utility industry, our investments and cost to comply will be substantial.

AEP’s active participation in development of new regulations is intended to ensure that new requirements are achievable, based on sound science, consistent with statutory authority, balanced with other rulemakings, weigh the cost of compliance for customers, and can be implemented in a rational time frame. Compliance is important to us, but we also have a responsibility to our investors who make the required capital investment and to our customers, who will ultimately pay for the implementation of compliance strategies and who will continue to expect reliable electric service.

## Historical & Projected Environmental Investments (\$ in millions)



Includes all environmental projects.

2012-2015 includes owned generation, post-allocated costs and AFUDC; 2016 and 2017 estimates only include owned and post-allocated costs.

## Regulations Update

### Mercury and Air Toxics Standards

One of the most stringent of the federal regulations, the [Mercury and Air Toxics Standards](#) (MATS) rule, was finalized in 2012, and establishes unit-specific emission requirements for mercury, metals and acid gases. An appeal of the rule is ongoing. In April 2014, the D.C. Circuit Court upheld the MATS rule. In November 2014, the U.S. Supreme Court granted petitions to consider whether costs should be considered in determining how to regulate electric generating units under Section 112 of the Clean Air Act. The parties to the case have filed briefs, the Court has heard oral arguments, and a decision is expected by mid-year. Potential outcomes and implications are uncertain.

Since the rule remains in effect and the compliance deadline has not changed, AEP continues to move forward with the implementation of our MATS compliance strategy and does not foresee any material changes in coal retirement and retrofit plans for the AEP system – even if the MATS rule were to be overturned. Our compliance strategy includes the installation of emission control retrofit projects, conversion of certain coal units to natural gas, and the retirement of other coal units.

The MATS compliance deadline is April 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 the time needed to retrofit units. In large response to this regulation, AEP has determined that the more than 6,500 MWs of capacity do not warrant increased investments and [will be retired](#) by the compliance deadline for this rule.

### 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. In 2011, the EPA finalized the Cross-State Air Pollution Rule (CSAPR) as a replacement for CAIR. It, too, was challenged and the U.S. Court of Appeals for the D.C. Circuit vacated CSAPR in 2012 and reinstated CAIR requirements until a replacement to CSAPR was finalized.

On April 29, 2014, the U.S. Supreme Court reversed the decision to vacate CSAPR and remanded the rule back to the D.C. Circuit Court for further proceedings. The D.C. Circuit Court lifted the stay of CSAPR on Oct. 23, 2014, paving the way for Phase I of CSAPR emission budgets to begin in 2015. Phase II begins in 2017; these actions ended CAIR requirements.

In December 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.

### ***National Ambient Air Quality Standards (NAAQS)***

The Clean Air Act requires the EPA to periodically review and, if needed, revise [National Ambient Air Quality Standards](#) (NAAQS). Several NAAQS have recently been revised, are under review, or are currently being implemented by states that could possibly lead to additional emission reduction requirements. These include NAAQS for SO<sub>2</sub> (revised in 2010), NO<sub>2</sub> (revised in 2010), fine particulate matter, PM<sub>2.5</sub> (revised in 2012), and ozone (proposed in December 2014). In the December 2014 proposed revision to the ozone standards, the EPA requested comments on revising the standard from its current level of 75 parts per billion (ppb) to a value between 65-70 ppb. This proposal has generated considerable concern among many states as well as across many other industries. Comments have been submitted and the EPA is scheduled to issue a final decision in October.

After NAAQS revisions are finalized, states must designate areas that do not meet the standards (known as non-attainment areas) and develop and implement plans to bring them into compliance. Because of the expected stringency of each of the revised standards, additional NO<sub>x</sub> and SO<sub>2</sub> reductions are possible for the AEP coal fleet. However, the scope and timing of potential requirements is uncertain and it may be later this decade, at the earliest, before we have more clarity.

### ***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 its coal-fueled Northeastern Station unit 4 in 2016. In addition, PSO will retrofit Northeastern Station unit 3 with emission controls in 2015, and will retire this unit 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.

In 2012, the EPA partially approved the proposed Arkansas Regional Haze Plan. On March 6, 2015, the agency proposed a Federal Implementation Plan in lieu of a state plan. The scope and timing of requirements for AEP's Flint Creek Plant are consistent with the projects that have been approved by the Arkansas Public Service Commission, but are uncertain until the plan is finalized.

### ***Greenhouse Gas (New Source Performance Standards)***

AEP continues to engage the federal government as it moves forward to develop emission standards of performance for CO<sub>2</sub> emissions from new and existing fossil fuel-based power plants. As one of the nation's largest electric utilities, we have particular interest in helping to shape these regulations to ensure that they are technically, financially and statutorily feasible.

The EPA is pursuing the development of New Source Performance Standards (NSPS) to reduce greenhouse gas emissions from existing and new fossil fuel-fired electric generating units. On June 18, 2014, the EPA proposed emission guidelines for existing units under Section 111(d) of the Clean Air Act. Separately, on January 8, 2014, the agency proposed NSPS for new units under Section 111(b). AEP submitted extensive legal and technical comments to the EPA on both proposed rules. The agency has announced that both rules are expected to be finalized in 2015.

We believe that the EPA's GHG Standards should take into account the following principles:

- New rules should help maintain the generating fleet that currently powers America, including existing non-emitting resources such as nuclear. 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 (CCR)***

How coal combustion residuals (CCR) are managed has been a focus of the EPA for the past five years as it considered a couple of options for regulating CCR.

In December 2014, the EPA signed a rule to regulate the disposal and beneficial re-use of coal combustion residuals, including fly ash and bottom ash generated at coal-fueled electric generating units. The final rule requires certain standards for location, groundwater monitoring, and dam stability to be met at landfills and certain surface impoundments at operating facilities on a schedule spanning approximately four years after publication of the final rule in the Federal Register. If existing facilities

cannot meet these standards, they will be required to close, if adequate alternative disposal options are available. Extensions are available for completion of certain activities.

## 2014 AEP Total System Coal Combustion Products (CCP) Utilization Summary (in millions)

	2014
Total CCR Produced (tons)	9.9
CCP Donated (tons)	.086
CCP Used Internally (tons)	2.2
CCP Sold (tons)	1.3
CCP Utilized (tons)	3.7
Total CCP Avoided Cost	\$26.4
Total CCP Revenues	\$9.8
Total Value	\$36.2
<b>Percent Total Utilization Based on Total Production</b>	<b>37%</b>

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

retirement of several coal-fueled generating units in 2015. Plants that close before the new federal CCR rule goes into effect in October 2015 will be exempted from the new federal rule but the facilities will still be regulated under state programs.

In 2014, AEP generated approximately 9.9 million tons of CCRs and was able to beneficially reuse approximately 3.7 million tons, or 37 percent of the total. Beneficial reuse of CCRs (considered to be products if they are beneficially reused), avoided more than \$26 million in disposal costs in 2014 and generated more than \$9 million in revenues.

### 316(b) Standards

New rules governing cooling water intake systems, known as [316\(b\) standards](#), were finalized in 2014 with a phased-in compliance timeline. The EPA issued a final rule setting forth standards for existing power plants that will reduce mortality of aquatic organisms pinned against a plant's cooling water intake screen (impingement) or entrained in the cooling water. The standards affect all plants withdrawing more than two million gallons of cooling water per day and establish specific intake design and intake velocity standards meant to allow fish to avoid or escape impingement. 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

Since the EPA announced the rule, AEP engineers, environmental specialists, attorneys and others have been reviewing it to identify its impacts on the company's ash disposal practices and facilities. We believe the EPA's regulation of CCRs as non-hazardous waste is appropriate to ensure the continued disposal of these materials in an environmentally sound way and to allow for continued beneficial reuse of these materials.

AEP owns 44 CCR ponds, most of which will be regulated under this rule. These facilities include impoundments used to store fly ash, bottom ash or products of the flue-gas desulfurization process. AEP is in compliance with or is on its way towards compliance with several aspects of the new rule.

We have groundwater monitoring systems in place at most of the impoundments and we plan to close 20 ash ponds, mostly due to the

by heat, physical stress or compounds used to prevent build-up of algae and slime that can affect the efficiency of the system.

Our Cook Nuclear Plant on Lake Michigan is subject to both the impingement and entrainment aspects of the rule. Based on our evaluation of the rule, the plant's intake structure already meets the impingement requirements and the plant has begun the work on the entrainment studies that are required. We are working closely with the state agency to ensure that those studies include all of the information needed for them to make their determination.

The rule does not mandate cooling tower retrofits at power plants. Facilities that withdraw very large amounts of water – at least 125 million gallons per day – must conduct studies to help the permitting authority determine what site-specific entrainment controls, if any, will be required. The rule expands the number of approaches we can use to address impingement as well. In general, units with properly operated recirculating systems using cooling towers will require no further impingement-related modifications.

Compliance with this standard is required within eight years of the effective date of the final rule. The standard for entrainment for existing facilities requires a site-specific evaluation of the available measures for reducing entrainment. Challenges to this final rule have been consolidated in the U.S. Court of Appeals for the Second Circuit, and additional changes could be made to this rule as a result of review by the court.

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

The Clean Water Act directs the EPA to set, periodically review and update [effluent limitation guidelines](#) that regulate wastewater discharges 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 in 2014 but the EPA has delayed the release of the standards to September 30, 2015.

We continue to study the possible impact if we are required to move from wet to dry handling of coal ash. To comply with existing treatment standards, many of our coal ash ponds provide treatment of ash wastewater from the plants in addition to many other 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. Depending on the outcome of the rulemaking, we may be able to repurpose some of these ponds by removing the coal ash, relining the ponds to meet current design standards, and continue their use to treat the remaining waste waters.

We may also have to install additional technology to further treat scrubber waste waters at the Amos, Cardinal, Conesville and Mitchell Plants. AEP engineers and scientists have been working directly with the EPA to demonstrate the technical limitations of this technology, as well as others that are being considered by the agency.



## ***"Waters of the United States"***

In 2014, the EPA and the U.S. Army Corps of Engineers jointly proposed a rule to clarify the scope of "waters of the United States" protected under the Clean Water Act. The intent of the rule is to remove uncertainty about the extent of federal jurisdiction over various types of waterbodies, especially those that are at the upper fringes of a watershed, or those that may not have a visibly distinct connection to downstream waters. There is considerable controversy about whether the proposed rule would actually expand federal jurisdiction, rather than simply clarify the status quo. While we understand and fully agree with the agencies' position regarding the need to provide better certainty for the regulated community, there are still aspects of the proposal that do little to provide clarification.

If approved as is, the rule change could adversely impact critical utility operations including siting and construction of energy transmission and renewable energy resources. This could increase the number of projects requiring permits, the potential level of impacts requiring mitigation, create difficulty in finding alternate routes for transmission lines, and increase the complexity and time associated with the siting and permitting process. All of this would also impact the workload placed upon environmental agencies.

## **New Source Review**

In 2007, AEP signed 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)

- [2014 NSR Annual Report](#)
- [2013 NSR Annual Report](#)
- [2012 NSR Annual Report](#)
- [2011 NSR Annual Report](#)
- [2010 NSR Annual Report](#)
- [2009 NSR Annual Report](#)
- [2008 NSR Annual Report](#)

## **Climate Change**

AEP is committed to providing safe, reliable and affordable electricity to its customers and we have met this obligation for over 100 years. At the same time, we recognize the need to responsibly address the issue of climate change. We have proactively addressed carbon emissions through our planning

processes and, as a result, AEP is already a less carbon-intensive company than a decade ago and, as we retire additional coal units and increase our use of renewables and other resources, our carbon profile will continue to improve. However, with respect to mandated climate action, we strongly believe that any carbon policy or regulation must be rational in terms of timing, scope and reduction targets. Additionally, any climate action framework should be built on consensus and take into account the regional differences in the role of carbon within our economy to ensure that there is not undue economic harm.

In 2014, the U.S. Environmental Protection Agency (EPA) proposed the Clean Power Plan (CPP), a regulatory approach to addressing carbon emissions which creates a significant reliability risk for the grid and affects affordability of electricity throughout the United States.

Any plan to reduce greenhouse gas emissions must be accompanied by a thorough assessment of the impact on electric grid reliability, allow adequate time for implementation, respect the authority of states and other federal agencies, and preserve a balanced, diverse mix of fuels for electricity generation. The EPA's proposal does not do this.

## The Clean Power Plan

On June 2, 2014, the EPA proposed the Clean Power Plan (CPP) under Section 111(d) of the Clean Air Act. The CPP identifies four sets of measures – also known as building blocks – that utilities and states can use to develop the best plan for reducing carbon emissions. The four building blocks are designed to:

- Make existing coal-fueled power plants more efficient;
- Increase the dispatch of natural gas combined cycle units to displace coal and other fossil units;
- Increase use of renewable energy to achieve, in effect, a 13 percent national renewable portfolio standard by 2030 and preserve current nuclear generation; and
- Decrease electricity consumption 1.5 percent annually through energy efficiency.

The EPA claims the plan would result in a 30 percent reduction in electric sector CO<sub>2</sub> emissions from 2005 levels by 2030. Based on AEP's actual 2014 emissions of 122 million metric tons, our CO<sub>2</sub> emissions have been reduced 15 percent, compared with our 2005 emissions of approximately 145 million metric tons. Under the EPA's plan, AEP would not receive credit for these reductions, unfairly we believe, and deep additional cuts would still be needed to satisfy the goals established by the EPA.

AEP submitted extensive comments to the EPA on the proposed Clean Power Plan that identified concerns on a wide range of issues, including the EPA's interpretation of the scope of its legal authority to control all aspects of the generation, transmission, distribution and use of electric energy. Our comments also included a detailed examination of the technical information underlying EPA's calculation of individual state emission rate "goals," the proposed schedule for development and submission of state plans, and the challenges of demonstrating compliance with the interim and final goals. Based on these concerns, AEP recommended that the EPA withdraw the proposal, address the

significant legal, technical, and practical flaws that exist, and resubmit the guidelines for public comment.

We believe that the electric sector can successfully reduce carbon emissions with a less prescriptive rule that has more realistic targets and timelines. The intrusion by federal regulators into areas traditionally regulated by the states is of particular concern. AEP believes the EPA must eliminate the 2020-2029 interim goals and respect the authority of the states, under the Clean Air Act, to develop state-specific standards that take into account local circumstances and allow time to build new infrastructure – including gas pipelines, transmission facilities and other new generation resources.

AEP will continue advocating for a more reasonable plan that addresses the concerns we have identified. In an effort to be clear about where we stand and to share the concerns expressed by the transmission regions in which we operate and independent system operators about the potential threat to grid reliability, we created a website – [“GetItRightEPA.”](#)

We are ready to work with the states, the Administration, Congress and our customers to develop a common-sense approach to further reduce our greenhouse gas emissions. We remain engaged with our many stakeholders, including those in the environmental community, to identify the best solution to reduce carbon emissions in the electric power sector that achieves the desired environmental outcome while protecting grid reliability and customers from unnecessary price spikes.

## Water

Water is a critical input in the production of electricity. It is used in power plant boilers as well as for cooling, cleaning and in some cases to transport fly ash and bottom ash. Water is also the source of hydroelectric power and provides transportation for our barge fleet to operate on the Ohio, Missouri and Mississippi Rivers.



Water quality, availability, use and management are increasingly important sustainability issues for our society and our company. 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. We are also participating in industry research to find new ways to treat waste water and reduce the use and consumption of water by power plants.

AEP places a high value on reporting our usage and management of water throughout our system. One way we do this is through voluntary reporting efforts. We have participated in the [Carbon Disclosure Project Water Survey](#) for six years now. In 2015, the questionnaire was issued on behalf of 573 investors representing \$60 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.

# Water Quality Improvements

In August 2014, proposed consent decrees were filed in two federal courts to resolve a coalition of environmental groups' allegations against AEP's Amos, Mitchell and Kammer plants in West Virginia. The allegations involved water discharges from various sources at the plants. As part of the settlements, the company agreed to meet future limitations for mercury and selenium at the John Amos Plant. At the Kammer Plant, AEP will retire all three units and stop sluicing fly ash to the Conner Run fly ash pond no later than Dec. 31, 2015. The Mitchell Plant completed its conversion to a dry ash system and met new effluent limitations at the fly ash impoundment outlet in November 2014, and undertook a study of aquatic life at Conner Run during the summer of 2014. AEP also agreed to make a \$75,000 contribution to the West Virginia Land Trust, pay \$7,500 in civil penalties, and reimburse the groups' attorney fees.

## *Water Research Center*

AEP is one of 15 companies that have joined the Electric Power Research Institute and the [Southern Research Institute](#) to establish a first-of-a-kind research facility to address power plants' water usage and treatment. The [Water Research Center](#) at Georgia Power Company's Plant Bowen focuses on finding new ways to manage and treat wastewater and to reduce and conserve water used in the production of electricity.

