

# AES 2014 Sustainability Report





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# STATEMENT FROM THE PRESIDENT AND CEO

#### To Our Stakeholders,

Our mission is to improve lives by providing safe, reliable and sustainable energy to the millions of customers that we serve.

Our power plants use a broad range of technologies and fuel types, including fossil fuels and renewables. Our utilities serve diverse markets such as São Paulo, Brazil, or Indianapolis, Indiana. In all of our markets, our actions are guided by the goal of building a sustainable future while meeting today's need for safe and reliable energy.

#### **Executing a Strategy to Transform AES**

In late 2011, we set a strategy to position the company for the future:



**Leveraging our platforms:** focus our growth on platform expansions, including adjacencies, in markets where we already operate and have a competitive advantage to realize attractive risk-adjusted returns.



**Performance excellence:** be the low-cost manager of a portfolio of international energy assets and to derive synergies and scale from our businesses.



**Expanding access to capital:** raise capital by building strategic and financial partnerships at the project and business level. Through these partnerships, we aim to optimize our risk-adjusted returns in our existing businesses and growth projects.



**Reducing complexity:** exit businesses and markets where we do not have a competitive advantage, to simplify our portfolio and reduce risk.

Since then, we have consistently executed on these long-term strategic objectives, and I am pleased to share in this report some of our achivements for 2014. Going forward, the foundation we have built will allow us to continue to capitalize on the opportunities we see across our portfolio and create value for our shareholders.



#### **Achieving Our Objectives**

In 2014 we made a lot of progress towards our long-term strategic objectives even while facing a second year of drought along the Eastern Pacific Rim from California to Chile, which affected the results of some of our businesses.

The weakening of commodities and foreign currencies and negative investor sentiment towards exposure to countries outside the United States also contributed to the underperformance of our stock price, which does not reflect the continued strong execution of our strategy.

Nonetheless, we feel proud of our accomplishments: it was our safest year on record with no AES people fatalities. We did, unfortunately, have one contractor fatality and a number of serious incidents. While we must recognize the progress we have made through our continued focus on safety, we have not reached our goal of an incident-free workplace, and we won't be satisfied until we achieve this objective.

## It was our safest year on record with no AES people fatalities

To grow our platforms, we started construction of new projects in Indiana, India and Chile. With these new projects, we have the largest number of megawatts (MW) under construction or being environmentally upgraded in our 34-year history. To finance our growth, we entered into a record number of financial partnerships at the business and project level for a total of US \$1.9 billion.

We are also developing adjacent business lines, such as supplying natural gas to our platform markets. Almost 11 years ago, AES Dominicana expanded its Andres facility in Boca Chica (Dominican Republic, MCAC SBU) to include a port and the country's only storage tank for liquefied natural gas (LNG). In 2014 AES Dominicana achieved a milestone by receiving its 100th natural gas tanker, which brought the total cumulative amount of LNG received to 12 million cubic meters. This is a good example of how we are leveraging our platforms while making a lasting difference in our communities. Since the opening of the LNG terminal, the country has saved approximately US \$1.8 billion by using natural gas, compared to the cost of generating electricity from petroleum fuels.

In late 2014, we won the largest bid in our history for 1,284 MW of replacement thermal generation and 100 MW of energy storage in Southern California. This was the first time battery storage competed and won against other peaking and flexible power capacity alternatives in a competitive bid process. As technology improvements shape the global electric sector, AES is positioned to maintain its leadership position. With eight years of successful experience in energy storage, AES has become the world leader in battery-based energy storage with more than 114 MW of resources in operation or construction.

As a part of our goal to reduce complexity, we also completed our exit from Turkey, Cameroon and Nigeria. I feel very proud of the operational and safety improvements we were able to accomplish in Africa, which are second to none.



Finally, we made significant strides in our capital allocation priorities. Due to our expected strong and growing cash flow, we announced a 100% increase in our dividend to shareholders to US \$0.10 per share beginning in 2015. We also continued to repurchase our shares at attractive prices and reduce leverage to strengthen our balance sheet.

#### **Building a Sustainable Future**

For AES people, how we accomplish our successes and deliver electricity is as important as the services we provide. Ethics, integrity and compliance are the foundation and principles that guide our company and our people. In 2014, AES was recognized as one of the World's Most Ethical Companies by the Ethisphere Institute for going beyond making statements about doing business ethically and turning words into action.

#### AES was named to the Dow Jones Sustainability Index (DJSI) for North America for the first time ever

We also made very good progress on our other two long-term corporate objectives set in late 2011: becoming a top quartile place to work at each of our businesses and reaching the top quartile in sustainability. AES was named to the Dow Jones Sustainability Index (DJSI) for North America for the first time ever and was ranked in the top quartile for sustainability among all electric utilities assessed by RobecoSAM.

Many of our companies achieved top quartile place to work rankings, and this year AES Corporate ranked as a top workplace in a survey conducted by The Washington Post. Additionally, many of our businesses were recognized for excellence in customer service; sustainability and corporate social responsibility; safety, the environment and operational excellence.

Despite a difficult environment in 2014, we look back with pride on our continued progress on many fronts and focus on our ultimate mission to improve lives by providing safe, reliable and sustainable energy solutions in every market we serve.

Andrés Gluski President and Chief Executive Officer



### ORGANIZATIONAL PROFILE

The AES Corporation (NYSE: AES) is a Fortune 200 global power company that was founded in 1981. The company is headquartered in Arlington, Virginia, USA and is a publically traded global power company incorporated under the laws of Delaware, governed by a Board of Directors.