## **Ohio River Basin Water Quality Trading Project**

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. We are 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 has purchased 5,000 stewardship credits so far, and has agreed to retire the associated nutrient and ecosystem benefits. These benefits include carbon sequestration, habitat enhancement, soil runoff control and pollinator habitat. AEP's participation has already reduced nutrients by 1,700 pounds and will reduce nutrients by 3,300 pounds by the end of 2015.



Although the credits cannot currently be used for compliance, this important program demonstrates that science- and market-based solutions can effectively address environmental concerns. The program is good for farmers, the environment and the participating companies. In 2015, the program was awarded the [U.S. Alliance – United States Water Prize](#).

# Waste and Chemical Management

We manage many types of waste that result from the process of generating electricity, operating office buildings, and repairing and replacing equipment. We continue to make progress to reduce waste and divert waste from landfills through beneficial reuse or recycling.

The amount of polychlorinated biphenyl (PCB)-containing equipment used across the company continues to decline. PCBs, which are known to have adverse health effects, 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 45,000 pieces of electrical equipment in 2014; less than 0.4 percent of these items were found to contain PCBs greater than 500 parts per million (ppm).

## AEP Total System Waste Stream

Measurement	2012	2013	2014
Hazardous Waste Generated (lbs)	1,729,607 <sup>1</sup>	1,243,754 <sup>2</sup>	140,881 <sup>3</sup>
Hazardous Waste Disposed (lbs)	1,717,755	1,234,978	132,149
Hazardous Waste Recycled (lbs)	11,852	8,776	8,732
Paper Recycled (lbs) <sup>4</sup>	2,400,642	11,029,559	1,461,180
Metal Recycled (lbs)	1,798,375 <sup>5</sup>	48,405,496	34,645,343
Light Bulbs Recycled (lbs)	169,129	147,286	180,086
Batteries/Lead Recycled (lbs)	260,678	233,015	216,333
Electronic Equipment Recycled (lbs)	251,250	433,129	284,632
Oil Recycled (gallons)	1,386,174	1,584,230	1,429,432
Beneficially Reused CCP (tons)	3,080,738	3,148,192	3,669,478
Parts Washer Solvent Recycled (gallons)	22,089	42,372	33,950
Oily Water Cleaned & Recycled (gallons)	144,665	755,332	570,316
Antifreeze Recycled (gallons)	7,411	3,183	7,242

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

<sup>2</sup> Includes 1,076,859 pounds of boiler cleaning waste from Wilkes Plant and Flint Creek Plant

<sup>3</sup> Includes 74,700 pounds of boiler cleaning waste from Welsh Plant. Chemical boiler cleaning fluids are typically segregated and tested independently - this was the only boiler cleaning batch that resulted in the generation of hazardous waste in 2014.

<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

The EPA is developing a proposed draft rule that would potentially require the phase out of certain PCB-containing equipment (potentially including equipment containing 50 ppm PCB or greater). AEP operates hundreds of thousands of pieces of electrical equipment that could be affected by the draft rule. Current regulations require that if you do not know the PCB content of certain types of equipment, you

must assume that they contain 50 ppm of PCBs or greater. Due to the types, locations and quantities of the potentially affected equipment throughout the AEP system, the expense of identifying, sampling and potentially replacing all of this equipment, if required, would be quite costly.

We had approximately 1,400 transmission and distribution equipment oil spills in 2014, down from approximately 1,800 in 2013. Two of the spills contained greater than 500 ppm PCBs in 2014 compared with 10 spills in 2013. Most spills are related to storms and vehicle accidents that damage the equipment and cause a spill.

During 2014, the waste streams we recycled included approximately 1.4 million gallons of oil, 1.4 million pounds of paper and mixed office waste, 34 million pounds of scrap metal, 180,000 light bulbs, 216,000 pounds of batteries and more than 284,000 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.

## 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. However, the government has stopped developing the Yucca Mountain storage facility in Nevada, leaving generators with no place for permanent disposal.



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 face significant future financial commitment to dispose of spent nuclear fuel. We need a national solution for the long-term disposal of spent nuclear fuel, which should be part of a national energy plan.

Since 1983, I&M - along with all U.S. nuclear plant operators - has been required to collect fees that went 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 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.

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 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. In 2015, 16 additional casks are expected to be loaded, with future loadings to occur every three years thereafter. The current cask storage facility is designed to store 94 casks for a total of 3,008 spent nuclear fuel assemblies. This would support the operation of both units through the current operating license dates of 2034 for Unit 1 and 2037 for Unit 2. The pad could be expanded to facilitate removal of all fuel assemblies from the plant's spent fuel pool and full decommissioning of both units.

## Natural Resources

It is challenging to practice environmental stewardship while providing electricity at affordable rates. AEP is meeting this challenge in several ways. For example, efforts are underway to implement vegetation management practices on our transmission rights of way to encourage wildlife, while at the same time, meeting all North American Electric Reliability Corporation (NERC) requirements. We are also working with the Electric Power Research Institute (EPRI) to find more ways to generate power and create benefits for the environment at the same time. EPRI's [Ohio River Water Quality Trading Program](#), of which AEP is a participant, is one good example.

Increasingly, endangered or threatened species are of growing concern nationally. 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.



In Eastern Oklahoma and parts of Arkansas and Texas, AEP is required to take steps to protect the American burying beetle (ABB) when building projects in its range. The ABB was listed as an endangered species in 1989 and any disturbance of its habitat must be offset. When the ABB is found in

areas where a proposed transmission line route is being considered, we are faced with restrictions regarding construction activities (including clearing activities) that may disturb their habitat. This can lead to substantial project delays which can increase costs. AEP Transmission is developing a long-term habitat conservation plan for the ABB. Although there are costs associated with developing and implementing such plans, having a plan in place protects the species while reducing time constraints for meeting project schedules.

The Indiana bat is another species AEP is mindful of. The bat has been on the federal endangered species list since 1967. The bat is known to be located in 9 of the 11 states in which AEP operates. In some areas, tree cutting during certain times of the year must take into consideration potential effects on the Indiana bat habitat. Since the Indiana bat roosts under tree bark or crevices, areas with potential habitat trees must be evaluated prior to tree clearing.

AEP provides information about how we manage these and other issues through our participation in business and environmental disclosure surveys, such as the [Global Reporting Initiative](#) and the [Carbon Disclosure Project](#). AEP voluntarily discloses its social, economic and environmental challenges through its responses to these surveys, which are then reviewed and ranked and made public. This information is shared with investor groups, shareholders, government agencies, and other public organizations. Responses to questions regarding the company's management of social issues, such as employee benefits, demographics, and safety issues, economic issues, such as rate cases, deregulation and national economic trends, and environmental issues, such as new regulations, compliance, and natural resource use, are also provided in these surveys. These responses provide a valuable insight into how the company addresses and manages what many consider to be important business risks.

## Avian Protection

For more than three decades, the utility industry, conservation groups, wildlife resource agencies and others have worked together to understand why birds collide with or are electrocuted by power lines. This is a growing concern as construction of new transmission facilities and renewable energy facilities accelerates across the United States.



To reduce avian mortality, utilities have adopted voluntary company-specific Avian Protection Plans (APP) to mitigate the risks associated with bird interactions with electric utility facilities. AEP's APP was completed in 2013 and we initiated the process of implementation. The plan's purpose is to reduce the incidences of bird electrocutions and collisions with AEP's equipment, and to reduce the frequency of bird-caused outages.

As AEP makes significant investments in new transmission and rebuilds older lines, the implementation of the APP is important to prevent birds from coming into contact with our facilities. The APP also reflects our commitment to comply with

environmental requirements that protect birds. We participate in the industry's Avian Power Line Interaction Committee (APLIC) which helps us reduce bird interactions with our equipment.

## **AEP's Avian Protection Plan**

AEP manages bird/power line interactions through a system-wide program across our 11-state service territory, where a wide variety of bird species can be found. Currently, AEP's primary challenge is on larger species that are more likely to be electrocuted in substations and on poles, or collide with towers and lines.

The APP has several key components:

- Employee training and compliance – We educate our employees and provide training on compliance with all federal and state laws.
- Construction design standards and mortality reduction measures – We have a process to incorporate bird safety into the design of new lines and facilities.
- Nest management and avian enhancement options – We apply bird-safety tactics such as installing a dedicated de-energized pole for bird nesting or bird diverters to keep them away from wires.
- Avian reporting systems and risk assessment methodologies --We are updating our tracking system to improve our monitoring and reporting capabilities to allow us to be more proactive.
- Public education – We promote the need for migratory bird and habitat conservation and work cooperatively with federal and state agencies and non-profit organizations.

Our goal is to be proactive in preventing bird deaths and collisions. To do this, we seek to continuously improve the training employees receive to enhance their knowledge and awareness of what to do when an event occurs and actions they can take to prevent it from happening in the first place.

## **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**

Reliable electric service is a critical public need. Our nation's economic success and security depends upon our ability to preserve this fundamental resource. It is an indispensable part of our everyday lives, making life easier. We expect it to be there all the time to power the machines, electronics and systems that drive just about everything we do.

Our industry has a strong track record of maintaining high levels of reliability. When power outages do occur, we respond quickly - and unlike any other industry - we can call on our peers to provide assistance when and where we need it. Our decades-old mutual assistance network is the cornerstone of our commitment to get the power back on as quickly as possible following a major incident. Technology is increasingly important to reliability – for us and our customers.

We face many challenges affecting our ability to maintain the 262,000-miles in our transmission and distribution network while also upgrading infrastructure to meet future demands and changes occurring in our generation portfolio. Our challenges include the age of our infrastructure, the threat of external interruptions, retiring coal units, the need for greater capacity and appropriate market valuation of existing capacity, the difficulty of siting new facilities, new and future environmental regulations, and the cost of needed investments.

In response, we are investing in infrastructure and using technology to proactively prevent and mitigate service disruptions and to better communicate with our customers. Through our lean initiatives we are identifying processes and procedures to improve the experience our customers have when interacting with AEP.

## **2014 Performance**

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. They do not include major storms. 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) represents how many minutes the average customer experiences an interruption in electric service in a given year. During 2014, the AEP System SAIDI was 219.9 minutes, excluding major events, a 9.8 percent increase from 2013. The growth of vegetation contributed to about 32 percent of SAIDI results and failure of distribution line equipment accounted for about 21 percent of service interruptions.

The System Average Interruption Frequency Index (SAIFI) represents the number of interruptions experienced by customers in a year. During 2014, the system's SAIFI was 1.375, a 3.5 percent increase from 2013. Vegetation and distribution line equipment failures were also the major contributors to SAIFI performance.

The Customer Average Interruption Duration Index (CAIDI) represents the average length of time it takes to restore service when an outage occurs. AEP's 2014 CAIDI was 160.0 minutes, a 6.2 percent increase from 2013. 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.

### Annual AEP Systemwide Reliability Indices

	2012	2013	2014
SAIFI <sup>1</sup>	1.317	1.329	<b>1.375</b>
SAIDI <sup>2</sup>	193.0	200.2	<b>219.9</b>
CAIDI <sup>3</sup>	146.6	150.6	<b>160.0</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.

## 2014 Total AEP System Overhead Circuit Miles

### Vertically Integrated Utilities

Company	Transmission & Distribution	765 kV Lines
Appalachian Power Company	51,612	733
Indiana Michigan Power Company	21,868	616
Kingsport Power Company	1,401	-
Kentucky Power Company	11,171	257
Public Service Company of Oklahoma	20,877	-
Southwestern Electric Power Company	27,434	-
Wheeling Power Company	1,731	-
<b>Total Circuit Miles</b>	<b>136,094</b>	<b>1,606</b>

### Transmission & Distribution Utilities

Ohio Power*	45,486	507
AEP Texas Central Company	29,515	-
AEP Texas North Company	17,127	-
<b>Total Circuit Miles</b>	<b>92,128</b>	<b>507</b>

\* Includes 766 miles of 345,000-volt jointly owned lines. Does not include 32,000 underground circuit miles.

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 \$281.9 million in 2014. The issue of reliability has prompted several states to consider or implement shorter intervals between tree trimming programs.

In 2014, the Public Service Commission of West Virginia approved a new vegetation management program for Appalachian Power and Wheeling Power. The new program will move tree trimming and other vegetation management to a four-year cycle. It will take six years to fully implement the program, which will lessen future storm impacts. In its approval, the Commission concluded that severe weather incidents



since 2009 made it clear that utility distribution and transmission systems should be made more resistant to damage from vegetation during major storms.

In early 2015, the Public Utilities Commission of Ohio reaffirmed the value of two existing programs designed to improve reliability and replace or upgrade aging infrastructure. AEP Ohio's Distribution Investment Rider allows for proactive investments in aging distribution infrastructure in order to maintain and improve service reliability. The PUCO also approved AEP Ohio's request to continue its Enhanced Service Reliability Rider that supports a proactive vegetation management program to reduce the impact of weather events to reliability and to maintain overall system reliability.

Representative transmission reliability projects that are under way across our service territory include several major upgrades and enhancements across the state of Ohio to modernize the state's transmission network. Power plant retirements in West Virginia centered in the Kanawha and Ohio River valleys require new transmission to accommodate changes in power flows that will occur as a result of the retirements. The new lines and upgraded substations are expected to be in-service in spring 2017. In another project, AEP is building its first 500-kV station in Louisiana that is expected to be in service in March 2016. Once complete, this project will relieve potential overloads on neighboring transmission lines, support local growth and provide a stronger platform for power from the Dolet Hills Power Plant, which we partially own.

One of the most significant reliability projects under way is in Texas along the Lower Rio Grande Valley (LRGV) to deliver additional electricity to the fast-growing area. This project will provide emerging wind generation and other resources access to the grid. The projects are being jointly constructed by Texas-based Electric Transmission Texas, LLC. (ETT), a joint venture of subsidiaries of AEP and Berkshire Hathaway Energy Company and Sharyland Utilities. ETT has other projects under way, including more than 20 projects with various completion dates scheduled through 2024. ETT will have more than \$3 billion in investments over the next decade.

## Reliability and Conservation

We continue to seek opportunities to integrate conservation measures into our management approach to rights of way (ROW) for new and rebuilt transmission lines. This would involve addressing key ecological concerns while maintaining reliable transmission service. We are working with the Wildlife Habitat Council (WHC) to develop a "conservation tool kit" that will provide a range of conservation options for ROW land management. The toolkit will provide AEP with options to incorporate



environmentally beneficial conservation practices into our ROW management efforts that are both economical and protect reliability as we rebuild old lines and build new ones.

The Eagle Watch Nature Trail at our Flint Creek Plant in Arkansas is one example of our successful partnership with the WHC.



AEP has a long history of partnering with the WHC on a variety of projects, primarily involving our power plants. The Eagle Watch Nature Trail at our Flint Creek Plant in Arkansas is one example of our successful partnership with the WHC. AEP's Real Estate Asset Management group also works with the WHC to enhance our ReCreation Lands – approximately 60,000 acres in southeast Ohio of reclaimed mine land. Among the stewardship initiatives we work on together are food plots and duck habitat.

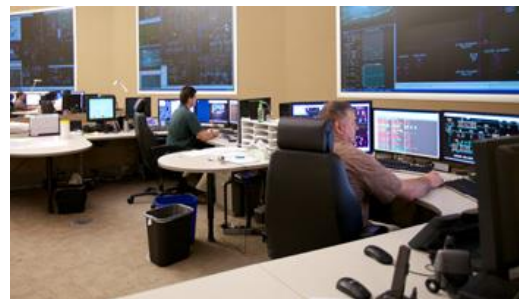
As business needs and environmental focus have evolved, so has our approach to stewardship. By adopting a tool kit approach, we will be able to efficiently leverage resources and develop conservation options that are replicable from project to project. It will also support our work with stakeholders and landowners to facilitate discussions and solutions around construction and maintenance. In addition to the WHC, we have relationships with many other conservation and environmental organizations with whom we continue to collaborate.

[Learn more about AEP's environmental stewardship efforts.](#)

## Reliability Compliance

It has been more than 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. Noncompliance with NERC reliability standards can lead to serious financial consequences as well as reputational risk. Developing a culture of compliance has been a priority for us and our commitment to this was most recently reflected in the outcome of a 2014 NERC audit.



We engage our employees through continuous communication about their contribution to AEP's reliability compliance. Things as simple as wearing an employee identification badge at all times and following facility access control policies, such as not allowing people to "tailgate" into buildings, are the types of actions that ensure the security of our facilities. These practices are necessary and effective in preserving the integrity of the services we provide and contribute to the safe operation of our assets.

In November 2014, AEP went through a rigorous NERC Reliability Standard Audit and Critical Infrastructure Protection (CIP) requirements review, which covers cybersecurity issues. NERC focused on 33 of 43 requirements in its audit. The audit cycle for AEP's compliance with NERC CIP standards occurs every three years.

Auditors requested an unprecedented amount of data and conducted on-site investigations and interviews. The auditors focused on procedures and policies, specific safeguards in place to protect cyber assets and measures to prevent unauthorized physical and cyber access to transmission assets.

AEP officially received two possible violations. Auditors recognized AEP for its progress in achieving a strong compliance culture, an improvement from the feedback AEP received following a 2009 CIP audit.

The compliance arena is very fluid and we must constantly split our attention between what is required today and what might be required tomorrow. Due to this rapid development, CIP version 4 was never put into effect and preparation is already under way to transition to CIP version 5. Preparing for new more stringent standards while maintaining today's systems and networks will be a daunting task. AEP must be fully compliant with CIP version 5 for high- and medium-risk cyber systems by the April 1, 2016 enforcement date. To manage this, we have created a governance structure to oversee the effort. We are currently reviewing standards, finalizing gap analyses and working toward implementation by the end of 2015.

In 2015, we will undergo three more audits on non-CIP standards. The focus will be on other activities we undertake to maintain reliability of the grid, including many processes such as tree trimming and protective equipment maintenance. Audits will be conducted by the PJM Interconnection, Southwest Power Pool Regional Entity, Reliability First, and the Texas Regional Entity.

## **Reliability Assurance Initiative**

Historically, compliance with NERC standards has been based on a one-size-fits-all, zero tolerance model. That approach is changing with NERC's implementation of the [Reliability Assurance Initiative](#) (RAI). NERC initiated RAI in 2012 as a means of shifting to a more collaborative process of identifying reliability risks and using that information to better gauge future compliance monitoring and enforcement efforts. On Feb. 19, 2015, FERC approved the transition to a risk-based approach pending some modifications. We agree that this new reliability philosophy is much more effective and efficient because it allows us to focus on higher-risk issues, thereby boosting system 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. This risk-based approach enhances the effectiveness of NERC's enforcement program by focusing resources on the areas that present the greatest risk. Compliance activities include self-certifications, audits and spot checks to encourage continuous improvement of internal controls.

## **Grid Resiliency**

One physical threat to the electricity infrastructure is severe weather. When weather causes power outages, there are financial costs, as well as political and social risks, especially when the disruption is prolonged. We cannot completely prevent power outages, but we can take storm hardening measures to

reduce the damage from a major event, improve recovery time when a disruption occurs, reduce the number of outages and lower the costs to customers.



Based on recommendations from our Distribution Storm Hardening Strategy Team, we have implemented new design criteria to strengthen, or harden, the distribution system in 2014. We now 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, where hurricanes are a bigger issue, we continue to design facilities to withstand 150 mph winds. In 2014, approximately 105,000 poles were designed using the new storm hardening criteria across the AEP system.

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 we are using include 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 allows us to put our resources to work where they deliver the most value for our customers.

Nationally, and within our service territories, hardening, reliability and grid modernization initiatives have garnered support from state utility commissions.

In October 2014, Indiana Michigan Power Company (I&M) filed a request with the Indiana Utility Regulatory Commission (IURC) for a seven year infrastructure improvement program. The I&M Reliability Enhancement Program seeks to invest approximately \$787 million in its Indiana infrastructure, starting in 2015. The program calls for replacing poles, wires and other infrastructure, that in many cases, are decades old, with modern, state-of-the art equipment. In addition to the overhead lines customers see every day, crews will also reinforce reliability in I&M's underground metropolitan networks with updated wiring and configurations.

The IURC's approval is still pending for the Transmission, Distribution and Storage System Improvement Charge (TDSIC) initiatives. If approved the TDSIC rider would be 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. The TDSIC allows I&M to plan and finance significant infrastructure improvements over seven years and to lessen the impact on customers through smaller, annual rate increases for necessary infrastructure enhancements. 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.

AEP is focusing on three areas to improve service restoration during large-scale power outages:

- **Implementing the Incident Command System (ICS).** Numerous utilities are moving to this nationally used crisis management tool as a standard for responding to small and large emergencies and incidents.
- **Technology improvements.** Introducing new tools and improving our systems to better manage our workload during major events and to provide more timely and accurate information to customers and other stakeholders.
- **Process improvements.** Working to standardize our assessment process and implement a number of restoration process enhancements that will improve how we manage our crews and other resources.

## 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. As an industry, we are taking steps to improve this process.

### *National Emergency Response*

Improving the coordinated response to power interruptions affecting multiple regions of the United States is the purpose of the National Response Event (NRE) framework, which AEP had a leadership role in developing. The framework's intent is to ensure that resources are allocated to restore power as quickly and as safely as possible in an efficient, coordinated way.



A National Response Executive Committee composed of senior utility executives from all regions of the country 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 were consolidated to allow better coordination of resources. 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.

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

As the industry seeks to improve emergency response following large-scale outages, AEP is simultaneously updating its own plans that take into consideration the lessons learned of the last few years. Our Emergency Response Plan (ERP) is being rolled out across AEP and will be fully implemented in 2015.

A key element of the ERP is establishing 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.

In 2014, the Public Utilities Commission of Texas adopted requirements that electric utilities in the state include in their emergency operations plans ICS training for emergency events. This new mandate, affecting transmission and distribution facilities, re-emphasizes the importance and relevance of ICS. We believe ICS is the way of the future for electric utilities, especially during emergency events that involve other outside agencies.

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 fast, accurate and timely information about when their service will be restored. A customer alert system that provides information on the status of outages rolled out in March 2015 to all AEP customers.

Technology will increasingly play a role in our assessments of damage during an outage. A damage assessment tool being developed will allow damage inspectors to upload their assessments to a cloud database. This will eliminate paper evaluations, allow contractors working for AEP to help with damage assessments and allow us to dispatch crews more efficiently. Most importantly, it will improve our ability to estimate time for restoration that customers want most.

## **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 designed to help us to prevent failures, enable maintenance of equipment based on its condition, and to 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 investors. But there is a finite amount of available resources, and there are competing demands for their use. In 2015, we expect to invest \$3 billion (excluding AFUDC debt and equity) in our transmission and distribution business and approximately \$1.1 billion in our regulated generation business to improve reliability and the customer experience.





## Business Performance


AEP Corporate Accountability Report



marked third consecutive year without an employee fatality since began keeping statistics in 1970

**35%** total shareholder return

More than  
**5.3 million** regulated AEP customers

 **11%** 2026 projected renewable portfolio

**15%**

reduction in CO<sub>2</sub> emissions from 2005 levels



**“Most Trustworthy”** — AEP named America’s 8th most trusted large cap company by GMI Ratings





**Technology and Innovation**

- Employee Innovation
- The Integrated Grid
- gridSMART®
- Developing Technologies

Technology and Innovation

# Technology and Innovation

## 2014 Performance Summary

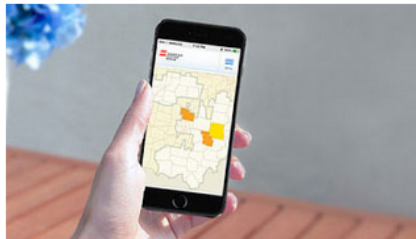
- BOLD™**  
transmission line design  
**7 patents**
- Outage**  
alert system rolled out  
**5+ million customers**
- Solar**  
AEP's 1<sup>st</sup> utility-scale  
**15.7 MW**
- Big Data & Cyber Security**  
AEP's contribution - Columbus  
Collaboratory  
**\$4 million**
- Smart Meters**  
AEP Ohio  
**1+ million installed**

“Advanced technology will be critical as the grid is required to handle more distributed generation and smarter appliances, as well as customers who demand greater flexibility and more information. To protect our economic and national security, the grid must become more reliable and resilient. We will continue to advocate for policies that allow technologies to mature while ensuring those who use the grid pay their share of the costs to maintain the grid.”

— Nick Akins, chairman, president and chief executive officer, AEP

## Customer Mobile Outage Alerts

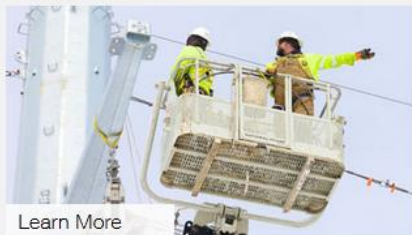
AEP launched mobile customer outage alerts in 2015 to more than 5 million customers. This allows us to provide customers with more timely information about when their power will be restored.



## The Integrated Grid

A robust grid is a critical enabler of generation resource diversity, new storage and demand side technologies. Our investments in the grid will enhance and improve reliability and connectivity while enabling the integration of new technologies. In the future, the grid will likely resemble a technology integration network, with two-way flows of power and information to meet customers' needs.

### Employee Innovation



[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.

### Developing Technologies

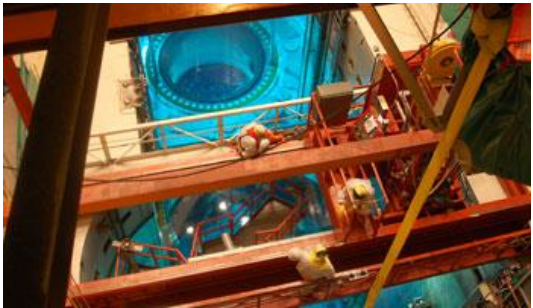


[Learn More](#)

We are learning about and investing in the development of new and emerging technologies.

# Employee Innovation

Innovative companies have a competitive edge. We encourage employees to imagine, explore and to be entrepreneurial, all of which leads to innovation. When presented with a challenge, our employees collaborate to identify solutions. Here are some examples of technology innovation in 2014 that are having significant positive impacts for AEP and our industry:

- Our [Donald C. Cook Nuclear Power Plant](#) earned a “Top Industry Practice” award from the Nuclear Energy Institute (NEI) for an innovative approach to replacing damaged bolts inside the reactor vessel. With no existing tools for this first-of-its-kind problem, the Cook team used remotely operated robotic tools mounted on a temporary frame that were lowered inside the reactor. Using a full-sized mock-up of an actual reactor vessel, the team was able to practice and refine the repair process before attempting to do it. During the training, they also evaluated the repair process for radiological safety. The team replaced 28 bolts in 17 days.
- 
- [AEP Transmission](#) used cutting edge technology with the design of a new and compact extra-high voltage 345-kV line, called [BOLD™](#) (Breakthrough Overhead Line Design). Our employees developed a new, high-capacity 345-kV line design to move power over long distances. The new design provides more capacity, improves the use of ROW land and is more streamlined in appearance. The new line design is being built for the first time in the rebuilding and expansion of an existing 138-kV line near Fort Wayne, Indiana. BOLD™ has received seven patents to date in the U.S., Canada and Mexico.
  - AEP Transmission and IT employees developed a novel smart phone application that improves safety and efficiency for crews entering and exiting transmission and distribution substations. The mobile app was deployed in February 2014, allowing technicians working in the field to check in and out of locations without having to call the transmission and Distribution Dispatch Center every time. It also reduces interruptions for dispatchers during switching processes, providing safety enhancements and cost savings.
  - AEP Transmission deployed a mobile capacitor in 2014 when installing a net meter. The capacitor enabled workers to install a net meter that will measure both the electricity used by a large industrial customer and the power produced by co-generation at the facility for the transmission grid. Without this solution we would have had to schedule a brief outage, which would have created reliability challenges in the PJM Interconnection region.
  - Our employees designed a new customer outage alerts system to provide customers with critical information during power outages. Launched in March 2015, the service is available to more than 5 million AEP customers in 11 states. Initially, customers will be able to sign up to receive alerts via text message or email about outage and restoration activities. We plan to add billing and other information services at a later date.
  - The connectivity of the electric grid will be vital to the utility of the future. In 2015, AEP received the first-ever “EPRI Interoperability Leadership Award,” recognizing industry

leadership in the development and adoption of technologies that help achieve the goal of grid interoperability. AEP's work led to a larger collaborative effort to use a common information model that allows data exchanges between systems, while helping to reduce errors and manual maintenance efforts. This is a critical step in building the information infrastructure that will be required for the integrated grid of the future.

## The Integrated Grid

Today, we are seeing new technology being applied and implemented all along the value chain from generation through transmission and distribution, to homes and businesses. Integrated appropriately, these advancements will over time serve to strengthen the robustness of the network by providing greater diversity of resources and better responsiveness in the grid itself, supporting reliable, efficient and cost-effective delivery of power to all consumers.

We see a grid that is more intelligent and responsive and is valued for the services it provides. Technology innovation and entrepreneurship in our work force are the ingredients for success.

As we invest in the grid, we are learning more about what it takes to achieve the level of flexibility and reliability that is needed. Our work on the Texas Competitive Renewable Energy Zone (CREZ) gave us valuable experience integrating new technologies with the grid including sophisticated and advanced monitoring of the volatile voltage levels produced by wind turbines, enabling grid operators to manage the grid in real time, which is necessary for grid stability and reliability.

A key element of any "utility of the future" model will be a modern, efficient grid that not only handles new generation and end-use technologies, but also enhances the efficiency of the existing grid. To succeed in the future, our industry not only must continue doing what it does today in terms of enhancing and improving reliability and connectivity, it also must enable the integration of new technologies. As our customers are able to more fully use the electric grid as a technology integration network, they will realize its full value.

The demands on today's grid have changed from a few decades ago, and the demands in the future will continue to be shaped by consumer consumption patterns, which are in turn shaped by new technologies, such as smart appliances, plug-in electric vehicles, and customers managing their electric use with mobile devices. The continued evolution of the grid to incorporate new technologies is essential and will provide for a more flexible, resilient and interactive grid to advance evolving societal needs.

Our growth in transmission-related investments led to the expanded use of Drop in Control Modules (DICM), a pre-fabricated control room module made to AEP specifications that can be placed into service in half the time of a conventional control building. These control modules have been available for several years, but we designed AEP's units to be both flexible and expandable. Since 2011, we have installed more than 200 DICMs throughout our service territory. We are currently seeking a patent for a DICM expansion concept.



The variable frequency transformer (VFT) is a two-way power flow control device used to transmit electricity between two systems. AEP used VFT for the first time in the U.S. to connect the Texas and Mexico grids in order to address reliability issues in Laredo, Texas. The VFT stabilized the situation by allowing power exchanges between the two electric grids, which was not possible with conventional technology.

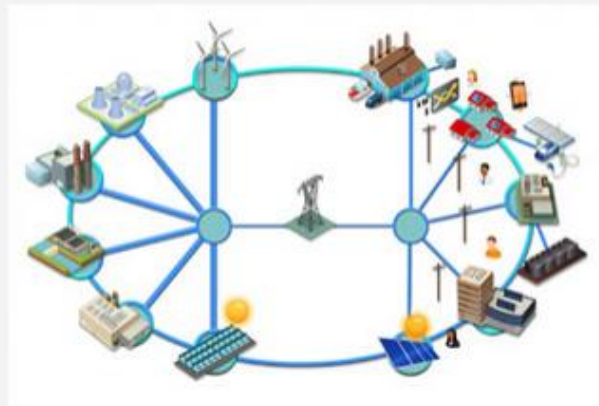
Phase shifting transformers (PST) connect with transmission to control the flow of power between two ends of a line. We are using PSTs to balance power flows to avoid thermal overloads and to more efficiently and effectively use the full capacity of the grid. This improves reliability and gives us extra flexibility to manage the system.

AEP is among seven Central Ohio companies participating in the [Columbus Collaboratory](#), a partnership across several industries to help companies tackle common challenges in big data analytics and cyber security. The Ohio Third Frontier Commission approved a state grant of about \$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.

While still in its infancy, the Columbus Collaboratory has already returned value to AEP. We have advanced our understanding of the application of ‘big data’ to improve customer service and have established a close cooperation with the member companies on cyber security practices and tools.

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.



An integrated grid is one that optimizes the electric power system while providing safe, reliable power to customers.  
Source – The Electric Power Research Institute

## gridSMART<sup>®</sup> Growing

In several of our operating companies, we are integrating 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, which are mostly being integrated through our



gridSMART® initiatives, can help us improve our efficiency, identify and respond to outages more quickly, and better monitor and control the operation of the distribution system.

### Grid Modernization Activity Summary

Company	Smart Meters	DACR Circuits	VVO Circuits
AEP Ohio	132,020 complete 900,000 proposed	86 complete 250 proposed	17 complete 60 proposed
AEP Texas	1,029,000	19 complete 10 proposed	N/A
Public Service Company of Oklahoma	31,500 complete 520,000 proposed	38 completed 1 proposed	13 complete
Indiana Michigan Power	9,850	32 complete 4 proposed	9 complete 53 proposed
Kentucky Power	N/A	9 complete 18 proposed	22 complete 4 proposed
Appalachian Power	N/A	29 complete 7 proposed	3 proposed
Southwestern Electric Power Company	N/A	18 complete 11 proposed	N/A

Data is approximate/estimated

DACR (Distribution Automation Circuit Reconfiguration)

VVO (Volt VAR Optimization)

The gridSMART® initiative provides 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, where we have regulatory support. 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 reduces the amount of energy that must be produced and delivered to customers on demand. Known as Volt VAR Optimization (VVO), this proven technology has energy efficiency benefits as well. Typically, customers receive electricity at a voltage between 114 and 126 volts. Studies and our recent experience show that optimizing voltage – delivering voltages that more closely match the voltage level customers’ equipment was designed for - allows customers 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.

We started deployment of VVO at [AEP Ohio](#) as part of the gridSMART® Demonstration Project and we have since expanded it to [Indiana Michigan Power](#), [Kentucky Power](#) and [Public Service Company of Oklahoma](#). Early results indicate reductions in energy consumption by customers averaging three percent are achievable with this technology in operation.

We have asked for additional regulatory approval to use this technology to meet energy efficiency targets. I&M Indiana has 50 proposed and plans to seek regulatory approval for additional circuits. I&M

Michigan has three proposed VVO circuits. AEP Ohio is working with the Public Utilities Commission of Ohio to include 60 circuits of VVO in its gridSMART® Phase II plan, and Appalachian Power Company is planning to deploy three circuits in West Virginia to demonstrate the energy efficiency benefits. Our Distribution planning team is evaluating all of the circuits in each of our operating companies to determine costs and benefits.

## Developing Technologies

With the drive to further reduce carbon emissions in the electric power sector, the deployment of renewable energy resources and enabling technologies will continue to grow. Lower cost and better performance of these technologies combined with potential breakthroughs in energy storage create new opportunities and challenges for the grid and the traditional utility business model.



A robust grid is a critical enabler of generation resource diversity, new storage and demand side technologies. Just as the nation's robust data network serves as a foundation to modern communications and provides an enabling function for various technologies across the communication sector, the nation's high voltage electric grid serves a similar role with respect to enabling diversity in generation and distributed energy technologies. The electric grid aggregates generation and demand-side technologies and ensures that

resources, from whatever source they come from, are delivered to customers in a cost-effective, efficient and reliable manner. Among the technologies certain to further mature and become more cost-effective are energy storage, distributed generation (such as rooftop solar) and micro grids.

We are also monitoring technology development through our association with Braemar Energy Ventures. Braemar is dedicated to identifying, investing in and partnering with developers of new and emerging energy technologies. AEP's Executive Vice President and Chief Operating Officer, Robert Powers, serves on Braemar's Strategic Advisory Board.

## Distributed Generation

The growth of distributed generation (DG) is raising new discussion about the value of the grid and who pays to use it. Although the current number of net energy metering (NEM) customers on the AEP system is relatively modest, it is increasing.

Very few customers are truly "off the grid." Both DG customers and non-DG consumers are connected to the grid and use the services it provides. DG consumers rely on the grid to deliver energy at times when their system is not generating enough electricity to meet their needs. Additionally, even when they are generating more power than they need, DG customers need the grid to off-load that energy, even if the utility doesn't need it.

Public policies and rate structures established to encourage early development of DG have led to unintended consequences that must be addressed. NEM tariffs were established to incent DG resources to develop and mature. NEM tariffs typically credit DG customers at the full retail rate, which includes both the costs of the energy itself, as well as and the fixed costs associated with the services they receive from being interconnected to the grid (such as the distribution poles, wires and meter necessary to provide service to them). As a result, NEM customers avoid paying their fair share of these fixed costs for services that they use from the grid. Consequently, these costs are shifted to other customers, which is neither fair nor reasonable. This cost shifting can disproportionately affect low-income and other vulnerable customers and can impose financial costs on AEP and other utilities by preventing cost recovery in a timely manner. Therefore, a fair and equitable tariff arrangement needs to be considered for DG customers who should pay their fair-share for use of the grid.



AEP is actively engaged with our stakeholders to reach a fair and equitable arrangement for all customers.

## Energy Storage

Cost-effective battery energy storage would be a game changer for the electricity industry. Electricity infrastructure was built to manage the significant fluctuation in energy consumption, both throughout the day and throughout the year. Generation assets are designed to support varying types of demand, either base load, mid-cycle or peak demand levels. Similarly, the existing transmission and distribution infrastructure is built to accommodate the peak demand needs of customers. Cost-effective energy storage devices, such as batteries, could dramatically change existing planning parameters and applications of our assets.

The cost of energy storage exceeds what the market will support for broad-based application, at least for the foreseeable future. The technology is being developed and improved. The Energy Storage Program, led by the Department of Energy, is studying a wide range of energy storage technologies and high voltage power electronics to demonstrate their cost and benefits.

It's unlikely that consumers will soon pair distributed generation with battery storage and completely go "off the grid." DG users would still need the services the grid provides. According to Moody's, DG customers could go "off the grid" only if they had sufficient battery storage to support two months of energy consumption. Even if customers were to attempt to "go off the grid," they would likely need to rely on the grid to supplement their power requirements when starting motors in appliances such as air conditioners and other appliances.

In its report, entitled "Batteries are coming but utilities are not going away," Moody's concludes that mass defection of customers from the electric power grid is a "minimal risk and not a material threat." The report cites the capital cost of batteries as still too high for consumers and other constraints that

would limit growth. In addition, not all customers have the physical space, proper exposures, or available access to sufficient or affordable capital or credit quality to consider such arrangements. The convenience, cost benefits and reliability of receiving electricity from the power grid is not something consumers are likely to forego in the near-term.

AEP has experience with utility-scale energy storage. In 2006, Appalachian Power Company (APCo) commissioned the first megawatt-class NaS battery to be used in North America in Charleston, W.Va. These batteries can supply 7.2 megawatt-hours of energy, helping to ensure reliability to the area. This technology allowed APCo to defer building a new substation for several years. However, the battery was removed from service.

In 2008, a 2-MW NaS battery was installed at a new station in West Virginia, and is supplying energy on the distribution system to help relieve the load burden at another substation. This battery has the capability to provide service to up to 700 customers for up to 7 hours when power is interrupted due to an outage.



In 2010, AEP’s Electric Transmission Texas installed a 4-MW NAS® sodium-sulfur battery system in Presidio, Texas, to provide transmission backup in the event of a transmission line outage. This system was designed to improve power quality and reduce voltage fluctuations in the Electric Reliability Council of Texas region. This demonstrates the progress that is being made on commercial-scale battery storage and shows how valuable energy storage is to a flexible grid.

## Microgrids

Microgrids are new, small-scale power networks that can help support grid interdependence. They are gaining interest as one approach to support grid resiliency and manage the growth of alternative sources of energy.

We are increasing our understanding of the market for microgrids and the costs and benefits associated with their application, as well as of the policy and political drivers. We are also evaluating the technical impacts that we will need to address as microgrids are installed on our system. We have had discussions with microgrid vendors to better assess the role we think utilities should have in accommodating, enabling or providing microgrids. We will continue to monitor and assess this technology as it evolves.



## Technology & Innovation

AEP Corporate Accountability Report

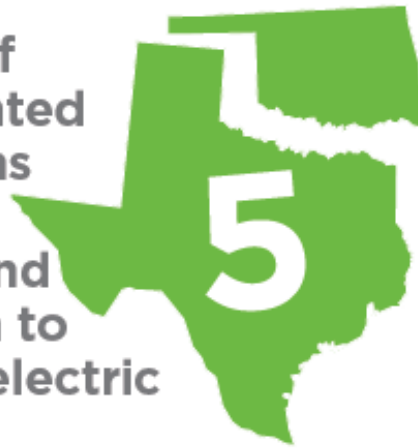
**15.7 MW**  
utility-scale solar project to be built by Indiana Michigan Power Company

# 3,300 pounds

of nutrients reduced in the Ohio River by AEP's participation in the nation's first water quality trading program



Number of skid mounted substations installed in Texas and Oklahoma to expedite electric service



# 28

number of bolts replaced inside

the Donald C. Cook Nuclear Plant's reactor vessel, earning a "Top Industry Practice" award.



**NEW** compact 345-kV line design received patents from the U.S., Canada, Mexico. First line under construction in Indiana.









- Customers and Communities**
- How We Engage ▶
- Our Customers ▶
- Strong Communities ▶
- Economic & Business Development ▶
- Sustainable Procurement ▶

## Our Relationships

Our ability to make informed decisions that create long-term value for our customers and the communities where we live, work and serve is enhanced by the relationships we have with our many different stakeholders. We are leveraging technology to strengthen these connections and investing time, talent and treasure to support them. Strong communities and satisfied customers are a priority for AEP.

### 2014 Performance Summary

- Energy Assistance**  
 provided through AEP  
**\$56.9 million**
- Online transactions**  
 conducted by customers  
**18 million**
- Local taxes paid**  
 by AEP  
**\$629.2 million**
- Total Charitable Giving**  
 by the AEP System  
**\$25.3 million**
- Economic Development**  
 grants  
**\$2.4 million**
- Customer Calls**  
 answered  
**22 million**

### 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 Communities, Satisfied Customers

Being a responsible corporate citizen goes beyond the fence line to engaging our stakeholders, delivering the services and choices our customers need and want, and investing in our communities so they can thrive and prosper.

### 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.

# How We Engage

Our commitment to stakeholder engagement and developing healthy, trusting relationships is important to AEP. A stakeholder is defined as someone who impacts or is impacted by AEP's financial and operational performance. Whether you're a customer, investor, supplier, employee or other stakeholders we interact with, each one requires a unique level of engagement as well as outlets to engage. Stakeholder engagement can sometimes be a 24/7 operation, such as customer engagement at our call centers or through our websites and social media outlets. Other relationships require engagement through face-to-face meetings or teleconferences, such as community open houses and standing calls.

In December 2014, we held a stakeholder meeting that included participation from several environmental organizations and [AEP's leadership team](#), including [Chairman, President and CEO Nick Akins](#). During our meeting, 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 carbon emissions and the impacts of the proposed carbon regulation in the power sector, as well as AEP's business challenges and opportunities as we transition toward a more sustainable energy future.

There is continuing dialogue and general agreement that technology, policy, timing and collaboration are all critical to a clean energy transition plan. As a result, AEP scheduled periodic calls with the stakeholders to keep the channels of communication open and continue information sharing as well as looking for areas of collaboration.

## ***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 to discuss local projects.

AEP wants to hear about concerns our stakeholders have so that we can have meaningful dialogue that is mutually beneficial. An example of this took place at the John E. Amos power plant in Winfield, W.Va., where plant employees hosted an open house to discuss the flue gas desulfurization (FGD) landfill expansion project. The expansion is needed to store FGD material over the next 20 years. Local landowners who would be potentially impacted by the construction work were invited to discuss the construction plan, timeline, purpose and actions taken to make the work as minimally disruptive as possible.

Another example of communicating openly with stakeholders came during project planning for the Holloway Station transmission project in Ohio. Members of the AEP Transmission project team met with residents when they expressed concerns about the heavy truck travel expected on their streets during construction of the station. Residents worried about trucks blocking passage for emergency vehicles and school buses. By listening to and working with those who were affected we were able to reduce the number of truckloads by more than 75 percent and reduced the duration of construction work from several months to four to six weeks. We also planned the work to avoid school bus schedules.

In 2013, AEP Transmission formed a transmission siting team which is responsible for frontline public outreach and siting support for transmission projects in AEP's 11-state footprint. The work typically takes place far ahead of the construction phase of a transmission project and involves community relations, engaging natural and cultural resource organizations and stakeholders affected by a transmission project.

In 2014, AEP Transmission developed a formal outreach strategy that matches the level of construction being planned. Through this strategy we supported more than twice the level of public outreach than occurred the previous year. We use a variety of communication channels to share information, including holding open house meetings, direct mail and a dedicated, customer-focused and interactive project website that allows customers to get information about projects by state. Using this web site, anyone can see how projects under consideration related to their property interests.

One example of this program in action is the *Powering Up Central* project. This six-mile, \$500 million project will rebuild an existing transmission line near downtown Fort Wayne, Indiana. This project will be rebuilt in an area that crosses through parks, soccer fields, a canal, greenways and privately owned land. We are engaging with affected landowners and the general public to ensure we understand and can address the concerns and communicate the facts.

In addition to stakeholder engagement, AEP actively lobbies at the federal and state level on issues that affect our company and our customers.

## ***The Role of Social Media***

It is very important and effective to develop relationships face-to-face. However, the pace of change and the proliferation of digital communications technology and social media require us to use a variety of communication channels to engage with our stakeholders more frequently. Social media plays a significant role in this evolution, especially in connecting us with our customers.

Social media continues to be a critical tool in our ability to communicate with customers, and they with us. AEP and its operating companies are very active through social media, especially through our Facebook pages, Twitter accounts and LinkedIn pages. In 2014, AEP was ranked as one of the top ten utilities in social media by ESource, a research and





advisory firm for utilities and large energy users.

We continue to see an increase in social media engagement and followers, 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, smartphones 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 the web to share information such as:

- Outage numbers by county or city,
- Estimated restoration times and maps,
- Public safety messages,
- Photos and videos of the damage.

We also regularly connect with stakeholders using tools such as email, [YouTube](#), LinkedIn and blogs, 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.

In September 2014, we launched an AEP Careers Facebook page where we regularly post job openings within AEP and our 11-state service territory. As of April 2015, the AEP Careers Facebook page had more than 2,000 followers.

## Our Customers

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 and anticipate what our customers want 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. It is one of AEP's main areas of focus and because it is a high priority for us, we are committed to improving customer satisfaction.

Customer satisfaction surveys show us that we are not at the level we want to be yet. One thing we do know is that technology and information are fundamental to customer satisfaction. We have action-

oriented, measurable customer experience work plans for each of our operating companies that are designed to help us prioritize the actions we can take that are most valuable to our customers. These actions 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 plan to invest the majority of our capital budget over the next three years in our regulated operations to improve reliability and safety to enhance the customer experience.

## ***Communicating with Customers***

As part of the customer experience work plan, AEP launched mobile customer outage alerts in March 2015 to its more than 5 million customers. Approximately 69 percent of AEP's residential customers and 77 percent of commercial customers have indicated interest in signing up for severe weather and outage-related mobile alerts. Yet, in late 2014, less than half of the North American utilities in a recent survey offered these options to customers. It is anticipated that these proactive actions will drive improved customer satisfaction as enrollment grows. We also improved our outage assessment capabilities to enable us to gather more accurate and timely data collection in the field, allowing us to provide that information in a timely manner to our customers.

Customers also want greater mobility – they want to be able to access their bill and service information at any time, from any location, on any device. Customers find communications from their utility over digital channels (utility blogs, social media, text messages and websites) more satisfying than traditional media. In response, AEP launched a redesigned customer website pilot for smartphones and tablets in 2014. Customers are able to access and pay their bill, start and stop service, and report an outage from any mobile device. In addition, customers will be able to sign-up for billing alerts in mid-2015. This instant access improves customer convenience and promotes AEP's strategy to leverage mobile technology.

We continue to see an increase in customers relying on technology to communicate with us and vice versa. About 48 percent of customers have shared their email address with us in 2014, an increase from 44 percent in 2013. We have also seen a slight increase in paperless billing with about 22 percent enrolled in 2014, compared to 18 percent in 2013.

In 2014, customers conducted approximately 18 million online transactions, or an 18 percent increase with us, and web traffic also increased for both desktop and mobile users. Approximately 938,271 residential, commercial and industrial customers receive their bills electronically. At the end of 2014, 47 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 2014, our Customer Operations Centers handled just over 22 million calls, a slight increase from 2013 levels, with an Average Speed of Answer of only 81 seconds.

In addition to self-service options available on the web and over the phone, we are dedicated to providing customers with access to professional, friendly and competent customer operations associates

to answer their call in a timely and efficient manner. We constantly strive to improve the customer experience by reducing the amount of effort the customer must exert when doing business with us. In recognition of our continued efforts, AEP's Customer Operations Centers were awarded the Certification of Excellence in 2014 for a sixth time by Benchmark Portal, a global leader in contact center benchmarking, certification, training and consulting. The certification recognizes the achievement of high productivity, low cost and excellent service.

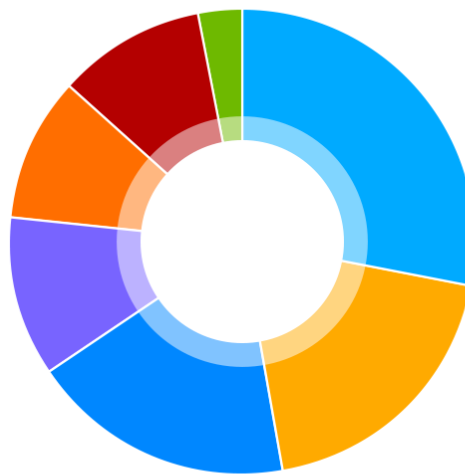
### Measures of Success

In 2014, Public Service Company of Oklahoma (PSO) was named a Customer Champion by Market Strategies International (MSI) for superior performance in MSI/Cogent Reports' 2014 Utility Trusted Brand & Customer Engagement study – ranking sixth among electric utilities that were surveyed in the United States. The study was based on in-depth responses from 40,000 residential customers from 127 leading U.S. electric and natural gas companies. To achieve the champion status, utilities had to be industry leaders in building customer trust, achieving operational excellence and offering value-added products and services. It's this type of performance that creates value for our customers and AEP.

For the third year in a row, AEP ranked as one of the top-rated utility website in the [J.D. Power 2015 Utility Website Evaluation Study<sup>SM</sup>](#) (UWES). Among the 66 utility companies included in the study, AEP was one of the two top-ranked utility companies in overall ease of use of utility websites. The UWES is based on website evaluations from more than 14,500 electric and/or gas residential customers and this year combined mobile enabled/app and desktop/laptop/tablet into one index. Companies are ranked on a scale of 1 to 500; AEP tied with OG&E Energy Corp., both scoring 438.

### Number of AEP Utility Customers in 2014

- 28% AEP Ohio
- 19% AEP Texas
- 18% Appalachian Power
- 11% Indian Michigan Power
- 10% Public Service Company of Oklahoma
- 10% Southwestern Electric Power Company
- 3% Kentucky Power



Does not include WPCo, KGPCo or competitive customers.  
 Due to rounding, may not equal 100 percent.

## Energy Assistance

Although the national economy has experienced modest growth, some of our residential and business customers continue to struggle. As the cost of living increases, there is less disposable income available which creates hardships for customers who are at times forced to choose which basic human needs they can afford. To assist our customers, we use energy efficiency programs and consumer education to help



customers reduce their electricity consumption. We also have several energy assistance grants and programs to help customers. Through grants, we provided approximately \$56.9 million in federal and private energy assistance in 2014. Funding in 2014 of the Low Income Home Energy Assistance Program, or LIHEAP, was about the same as in 2013. The LIHEAP program helps low-income families pay their heating and electric bills through cash grants that are paid directly to the utility company.

In September 2014, the Public Utilities Commission of Ohio (PUCO) ordered Ohio electric and natural gas utilities to reconnect or maintain service for customers who have been disconnected or are facing disconnection during the winter heating season with an initial reduced payment option. More than 63,000 Ohio utility customers used the winter reconnect program last year and may use the program once during the winter heating season between October 20, 2013 and April 15, 2014.



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 2014, more than 14,900 pledges were recorded, totaling \$2.7 million. In addition, AEP facilitates 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 146,675 customers participating in the program at the end of 2014.

**Energy Assistance Provided Through AEP to Help Customers Pay Their Electric Bills** (in millions)

Operating Company	2012	2013	2014
Appalachian Power	\$24.1	\$12.4	<b>\$25.6</b>
Kentucky Power	\$3.0	\$1.9	<b>\$1.7</b>
Indiana Michigan Power	\$8.9	\$7.2	<b>\$5.6</b>
AEP Ohio	\$16.5	\$20.5	<b>\$11.0</b>
Public Service Company of Oklahoma	\$9.5	\$9.7	<b>\$8.7</b>
Southwestern Electric Power Company	\$5.7	\$5.5	<b>\$4.4</b>
<b>Totals</b>	<b>\$67.7</b>	<b>\$57.2</b>	<b>\$57.0</b>

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 2014, approximately 760 pledges were recorded, totaling \$74,797.

# Strong Communities

Being a responsible corporate citizen goes far 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 at a time when several of our coal units are retiring, eliminating jobs and other economic support provided by those units.

## *Community Investments*

Corporate philanthropy is important to our communities because it helps enhance quality of life, advances education and other worthy endeavors, and enriches communities. In 2014, AEP and the American Electric Power Foundation donated more than \$25.3 million to support more than 2,500 community organizations.

Contributions are made primarily in the areas of education, the environment and human services, such as hunger, housing and health, and safety. In the area of education, preference is given to grades pre-K through 12 in the fields of science, technology engineering and mathematics, otherwise known as STEM.

In 2014, the AEP Foundation collaborated with Bossier Parish Community College in Bossier City, La. to provide a \$1.4 million grant over five years to expand the Credits Count<sup>SM</sup> program. Credits Count<sup>SM</sup> is a five-year, dual enrollment program to help students pursue STEM (science, technology, engineering, math) education and careers while completing a high school diploma. The Foundation launched the program in 2013 with a \$5 million, five-year grant made to the Columbus State Community College Foundation to implement the program in five Columbus, Ohio city high schools and middle schools that feed into them to explore STEM fields and remove barriers to college. The program engages students' families and it provides the opportunity for students to graduate from high school with at least 12 college credits toward a career-ready certificate or toward a college degree in STEM fields that may include energy, the environment or information technology.



Major components of the program include middle school STEM experiences, college readiness assessments, tutoring, and a summer bridge program to enhance English, science and math skills. The AEP Foundation was honored for its work and development of the Credits Count<sup>SM</sup> program, winning the Columbus Business First Corporate Caring Award. This award identifies exemplary companies who are dedicating resources to nonprofit organizations in and around the Columbus area.

In early 2015, the AEP Foundation announced a further expansion of Credits Count<sup>SM</sup> to Tulsa Community College Foundation in Oklahoma to provide \$3 million over five years, benefiting high school and middle school students in Tulsa Public Schools. The program will reach nearly 1,000 students to assess college readiness. About 800 students will participate in the Summer Bridge program to improve math, science and English skills. About 3,000 middle school students will participate in a

summer STEM college experience and up to 800 students will receive for-credit college-level course work, while completing high school.

We also look for opportunities to support projects focused on energy research. In 2014, AEP Energy partnered with The Ohio State University (OSU) to install solar panels on the roof of their Recreation & Physical Activity Center at their main campus in Columbus, OH. AEP Energy fully funded the \$400,000 project, which consists of a 10,000-square foot solar array that was installed in the shape of the University’s signature “Block O”. The panels provide the university with an opportunity to diversify its energy portfolio, adding to their wind farm that is already in place. The University owns and operates the panels, paying below market rates for their electricity. AEP Energy is a certified competitive retail electric service (CRES) provider and a certified Competitive Retail Natural Gas Service (CRNGS) provider affiliated with AEP.

In 2014, Appalachian Power Company (APCo), operator of the Smith Mountain hydroelectric facility in Southwest Virginia, completed two community projects to improve navigation signage on the lake and open a new public access boating facility. Approximately 265 in-water navigation signs were replaced to make them more visible and make it easier for boaters to navigate more safely. APCo also opened a 10-acre Oak Grove Public Boating Access Facility to serve visitors to Smith Mountain Lake. The public access area includes handicap-accessibility to the lake with a double-sized boat launching ramp and fishing pier. The facility has more than 60 parking spaces, public restrooms, and “dark skies” lighting. It will be operated by the Virginia Department of Game and Inland Fisheries and is available to visitors at no charge.

**2014 Total Philanthropic Giving\***

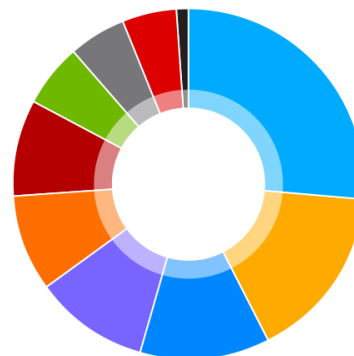
(Corporate and AEP Foundation)

Arkansas	<b>\$326,867</b>
Indiana	<b>\$1,700,078</b>
Kentucky	<b>\$579,538</b>
Louisiana	<b>\$1,206,654</b>
Michigan	<b>\$1,284,456</b>
Ohio	<b>\$12,982,388</b>
Oklahoma	<b>\$795,617</b>
Tennessee	<b>\$17,171</b>
Texas	<b>\$1,941,808</b>
Virginia	<b>\$824,173</b>
West Virginia	<b>\$1,655,935</b>
Other*	<b>\$1,978,006</b>
<b>Total</b>	<b>\$25,292,690</b>

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

**AEP Charitable Giving by Area of Focus in 2014\***

- **26.7%** Education
- **16.2%** Community
- **11.9%** Safety & Health
- **10.8%** United Way
- **9.1%** Arts & Culture
- **8.9%** Hunger & Housing
- **5.8%** Environment
- **5.4%** Youth
- **4.7%** Economic Development
- **0.3%** Disaster Relief



\*Includes scheduled payments.

# 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.

In 2014, the International Brotherhood of Electrical Workers Union (IBEW), Local 1466 United Way Campaign, a partnership between AEP, AEP Ohio, the IBEW and our retirees, raised more than \$1.53 million to help those in need in Central Ohio in 2014. AEP Chairman Nick Akins and his wife, Donna, chaired the 2014 community-wide campaign. The community campaign featured an annual Community Care Day, where more than 100 employees volunteered their time and labor to support local schools and non-profit organizations.

This campaign gives central Ohio residents pathways out of poverty. The AEP-IBEW Local 1466 campaign has been recognized several times for their active and sustained engagement.

United Way of Central Ohio is one of the largest United Ways in the country, bringing together more than 80,000 donors, advocates and volunteers to improve the lives of in areas of education, income, health and home.

Appalachian Power also took part in a similar effort through their United Way Day of Caring, lending a hand in local communities across Virginia, West Virginia and Tennessee.

The United Way of Northwest Louisiana recognized the IBEW Local 329 with its LIVE United Award in March 2015. They were recognized for their long-term commitment to the United Way. During its first campaign in 2004, employees from our Southwestern Electric Power Company (SWEPCo) donated more than \$18,500. In 2013, employee contributions rose to more than \$39,000, a 210 percent increase over its first campaign, bringing the total contribution to United Way during the 11-year partnership to more than \$308,000.

According to the pro-literacy organization Reading is Fundamental (RIF), nearly 40 percent of fourth grade public school students in America do not achieve basic levels of reading proficiency. Two-thirds of children living in poverty in this country have no books at home. Literacy, the ability to read and write, is essential to developing a sense of self-worth and to be productive citizens. There are proven links between literacy and poverty, according to the National Education Association. In Appalachia, where poverty is particularly severe, AEP's Appalachian Power Company (APCo) is committed to changing lives by improving literacy.

Every year, APCo sponsors "Read To Me Day" where employees and retirees fan out across Virginia, West Virginia and Tennessee to read to elementary school classes. In 2014, more than 300 volunteers visited



classrooms where they reached a record of nearly 445 elementary schools. The company began its “Read to Me Day” program in West Virginia in 2001, expanding to Virginia and Tennessee in 2012. In addition to classroom visits, APCo has donated nearly 5,000 books to school libraries while employees and retirees have read aloud to nearly 200,000 students since the program began.

Another social issue with significant impact in our service territory is hunger. According to Feeding America, the country’s leading hunger relief organization, the number of people needing charitable assistance to access nutritious food for themselves and their families is growing at an alarming rate. Poverty, unemployment and income, along with other demographic factors, are key drivers of hunger. In its “Hunger in America 2014” report, Feeding America found that people are often forced to choose between buying food and paying for medicine, housing or utilities.

Due to the demographic make-up of AEP’s service territory, hunger is an important issue that impacts many of the communities we serve. Consequently, we are tackling hunger on several fronts. For example, we work with [LifeCare Alliance’s \(LCA\) Meals-on-Wheels](#) program. Approximately 100 AEP employees in Central Ohio deliver meals five days a week during their lunch hour as part of LCA’s Corporate Route program. LCA is a non-profit organization that provides health and nutrition services to the homes of aged and chronically ill individuals. AEP has participated in the Corporate Route program for 11 years.

AEP and the IBEW Local 1466 donated a record-breaking 675,000 meals to the [Mid-Ohio Foodbank](#) during our annual Operation Feed Campaign in 2014. This was a 15 percent increase from the 2013 record of 405,000 meals. 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.

### ***Other community commitments made in 2014***

- AEP Texas announced a three-year grant totaling \$54,000 to help fund an initiative to revise and update the Wildlife in Focus Kritters 4 Kids wildlife education program. This initiative will help modernize the initial program to bring it into the digital age.
- A \$150,000 AEP Foundation grant to Habitat for Humanity of St. Joseph County over the next three years will focus on deconstruction of vacant and abandoned homes in South Bend, Ind., through a job training program. Habitat will partner with Goodwill and other agencies to train individuals to serve on deconstruction teams. Salvaged items from the vacant homes will be sold through the local Habitat for Humanity ReStore, and material not fit for resale will be recycled. Funds from sales and recycling will be used to build future Habitat home builds and rehabs that revitalize neighborhoods.
- More than \$62,500 was awarded through 175 AEP Teacher Vision Grants to pre-kindergarten through grade 12 educators across 10 states, including a \$498 grant to Phelps Elementary School in Phelps, Ky., to enable students to design, edit and publish digital public service announcements about energy usage and conservation. Each year, grants ranging from \$100 to \$500 are awarded to support projects with an academic focus and a goal to improve student achievement.



- AEP employees helped coordinate and conduct 23 community service projects in Louisiana, Michigan, Ohio, Oklahoma and Virginia in October 2014 in conjunction with the Make a Difference Day nationwide initiative. In Anacoco, La., Southwestern Electric Power Company employees worked with the local Boy Scout chapter and community residents to build a flower bed and beautify the town park. Each year, AEP provides grants of up to \$300 to projects involving at least five active or retired AEP employees in partnership with a local community group, non-profit or school to meet needs in education, the environment, health and safety, hunger and housing, youth or other basic community needs.

## Economic & Business Development

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 2014, the E&BD team helped companies create nearly 21,000 jobs and bring more than \$4.25 billion of investment to our communities, including announcements from such companies as General Electric in South Bend, Ind., Computer Sciences Corporation in Bossier City, Louisiana, Kraft Foods in Coshocton, Ohio, International Paper in Valliant, Okla., and TPO America in Gregory, Texas. In 2014, AEP was named one of the top 10 utilities for economic development by Site Selection magazine for the third year in a row.

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 continues to focus on building a portfolio of well-prepared sites in our service territory to meet the needs of expanding companies. AEP has nine sites pre-qualified for data center development and 18 industrial sites working toward certification in 2015. To obtain industrial certification, the sites must meet a stringent set of criteria, including due diligence and completion of environmental assessments. Certified sites are an important economic development strategy. They help businesses minimize risk factors in making location decisions, lower development costs and allow the site to become operational more quickly. AEP's first certified industrial site in Shreveport, Louisiana, received certification in January 2015.



In addition to shale oil and gas and data centers, AEP specializes in identifying strategic locations for the automotive manufacturing industry. AEP's 11-state service territory offers several advantages for automotive manufacturers and suppliers, including: a critical mass of existing industry; access to national and



global markets via a strong transportation network; a skilled workforce and competitive wages; low taxes; and availability of large parcels of land with substantial energy infrastructure. One example of this is the Toyota Motor Manufacturing of North America, one of Appalachian Power’s largest automotive manufacturing customers. AEP helped Toyota site their engine plant in Buffalo, W.Va., in 1996 and has been a partner with the company through eight facility expansion projects in that time.

### AEP Economic Impact 2014

Employees (year-end)	<b>18,529</b> <sup>1</sup>
Wages	<b>\$2.3 billion</b> <sup>2</sup>
Construction Expenses	<b>\$4.1 billion</b> <sup>3</sup>
Local Taxes	<b>\$629.2 million</b>
State Taxes	<b>\$347.6 million</b>
Federal Taxes	<b>\$228.6 million</b>
Goods & Services (does not include fuel)	<b>\$5.4 billion</b>
Goods & Services from Diverse Suppliers	<b>\$562 million</b> <sup>4</sup>
Remaining Value of all Contracts	<b>\$2.4 billion</b> <sup>5</sup>
Coal Delivered (millions of tons)	<b>59</b>
Coal Average Cost Per Ton Delivered	<b>\$49.99</b>
Natural Gas Delivered (billion cubic feet)	<b>146.1</b>
Natural Gas Average Purchase Price (per MMBtu)	<b>\$4.60</b>
Philanthropic Giving	<b>\$25.3 million</b> <sup>6</sup>
Economic Development Contributions	<b>\$2.4 million</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 where the business is self-certified as diverse.

<sup>5</sup> Supply chain purchased contracts and inventory system. Contacts executed in year reported.

<sup>6</sup> Includes Corporate and AEP Foundation grants.

<sup>7</sup> Includes all grants and contributions by utility units to support economic development.

### Local Efforts

Both AEP Ohio and Kentucky Power Company offer economic advancement grant programs to support projects that promote the retention and attraction of manufacturing jobs and investment. Kentucky Power has committed to provide \$1 million to stimulate economic development over the next five years. In 2014, Kentucky Power awarded \$200,000 to three local entities. AEP Ohio has offered grants to local economic development organizations since 2005. As of December 2014, more than 200 grants totaling over \$750,000 have been awarded to support local communities throughout the AEP Ohio service territory.

[AEP Ohio](#) launched its Community Economic Development Academy (CEDA) in southeastern Ohio. The academy, developed in conjunction with the Appalachian Partnership for Economic Growth, helps local economic development professionals and key community leaders understand the types of information required by businesses selecting sites for new facilities, including data basics such as rail access to facility ceiling height to minimum number of loading docks. The academy is taught by professionals engaged in the business of selecting communities for new investment and provides a unique opportunity for AEP’s partner communities to identify their competitive gaps and opportunities. Economic development professionals representing 17 counties participated.

[Kentucky Power Company](#) is an active participant in the Shaping Our Appalachian Region (SOAR) an initiative created by

Governor Steve Beshear and Congressman Hal Rogers. SOAR's goal is to improve the economy and quality of life in the region. In addition, Kentucky Power Company has played a significant role in the creation of the new regional economic development organization, One East Kentucky. One East Kentucky is a partnership of nine counties of eastern Kentucky that are working together to increase economic development activity within the region. Finally, Kentucky Power Company is in the process of completing its third phase of an economic development site consultant project assisting the region with preparing Marion's Branch (Pikeville) and Coalfields (Hazard) industrial parks for job creation and additional investments.

AEP's [Southwestern Electric Power Company](#) (SWEPCo) teamed up with regional and local banks to develop a \$100 million senior unsecured three-year term loan to provide financing for SWEPCo's increasing investments in its local infrastructure to improve service to its customers. This type of financing strategy provides SWEPCo with competitive financing while promoting strong economies in the communities we serve. Historically, the opportunity to finance assets was limited to large national financial institutions with global portfolios and traditional capital markets. Raising capital 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. AEP Texas, Public Service Company of Oklahoma (PSO) and Indiana Michigan Power are also engaged in this type of financing strategy.

## 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.

### *Non-fuel suppliers*

AEP's Supply Chain, Procurement, and Fleet Operations is deeply integrated into every aspect of our business operations. In 2013, the Procurement organization underwent a significant transformation in an effort to reduce costs by streamlining purchasing practices and improving efficiency across AEP. By working with our business partners, the team is charged with identifying significant annual cost savings opportunities through strategic and sustainable procurement practices by 2016. Through continuous improvement initiatives, the group has 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.



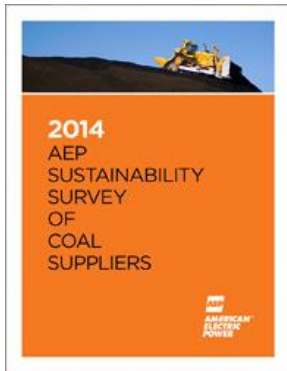
One example of improving efficiency is through strategic sourcing, a method to optimize what we buy and how we buy it. Our procurement team is getting involved earlier in the purchasing process and

standardizing the process corporate-wide by educating our employees on best procurement practices. We are looking at the total cost as well as impacts in terms of end-of-life value both financially and environmentally.

Cybersecurity poses an increasing risk within our supply chain. As data breaches increase, so does the concern for how to protect our systems, to which many of our suppliers have access. In Supply Chain Management’s “2014 Chief Supply Chain Officer Report,” approximately 1,024 supply chain professionals were asked about their level of concern across an assortment of different supply chain risks. Data security or cybercrime was ranked sixth out of 15. AEP’s Procurement team is working very closely with our cybersecurity team to address these concerns within our supply chain.

## ***Fuel suppliers***

AEP works directly with its fuel suppliers and surveys its coal suppliers on their environmental, safety and health performance. We have conducted five [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 40 percent of the coal mined in the United States and nearly every coal basin in the country. The 2014 report, released in March 2015, is based on 2013 data.

We have now collected six years of data showing a consistently high level of safety, health and environmental performance. The survey showed our suppliers performing better than the national average in safety and health performance and an improved environmental performance over the years, including a moderate increase in the percentage of mines embracing various environmental programs - growing to 100 percent in 2013. We also have seen an increased commitment to sustainability reporting, with almost 50 percent of 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 suppliers.

We responded to [Carbon Disclosure Project's \(CDP\) 2015 Supply Chain Survey](#) and have done so for the past five 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

AEP Corporate Accountability Report



**47%**

number of customers who pay their bills online

**3 CREDITS COUNT**

programs started in Ohio, Oklahoma and Louisiana



**\$56.9**

million in energy assistance provided to customers



**675,000**

meals donated to the Mid-Ohio Foodbank through AEP's Operation Feed campaign



Mid-Ohio Foodbank

OPERATION FEED







**Our Work Force**

- Work Force Planning
- Culture Commitment
- Continuous Improvement
- Diversity at AEP
- Awards and Recognition

[Our Work Force](#)

## Our Work Force

### 2014 Performance Summary

- Employees**  
total employed  
**18,529**
- Military Veterans**  
**1,875**
- Employee Resource Groups**  
**5**
- Union Employees**  
**4,941**
- Millennials**  
1982 & after  
**16%**
- Wages**  
(billions)  
**\$2.3**

“AEP’s culture is shaped by our focus on workplace safety, customer satisfaction and our employees’ strong desire to contribute to the company’s success. Employee engagement is a leading indicator of better business results.”

— Nick Akins, chairman, president and chief executive officer

### Our Values

Our values reflect who we are and guide us as we transition to becoming the utility of the future.

### Our Culture

Our employees embody a strong safety culture, a commitment to our customers and a desire to contribute to AEP’s success. We are creating a culture that supports engagement, innovation, adaptability, accountability and strategic alignment.



## Building our future through employee engagement

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.

#### Work force planning



[Learn More](#)

A skilled work force is critical to AEP’s success.

#### Culture commitment



[Learn More](#)

We are building a culture of engagement that supports business success.

#### Diversity



[Learn More](#)

Diversity brings fresh perspectives, ideas, skills and experience that we value and celebrate.

# Work Force Planning

According to the Center for Energy Workforce Development (CEWD), an aging work force plays a significant role in the industry’s transformation. According to CEWD’s 2013 “Gaps in the Energy Workforce Pipeline” survey, a large number of workers in our industry will retire in the next five to ten years. The good news is that the industry is making progress filling the gap with younger employees.



A skilled work force is critical to AEP’s success. Many of our skilled and technical employees, such as plant operators and line mechanics, are approaching retirement. AEP defines retirement eligibility as a minimum of 55 years with 10 years of service. To prepare and develop the work force of the future, we are actively engaged in several initiatives to attract people with the technical skills we will need. This can be challenging as we find ourselves competing with other industries, such as the shale gas and technology-

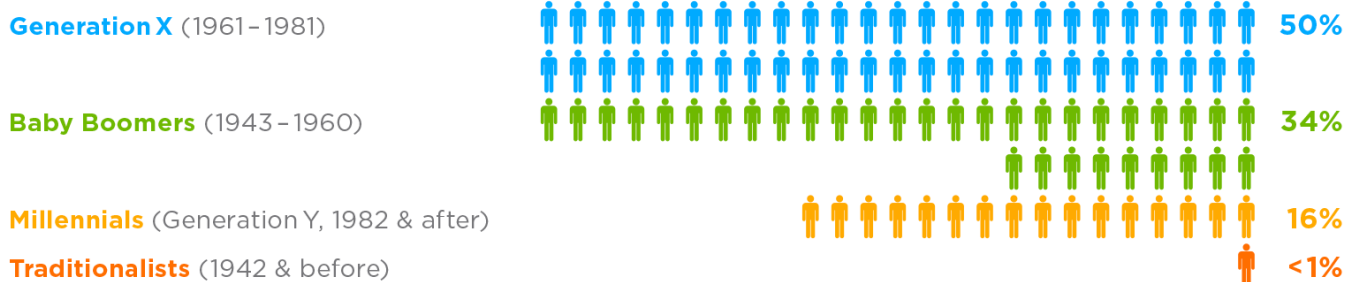
driven industries, for the same skilled workforce.

One way we are addressing this potential labor shortfall is by developing work plans for each of our business units to identify potential staffing gaps, as well as opportunities to educate, train and prepare our future workforce. Work force planning enables us to grow the business while giving our employees opportunities to develop their knowledge and their skills.

Work force planning became particularly valuable when we announced plans to retire coal units, which eliminated hundreds of jobs. We developed a Generation Staffing Plan specifically to help inform, educate, counsel and give those employees who were affected by the closings every opportunity to find another job with AEP. Through this plan, we posted approximately 250 future positions online that were only made available to those workers at the affected units. Approximately 60 percent of those positions were filled by employees who would have otherwise lost their jobs.

Knowing your job is going to be eliminated is stressful, and we wanted to do everything we could to support our employees. We communicated frequently, gave them first access to other AEP job openings, helped prepare some for retirement, and provided training needed for other jobs within AEP. For those who could not find another job with AEP, they will receive severance and outplacement services. If an employee in an affected plant took a job at another plant that required relocation, AEP provided a relocation stipend.

## 2014 AEP Work Force Demographics



# Training

Providing our workforce with the proper tools and training is part of our commitment to employees. We have created safety leadership training, leadership development training and other forms of training that help employees improve their skills and become better leaders.



For example, line mechanic apprentices must complete 8,000 hours of on-the-job training and classroom instruction over a four-year period. To graduate, students must pass a written exam, receive a score of at least 80 percent and demonstrate mastery of competencies learned by passing seven field events at 100 percent. In 2014, 67 line apprentices completed the Distribution Line Mechanic Apprentice Training Program.

AEP has several training facilities that are important resources for learning new skills and sharpening existing ones. In 2014, Appalachian Power opened a new training facility in Pulaski, Va. The new Pulaski Distribution Line Training School includes both an outdoor and indoor climbing area, providing the ability to train future linemen year-round. AEP also utilizes a mobile training center for distribution line employees in Virginia and West Virginia. The Appalachian Power Mobile Training Center houses common substation controls and systems inside a single trailer to educate and train our linemen who don't get the chance to work inside substations very often. By refreshing and improving upon existing skills, it has helped AEP to reduce safety hazards and customer outages.

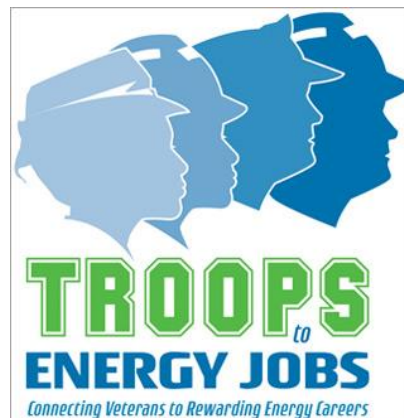
AEP has training alliances with various community colleges, vocational and technical schools across our 11-state service territory. We work with these institutions to develop academic programs needed to prepare employees for upward mobility opportunities and attract external job seekers interested in a career in our industry. Our education partners include: Columbus State Community College, Ohio Mid-East Career & Technical Center, Texas State Technical College, and Oklahoma State University Institute of Technology.

## Jobs for Veterans

AEP actively supports, recruits and hires military veterans, as well as educates, trains and prepares veterans to transition into energy jobs. Many veterans bring key skillsets to the workforce, such as leadership, discipline, teamwork, reliability and safety, making them attractive recruits for our company.



AEP is actively involved in the Troops to Energy Jobs effort to increase the percentage of veterans in the utility work force. At the end of 2014, we had 1,875 employees who have served or are serving in the military.



AEP will host its third annual Military Veterans Open House on May 1, 2015 for a group of military veterans at its Transmission Training Center in Pataskala, Ohio to demonstrate the types of careers available at AEP. They will learn about skilled craft positions within our Transmission and Distribution organizations and get the opportunity to watch line crews demonstrate how they work on an extra-high voltage lines and how to operate a bucket truck. They also get a preview of the different technologies used to operate the transmission grid. AEP encourages veterans to actively seek and apply for jobs at AEP that match their training and skillset.

In compliance with the new U.S. Department of Labor regulations, AEP now provides online forms for employees to voluntarily self-identify their disability and/or protected veteran status. These new affirmative action rules are designed to broadly encourage recruiting, hiring and promoting military veterans in specific categories, in addition to those with disabilities.



In 2014, we changed our military pay policy for how we pay our employees in the Reserves and National Guard when they attend mandatory training to maintain their military status. We do this to ensure our employees do not experience any loss in compensation while fulfilling their military obligations. The pay differential we pay these employees is no longer subject to a 10-day limit per year, nor are they required to be employed by AEP for one year to be eligible for this benefit. The eligible training now includes weekend, or a series of weekends, in addition to the week-long training previously included. This change was made in response to a request from AEP’s Military Veterans Employee Resource Group.

training previously included. This change was made in response to a request from AEP’s Military Veterans Employee Resource Group.

## Working with our Labor Unions

Nearly one-fourth of AEP’s work force is represented by labor unions. We value the relationships we have with our unionized employees and believe in a trusting, collaborative and respectful partnership. In 2014, we negotiated a three-year collective bargaining agreement and wage package with International Brotherhood of Electrical Workers – the longest negotiated contract in the history of the company. The contract,

### 2014 Organized Labor at AEP

Labor Union	Number of Employees
International Brotherhood of Electrical Workers	3,283
Utility Workers Union of America	1,034
United Steelworkers of America	405
United Mine Workers of America	217
International Union of Operating Engineers	2
<b>Total</b>	<b>4,941</b>

which took effect during the first quarter of 2015, was unanimously approved. Multi-year agreements enhance continuity for both the company and the workforce. We will be negotiating multi-year contracts with our other unions throughout 2015. Having longer-term contracts in place allows us to focus on working collaboratively to achieve our business goals.

## Culture Commitment

Research shows that companies with a strong culture and a strategic business plan outperform their peers. A strong culture fosters engaged employees and creates the foundation for long-term success. At AEP, we have worked to create a culture that will support the adaptability and focus that our employees will need to succeed in a fast-paced, changing work environment that is vastly different than in the past. AEP conducted a culture survey in 2014 to measure our progress in changing the culture. We focused on leadership, performance recognition and accountability, strategic alignment and employee engagement. We have been working purposefully for the last two years to strengthen these areas of our culture, and our employees have helped us to develop the right tools. The survey showed us that we are improving – our employees tell us that they are seeing positive changes in AEP’s culture.

The survey also identified areas for improvement, such as providing more frequent and timely feedback to employees about their work. Leaders at all levels of the company were provided with tools, training and resources to help them understand and share the survey results with their teams. Each team was then charged with creating culture action plans in accord with a common framework. These plans are tied to performance goals. We plan to conduct another survey in 2015 to keep moving forward.



## Engaging our Employees

We are empowering employees to be engaged through our Power Up & Lead culture workshop. The workshop helps employees learn about their own behaviors and leadership styles, as well as what it takes to be more effective communicators. In 2014, more than 1,600 employees took part in this training. Approximately 3,000 more employees are expected to complete the training in 2015. Our plan is for all employees to participate.

Another way we are engaging our employees is by training some of them to be certified facilitators to teach the Power Up & Lead sessions to their fellow co-workers. At the end of 2014, approximately 50 employees were trained as facilitators. In addition, dozens of participants who completed the culture workshop signed up to be culture champions. They serve as champions of our values and culture within their work teams and business units. These roles also offer important development opportunities for our employees.

In 2014, AEP redesigned its performance management and compensation systems. Performance reviews are perhaps the most important interaction that an employee and a leader share throughout the year.

Reviews provide an opportunity for leaders and employees to clarify goals, measure progress and explore challenges and are essential to ensure proper employee recognition.

With respect to compensation, we analyzed approximately 3,500 employee roles and benchmarked about 70 percent of AEP jobs against the utility industry and 30 percent of AEP's jobs against general industry. As a result, the compensation system was updated and implementation began in 2015.



Some of the feedback from our 2012 culture survey and 2013 employee focus groups indicated that many employees did not feel recognized or appreciated for their work. We formed a team of employees from across AEP in 2014 to develop a user-friendly resource for employee recognition. In early 2015, the team launched "The Power of Thank You," a web-based resource where leaders can learn why employee appreciation and recognition are critical to an engaged work force.

While our employees embody a strong safety culture and have a commitment to our customers and to the success of our company, our culture road map provides a direction for the future. It's the path we are on to build a strong and healthy culture, to ensure AEP's success. We have a solid foundation that will help us continue to make progress as we build the utility of the future.

## Continuous Improvement

Almost every work process can be improved, and we use continuous improvement to identify opportunities to do so. We implement new processes and then review the results to see if we have improved quality and efficiency and have reduced costs. No one knows how to improve a work process better than someone who is involved with it every day. By giving employees ownership and the freedom to find solutions, we foster employee entrepreneurship which, in turn, sparks creativity, innovation and prudent risk taking. We have celebrated many successes as a result.

## Success Stories

Creating "lean" business processes started modestly as a pilot program at AEP's Gavin Power Plant and quickly took on a life of its own. These principles and processes have since been introduced and completed at 12 power plants, 13 distribution districts, and portions of Procurement, Supply Chain and Fleet group, Transmission and IT. We have identified significant savings through these and other initiatives. Here are a couple of examples:



A review of the barge unloading system at the John E. Amos Plant near Winfield, W.Va., led us to invest in new barge equipment and river facility upgrades, allowing workers to unload a full barge at the same time as an empty barge pulls away. This is important to AEP because the more coal that can be unloaded from the river, the more cost-effective it is compared with other modes of transportation.



By employing "LEAN" practices, Unit 1 of our [D.C. Cook Nuclear Plant](#) in Bridgman, Mich., completed its shortest refueling outage in its 40-year history without injury to the thousands of people working at the site. This is a good example of how "LEAN" supports and safe operations and provides benefits to our employees, customers and investors at the same time.

The success of AEP's 2013 engagement programs inspired AEP Transmission to launch "Bright Ideas & Sound Solutions" to continue collecting useful solutions for process improvements, cost savings and safety enhancements. The initiative taps the collective knowledge and experience of Transmission employees and contractors to help make the organization more efficient and competitive in today's changing market. Through February 2015, Transmission received nearly 60 suggestions from employees on how we can improve various aspects of our business. These initiatives demonstrate that employee engagement and empowerment promotes entrepreneurial thinking which result in significant benefits to AEP.

## Diversity at AEP

We value and celebrate diversity at AEP and in the communities where we live, work and operate. To us, diversity involves ethnicity, gender, age, and other demographic factors. We value a diversity of perspectives and experiences, skills, ideas, culture and opinions, all of which make the company and the community stronger. Our [board of directors](#), [executive council team](#) and [regional utility presidents](#) includes seven women, two African Americans and three Hispanics. Women make up 22 percent and minorities 16 percent of this group.

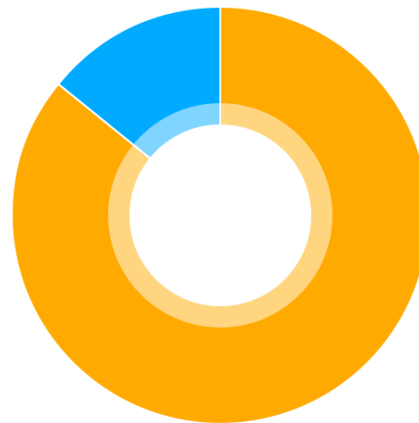
Being diverse within the upper ranks of the company helps us gain a broader perspective on business issues, allowing us to make more informed and better decisions. It also sets an example for more diversity within our work force and in our communities.

We work on becoming more diverse from the boardroom to the front line. We track the advancement of females and minorities from front-line craft-level positions to executive posts. In addition, we consider diversity in every hiring decision and try to provide a diverse slate of candidates to hiring managers for review and consideration.

AEP created a diversity and inclusion online training module for all employees. The course provides information on the business case for diversity and demonstrates how to respond effectively to differences, and increase the level of inclusion in the work place.

### Leadership Diversity by Ethnicity

- 84% White
- 16% Minority

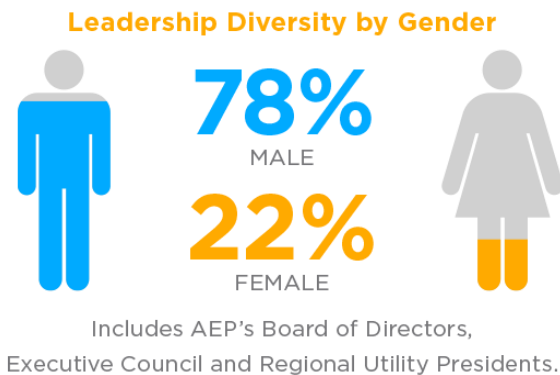


Includes AEP's Board of Directors, Executive Council and Regional Utility Presidents.

In order to meet our diversity goals, AEP will need to change the way in which minority prospective employees view AEP. We want to be seen as a progressive company that offers rewarding career paths to all of our promising new hires.

The following charts provide a comparative look at progress made from the prior year. There was positive movement in both job group categories for both females and minorities.

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.



## Employee Resource Groups

Employee resource groups (ERGs) 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. Our ERGs are the Asian American Employee Partnership, Hispanic Origin-Latin American (HOLA) Employee Resource Group, African American Employee Resource Group, Military Veterans Employee Resource Group, and AEP Pride Partnership (for lesbian, gay, bisexual and transgender (LGBT) employees and their colleagues). The Pride Partnership created an Ally program in 2014 that enables all employees and contractors to actively demonstrate support for their LGBT coworkers.



The ERGs are open to any employee who is connected to or interested in learning more about diversity at AEP. These groups sponsor programs and events focused on culture, education and personal and professional development. They are also active community volunteers supporting efforts such as Project Mentor and Make a Difference Day.

Workplace diversity is an important social issue for all companies. Recognizing the evolving diversity of our work force and the global economy within which we operate, AEP has changed policies, benefits, training and other resources to be more inclusive. In June 2013, the U.S. Supreme Court invalidated a section of the federal Defense of Marriage Act, requiring companies to recognize same-sex marriages for certain benefits, such as pension and the

401(k) savings plan. Although AEP is not required to recognize same-sex marriages for health and welfare benefits, such as medical and life insurance, we choose to do so.

If the state in which the marriage takes place allows same-sex marriages to be performed, the marriage will be recognized for all company benefits, regardless of the state of the employee's or retiree's residence. Same-sex marriage benefits went into effect July 1, 2014 and include medical, dental, vision, accidental death and dismemberment, life insurance, pension, 401 (k) savings plan, among others.

Also, in both 2014 and 2015 AEP scored 80 out of 100 in the annual Human Rights Campaign (HRC) Corporate Equality Index. This index has become a benchmarking tool for large U.S. companies in terms of measuring the fair, nondiscriminatory treatment of LGBT employees in the workplace. The AEP Pride Partnership group worked with the Office of Diversity to improve the company's HRC rating over the years.

**2014 AEP Employment Data – EEO-1\*** (as of Aug. 31, 2014)

	Employees	Females	%	Minorities	%
Total Employment	17,210	3,102	18%	2,654	15%
Officials & Managers	3,152	350	11%	269	9%
Professionals	4,507	1,252	28%	702	16%

**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.

## Awards & Recognition

AEP was once again named to Fortune magazine's [2015 World's Most Admired Companies](#) list in the electric and gas utilities sector, moving up two spots from number seven to five this year. Each year, Fortune surveys top executives, directors and financial analysts about the companies in their industry based upon nine criteria: financial soundness, ability to attract and retain talented people, quality of management, long-term investment value, quality of products or services, innovativeness, wise use of corporate assets, social responsibility to the community and environment, and global competitiveness. A total of 668 companies from 29 countries were surveyed to arrive at this year's list. This was AEP's second year participating in the survey.

In April 2015, AEP was ranked as America's eighth most trustworthy large cap company by GMI Ratings, now part of MSCI ESG Research. The research firm screens 5,500 publicly-traded North American companies. It then identifies the companies that most "consistently demonstrated transparent

accounting practices and solid governance." Factors include high risk behaviors like regulatory actions, amended filings, revenue and expense recognition methods and bankruptcy risk. This year, MSCI increased its emphasis on corporate governance, which is a key area of focus from our board of directors to all of our employees.

AEP was once again recognized as one of the nation's top 100 "military-friendly" employers by *G.I. Jobs Magazine* in 2015. 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.

In 2014, AEP was also named one of the nation's Best of the Best Top Veteran-Friendly Companies by the U.S. Veterans Magazine. The magazine polled hundreds of Fortune 1000 companies on their veteran employment and transitioning efforts. AEP has a generous military leave policy and is dedicated to veteran hiring and recruiting programs. Approximately 10 percent of AEP employees have served in the military.

For the eighth consecutive year, AEP was named one of the most adoption-friendly workplaces by the Dave Thomas Foundation for Adoption in 2014. 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 76 adoptions since 2007.

AEP River Operations' Chesterfield, Mo., office was recognized as one of The St. Louis Post-Dispatch Top Workplaces in 2014 for the second year in a row. The Top Workplaces are determined solely on employee feedback. AEP's Chesterfield office had a response rate of 94 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.

AEP River Operation's was also recognized by the United States Coast Guard with the Rear Admiral William M. Benkert Silver Award for

#### 2014 AEP Wages Paid by State\*

(approximate \$ in millions)

State	Total
Ohio	\$656.1
Texas **	\$219.9
West Virginia	\$171.6
Oklahoma	\$134.6
Michigan	\$133.7
Indiana	\$96.9
Virginia	\$82.1
Louisiana	\$81.2
Kentucky	\$53.6
Arkansas	\$29.7
Missouri	\$17.3
Tennessee **	\$6.2
Illinois	\$5.8
Pennsylvania	\$2.5
Alabama	\$1.6
Nebraska	\$1.4
District of Columbia	\$0.34

\* 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).

Environmental Excellence in 2014. Designed to distinguish outstanding performance, the Benkert awards recognize industry leaders in the field of marine safety and environmental protection.

## Recognition for Technical Work

Many of our employees do technical work and research which 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 these efforts by conferring through Technology Transfer Awards. The EPRI Technology Transfer Awards are presented to EPRI members who have led efforts to apply research and development on behalf of their companies and the industry at large.

AEP received several EPRI Technology Transfer Awards in 2014 and 2015 for a variety of projects:

- Involvement in outfitting Chevrolet Volt plug-in hybrid electric vehicles in the AEP fleet with high-resolution data loggers for the purpose of data collection. AEP was recognized for its real-world evaluation of commercially available plug-in hybrid electric vehicles, helping with executive/employee outreach, public education, the creation of driving/charging evaluating test systems, and refining the data logger system.
- Technical input and financial support for the Ohio River Ecological Research Program. AEP's involvement in this area has supported thorough evaluation of impacts of power plants on fish communities in the Ohio River.
- Use of a pilot-scale passive wetland treatment system at Gavin Plant to evaluate the applicability of this technology for the treatment of low levels of mercury from a flue gas desulfurization (FGD) landfill leachate pond. The results from this project will be useful in designing full-scale systems.
- Application of Hexprotect Tiles to improve process pond water quality issues at the Turk Power Plant in Arkansas. AEP introduced a new technology which will be more reliable, safer and cost-effective than traditional water treatment practices.
- Application of a new ecosystem service modeling tool, InVest, to strategically select 20 hydraulic fracturing well locations in AEP's ReCreation Land area, minimize impacts to ecosystem services and facilitate positive stakeholder engagement.
- Pioneering efforts in the design, construction and operation of the world's first pilot-scale, integrated carbon dioxide capture and storage (CCS) demonstration facility for a pulverized coal-fired generating power plant.
- Utilizing EPRI research to conduct our own internal study to mitigate the risk of exfoliation (release of oxide scales that build up on interior surfaces) damage in newly and retrofitted stainless steel boiler components. The results have been used to help avoid failures that would have resulted in unplanned shutdowns and lost generation.
- The development of EPRI's U.S. Regional Economy, Greenhouse Gas and Energy (US-REGEN) model which has advanced state-of-the-art electric sector and energy-economy modeling. The design, development and review of the model led to a very sophisticated analytical tool that is capable of revealing information that can form the basis for thought leadership concerning important electric power sector energy and environmental issues.
- Conducting field testing and technology assessment of EPRI's Distribution Grid Resiliency Initiative.



- Collaborating to develop test plans to help develop industry standards for minimum vegetation clearance distances for power lines and infrastructure.
- Engaging EPRI's research and design team to validate the design and test a new high-capacity, high efficiency transmission line design.
- Employing state-of-the-art approaches to reduce corrosion damage in heat recovery steam generators, a major component in natural gas-fueled combined cycle generating plants.
- Development and evaluation of the first full-scale sorbent activation process (SAP), a technology that uses on-site coal to produce activated carbon for direct injection into power plant flue gas for mercury control.



## Our Work Force

AEP Corporate Accountability Report



**80**  
out of 100



HUMAN  
RIGHTS  
CAMPAIGN  
FOUNDATION

AEP score  
in the  
Human  
Rights  
Campaign  
Corporate  
Equality  
Index

**5**   
labor unions  
representing  
**4,941**  
AEP employees

**67**  
number of line  
apprentices com-  
pleting Distribution  
Line Mechanic  
Apprentice  
Training program



**5** Employee  
Resource  
Groups

**“Most Admired”** — named to Forbes magazine’s  
“World’s Most Admired Companies” list in electric/gas utility sector.





## About this Report

American Electric Power is proud to share with you our 2015 Corporate Accountability Report. This is AEP's sixth integrated report combining the Annual Report to Shareholders with the Corporate Sustainability Report. This is our ninth year of reporting our sustainability performance. AEP's website - [www.AEPsustainability.com](http://www.AEPsustainability.com) - includes significant data and information about AEP's performance that is largely based on calendar year 2014 with exceptions for early 2015 data as noted. This website is also complimented by an iPad app and is now available for the iPhone. The information and data contained in this report has been internally audited and aligns with the Global Reporting Initiative (GRI) G4 guidelines. In addition, AEP's Board of Directors issues a [statement of accountability](#). For more information about AEP, visit [www.AEP.com](http://www.AEP.com).

AEP's 2015 Corporate Accountability Report is available for [download on the App Store](#).



## Audit Review of This Report

AEP Audit Services performed a limited review of company performance statements contained within the 2015 AEP Corporate Accountability Report. Financial information was reconciled with AEP's audited financial statements, if applicable, or to such other sources as deemed appropriate. Selected processes used in accumulating the significant nonfinancial data were reviewed and the associated 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, 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.



Andrew B. Reis  
Vice President, Audit Services  
April 28, 2015

## Material Issues

Identifying and reporting on the most relevant, material issues for a company and its stakeholders are the foundation of sound disclosure. The level of disclosure that is being sought has never been higher, nor has there been as much at stake in terms of transparency of environmental, social and governance performance. Today, the emphasis on materiality extends beyond financial reporting to encompass sustainability disclosure. All reporting standards and frameworks in use today – financial and sustainability – focus on materiality as central to disclosure. We recognize that material issues can directly or indirectly impact AEP's ability to create long-term value for its customers, employees, investors and society at large. That is one reason our approach to integrated reporting seeks to emphasize the connections between financial and nonfinancial performance and demonstrate a commitment to a high degree of transparency.

We have reported according to the Global Reporting Initiative (GRI) since we began this type of reporting in 2007. We also review the IR Reporting Framework and the standards being developed by the Sustainability Accounting Standards Board (SASB) to inform our disclosure. We do not believe there is a “one-size-fits-all” approach to reporting.

We consider material issues to be those that have affected, or that are reasonably likely to affect, the company's reputation, liquidity, credit standing, capital resources or operational results. AEP conducted its first, formal materiality assessment in 2012 to evaluate the sustainability issues of importance to our



stakeholders and our business. That process identified 18 material issues for AEP. In 2013, the electric utility industry conducted an industry-wide materiality assessment that identified 15 material issues. The survey was conducted by the Electric Power Research Institute (EPRI) Energy Sustainability Interest Group, to which AEP belongs.

### **AEP's Material Issues**

[Climate change](#)  
[Cyber security](#)  
[Economic development](#)  
[Effective partnerships](#)  
[Energy efficiency](#)  
[Energy reliability and security](#)  
[Environmental performance](#)  
[Financial performance](#)  
[Fuel diversity](#)  
[Innovation and technology](#)  
[Political involvement and lobbying activities](#)  
[Rate case and regulatory](#)  
[Policy management](#)  
[Safety and health](#)  
[Compliance and performance](#)  
[Value of electricity](#)  
[Water](#)

### **Material Issues of the Electric Power Industry**

#### **Environmental:**

Greenhouse gas emissions  
 Reductions of other air emissions  
 Water Quality  
 Water availability  
 Habitat protection and biodiversity  
 Waste Management

#### **Social:**

Public safety and health  
 Employee safety and health  
 Job satisfaction  
 Community support and economic development  
 Engagement and collaboration

#### **Economic:**

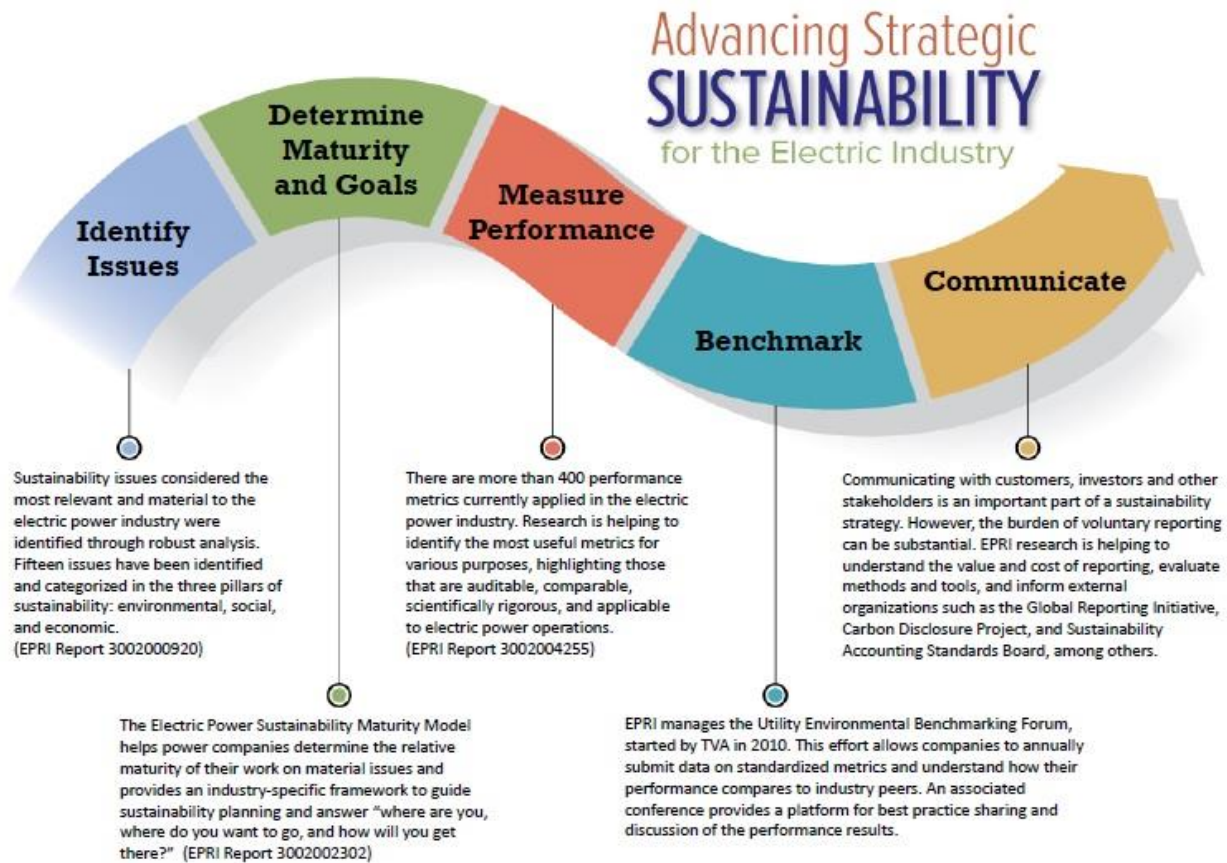
Energy reliability  
 Energy affordability  
 Skilled workforce availability  
 Economic viability of electric utilities

Source: Electric Power Research Institute  
 Energy Sustainability Interest Group

Both assessments were aligned in identifying the most relevant issues for AEP and our industry. And, in both cases, we chose not to rank the issues in numerical order because the level of relevance can change depending on many factors. What we have found to remain constant is the issues themselves. These exercises are valuable because they allow us to see the connections between issues our stakeholders say are important to them and our business strategy, risks and opportunities.

In 2014, we validated our material issues by engaging internally and externally with stakeholders. Although there were no major changes to our material issues, the emphasis on climate change and cyber and physical security was more pronounced. These issues have also become higher priorities industry-wide. The EPRI group is currently developing performance metrics for each of the 15 material issues. We expect a first wave of metrics to be released some time in 2015.

In 2015, we will review our approach to reporting as well as our material issues to insure consistent focus on material issues.



© 2014 Electric Power Research Institute, Inc. All rights reserved.



## Global Reporting Initiative

AEP follows the Global Reporting Initiative (GRI) reporting principles in terms of data quality, report content and organizational boundaries. This report was primarily developed according to the [Global Reporting Initiative](#) (GRI) Sustainability Reporting Guidelines Version 4 (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 G4 standards, as well as the Electric Utility Sector Supplement for reporting on industry-specific information.

- [AEP 2015 Corporate Accountability Report – GRI Report](#) (PDF)

# 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 2015 Response](#) (PDF)
- [CDP Water Disclosure Project - AEP's 2015 Response](#) (PDF)
- [CDP Supply Chain Disclosure Project - AEP's 2015 Response](#) (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.

- [2014 Coal Supplier Survey Final Report](#) (pdf)
- [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)

## Contact Us

**We welcome your feedback about this web site and about our reporting. Hearing from our various stakeholders helps us understand what concerns them. Please share your comments with us!**

For questions regarding AEP’s Corporate Accountability Report or sustainability initiatives, please contact:

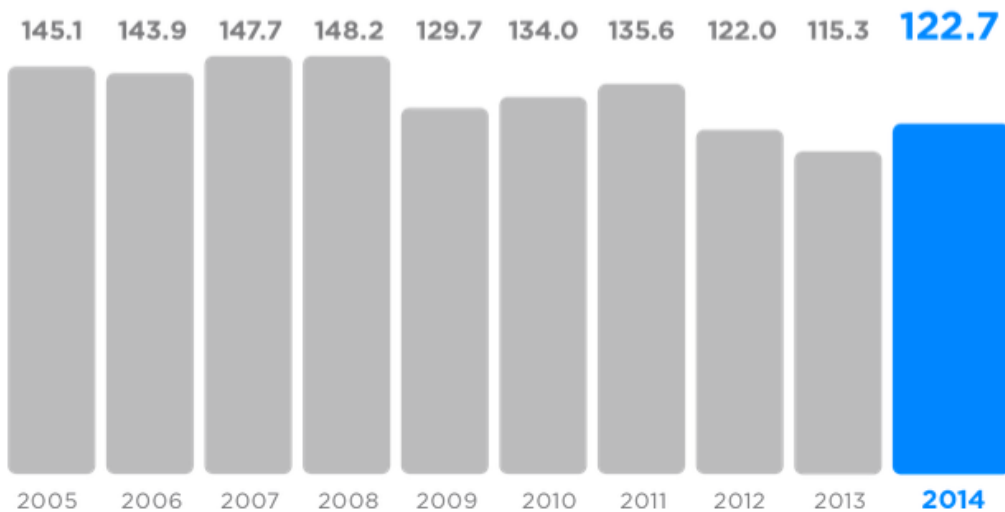
Sandy Nessing  
 Managing Director, Sustainability & EHS Strategy & Design  
[smnessing@aep.com](mailto:smnessing@aep.com)

Melissa Tominack  
 Sustainability Coordinator  
[matominack@aep.com](mailto:matominack@aep.com)

## Fast Facts

### Total AEP System – Annual CO<sub>2</sub> Emissions

(in million metric tons)



## Company Overview 2014

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 5.5 million regulated and competitive customers in portions of 11 states.

	2014
U.S. Customers (year-end, millions; regulated and competitive)	5.5
Employees	18,529
GAAP Revenues (millions)	\$17,020
Operating Income (millions)	\$3,232
GAAP Net Income (millions)	\$1,638
GAAP Earnings Per Share	\$3.34
Cash Dividends Per Share	\$2.03
Service Territory (square miles)	200,000
Transmission (miles)	40,000
765-kV Lines (miles)	2,110
Distribution (miles)	222,000
Generating Capacity	37,600 MW <sup>1</sup>
Generating Units	212 <sup>2</sup>
Renewable Portfolio (hydro)	285 MW <sup>3</sup>
Pumped Storage	586 MW <sup>4</sup>
Regulated Renewable Portfolio (wind, solar)	2,193 MW <sup>5</sup>
Total Kilowatt-hour Sales (millions)	207,211 <sup>6</sup>
Rail Cars	4,990
Barges	2,800
Towboats	47
Harbor Boats	20
Total Assets (millions)	\$59,633

<sup>1</sup> Does not include Ohio Valley Electric Corporation (OVEC), Indiana-Kentucky Electric Corporation (IKEC) or Power Purchase Agreements

<sup>2</sup> Includes facilities jointly owned with other utilities, hydro and two AEP-owned wind farms

<sup>3</sup> Nameplate capacity, excludes pumped storage. Regulated and competitive.

<sup>4</sup> Nominal capacity

<sup>5</sup> Wind and solar contracts that are in service (nameplate capacity) and delivering energy in 2014; some current year Renewable Energy Credits (RECs) are sold and/or replaced with other RECs so claims to renewable benefits are reduced accordingly.

<sup>6</sup> Includes Vertically Integrated and Transmission and Distribution Utilities

## AEP Economic Impact 2014

Employees (year-end)	18,529 <sup>1</sup>
Wages	\$2.3 billion <sup>2</sup>
Construction Expenses	\$4.1 billion <sup>3</sup>
Local Taxes	\$629.2 million
State Taxes	\$347.6 million
Federal Taxes	\$228.6 million
Goods & Services (does not include fuel)	\$5.4 billion
Goods & Services from Diverse Suppliers	\$562 million <sup>4</sup>
Remaining Value of all Contracts	\$2.4 billion <sup>5</sup>
Coal Delivered (millions of tons)	59
Coal Average Cost Per Ton Delivered	\$49.99
Natural Gas Delivered (billion cubic feet)	146.1
Natural Gas Average Purchase Price (per MMBtu)	\$4.60
Philanthropic Giving	\$25.3 million <sup>6</sup>
Economic Development Contributions	\$2.4 million <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.

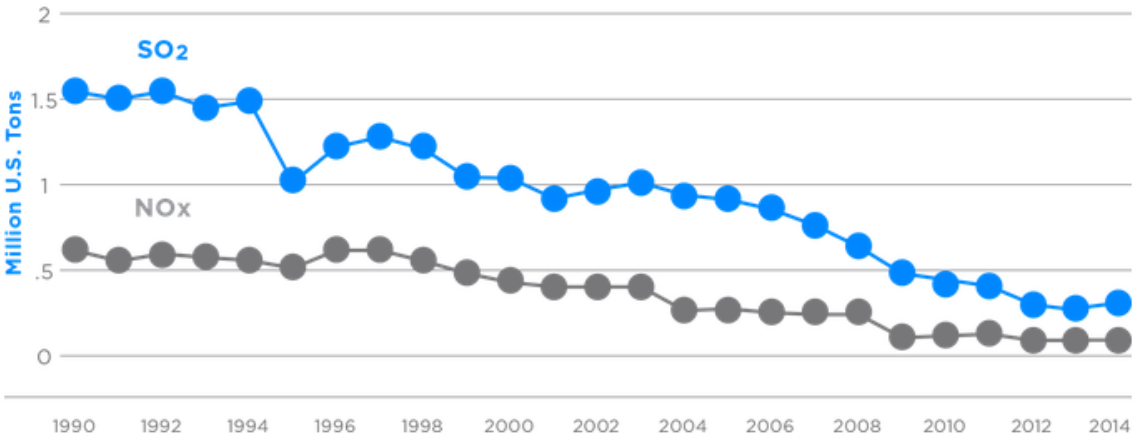
<sup>4</sup> Diverse suppliers are classified as Small Business, Small Disadvantaged Business, Women Owned Small Business, HUBZone Small Business, Veteran Owned Small Business, and Service Disabled Veteran Owned Small Business where the business is self-certified as diverse.

<sup>5</sup> Supply chain purchased contracts and inventory system. Contacts executed in year reported.

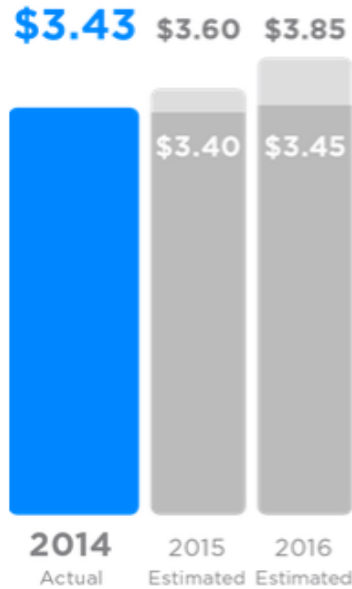
<sup>6</sup> Includes Corporate and AEP Foundation grants.

<sup>7</sup> Includes all grants and contributions by utility units to support economic development.

**Total AEP System Emissions 1990 - 2014**



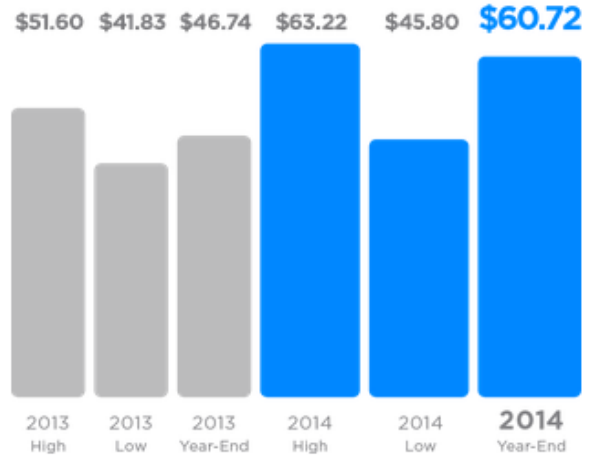
## Forecasted Operating Earnings Per Share



**Coal - AEP System Plants**

	2012	2013	2014
Average Cost Per Ton Delivered	\$49.22	\$51.31	<b>\$49.99</b>
Total Delivered (millions of tons)	60	54	<b>59</b>
Total Consumed (millions of tons)	57	55	<b>58</b>

## AEP Market Price-Common Stock



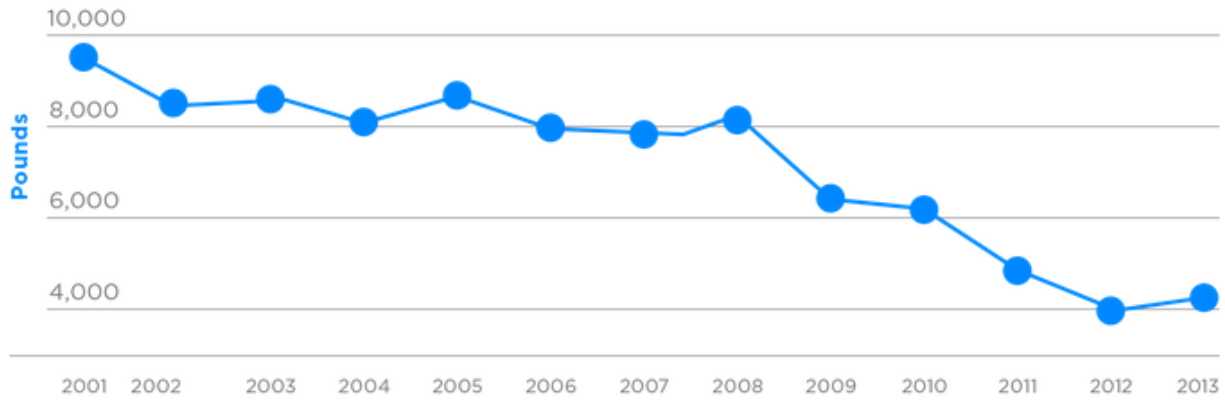
**AEP Capital Investments (\$ in millions)**

	2014 Actual	2015 Estimated
Transmission	<b>\$887</b>	\$819
Distribution	<b>\$1,060</b>	\$1,192
Regulated Environmental Generation	<b>\$459</b>	\$577
Nuclear	<b>\$209</b>	\$221
Regulated Fossil/Hydro Generation	<b>\$224</b>	\$269
Corporate and Other	<b>\$157</b>	\$184
Competitive Operations	<b>\$147</b>	\$151
AEP Transmission Holding Co.	<b>\$1,010</b>	\$1,005
<b>Total Capital &amp; Equity Contributions</b>	<b>\$4,152</b>	<b>\$4,420</b>

Excludes AFUDC debt and equity and cash flow adjustments



**Total AEP System Mercury Emissions** (2014 mercury emissions number not available until Q3 2015)



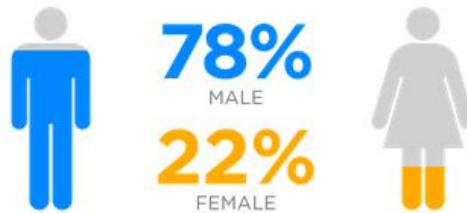
**Number of AEP Customers in 2014**

- 28% AEP Ohio
- 19% AEP Texas
- 18% Appalachian Power
- 11% Indian Michigan Power
- 10% Public Service Company of Oklahoma
- 10% Southwestern Electric Power Company
- 3% Kentucky Power



Due to rounding, may not equal 100 percent

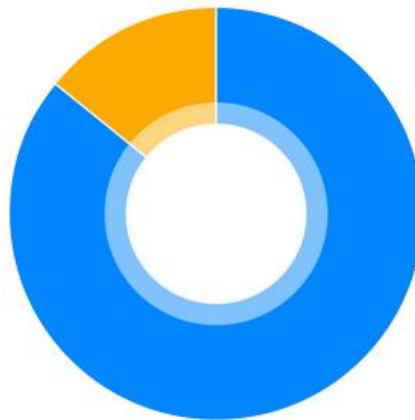
**Leadership Diversity by Gender**



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

**Leadership Diversity by Ethnicity**

- 84% White
- 16% Minority



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