We provide affordable, sustainable energy to 18 countries through our diverse portfolio of distribution businesses as well as thermal and renewable generation facilities. Our workforce of 18,389 people is committed to operational excellence and meeting the world's changing power needs. Our 2014 revenues were US \$17 billion and we own and manage US \$39 billion in total assets.

We are dedicated to improving the lives of our customers by leveraging our energy solutions that encompass a broad range of technologies and fuel types, including coal, diesel, gas, oil, pet coke and renewables. Our people share a passion to help meet the world's current and increasing energy needs, while providing communities and countries the opportunity for economic growth due to the availability of reliable, affordable electric power.

The company is organized in six Strategic Business Units (SBUs):

- Andes: Chile, Colombia and Argentina
- **Asia:** Vietnam, Sri Lanka, India and the Philippines
- Brazil: São Paulo and Rio Grande do Sul
- **Europe:** Bulgaria, Jordan, Kazakhstan, Netherlands and the United Kingdom
- MCAC (Mexico, Central America and the Caribbean): El Salvador, Dominican Republic, Mexico, Panama and Puerto Rico
- **US** (United States of America): California, Hawaii, Indiana, Maryland, Ohio, Oklahoma, Pennsylvania, Texas and West Virginia



#### Figure 1: Scale of The AES Corporation.

\* Additional financial information is located in The AES Corporation's 2014 Annual Report and 10-K.



Within the six SBUs, we have two primary business lines. The first business line is generation, where we own and/or operate power plants to generate and sell power to customers, such as utilities, industrial users, and other intermediaries. The second business line is utilities, where we own and/or operate utilities to generate or purchase, distribute, transmit and sell electricity to end-user customers in the residential, commercial, industrial and governmental sectors within a defined service area. In certain circumstances, our utilities also generate and sell electricity on the wholesale market.

AES is the world leader in battery-based energy storage, with 114 MW in operation or under construction. Although it is likely to remain relatively small in the near-term, we see the potential for a much larger opportunity over the next four or five years:

- AES has the most comprehensive and accomplished fleet of battery-based energy storage in the world.
- U.S. Energy Information Administration (EIA) forecasts 28,000 MW of new renewable capacity in the next ten years and 82,000 MW of power plant retirements over the same period.
- Energy storage can serve as a replacement resource, to absorb renewable energy AES Advancion is a complete battery-based grid resource offered to utility companies and renewable developers.
- Tailored to specific market needs in terms of power and duration.

34,732 Gross MW in Operation



#### Figure 2: Total MW by Fuel type.



Figure 3: Total MW by SBU.



### MATERIAL ASPECTS HIGHLIGHTED IN THIS REPORT

The report has been prepared in accordance with the recommendations of the Sustainability Reporting Guidelines, version 4.0, of the Global Reporting Initiative (GRI Guidelines). We have chosen to prepare the report in accordance with the criteria listed under the "core" option and include responses to guidance specifically for Electric Utility Sector Disclosures. We have also responded to several aspects and disclosures listed under the "comprehensive" option. This report is structured to present the following "material aspects" within the context of our five broad strategic initiatives.

#### **Financial Excellence**

Economic Performance Investment Return on Capital Allocation

#### **Operational Excellence**

Availability, Reliability and Access to Electricity Cybersecurity Disaster/Emergency Planning and Response

#### Environmental Performance

Aspect: Air Emissions Aspect: Water Aspect: Effluents and Byproducts Aspect: Biodiversity

#### Stakeholder Engagement

Impacts On Education and Living Standards in Our Communities Public Safety

#### Our People

Global Talent Management Occupational Health and Safety



### FINANCIAL EXCELLENCE

Executing our strategy requires that we manage sustainability issues with discipline. Financial success enables us to continue to attract capital and talented people as well as invest in innovative solutions for our customers.

When our long-term strategy was defined, one of the three corporate objectives was to achieve total shareholder return that is greater than our peers. This is about delivering on our financial commitments, cost savings and creating synergies and economies of scale across our portfolio of businesses. We compare our performance relative to the Standard & Poor's 500 Utilities Index.

Our financial performance is managed in keeping with our corporate strategy to ensure the company's economic sustainability. Anticipating, identifying and managing risk is an essential element of our governance and financial management functions. We manage risk at the Strategic Business Unit (SBU) and corporate levels, first by minimizing exposure during the initial structuring of a business, and then by aggregating all existing risk under the Risk Management Team, which reviews, balances and manages risks across the entire portfolio. For more details on risk management, please refer to <u>2014 AES Annual</u> <u>Report and Form 10-K.</u>

Disciplined allocation of our capital is an essential element of our strategy. To achieve our objectives we operate our portfolio to: i) create value for our shareholders; ii) drive our operating businesses to generate capital for deployment into operational improvements, growth investments, debt repayment, and shareholder dividends; iii) drive stability of cash flow and earnings in our businesses through contractual, regulatory and hedging activities; and iv) focus our growth investments on expanding from our platforms in our markets where we have a competitive advantage.

To ensure our investment opportunities align with management objectives, we have an investment decision making process in place that includes participation from functional areas both at the corporate and local levels to incorporate broadbased analysis of project, economic, environmental and social risks in analyzing and prioritizing our investment opportunities.

Our growth plans are focused on expanding from existing platforms where we have a sustainable competitive advantage.

This provides an added level of discipline, transparency and agility to our decision making. Projects and transactions pass through as many as three decisions points through an Executive-level Investment Committee. For major projects, the approval process includes a presentation to the Board of Directors. According to our growth investment strategy, we will only invest in a new project if it meets the following criteria:

- Maintains or enhances the value of existing businesses;
- Offers compelling risk-adjusted returns, while minimizing AES' equity investment by utilizing project-level cash or local leverage capacity; and
- For large projects, ability to bring in partners to maximize returns and fine-tune total exposure to the project.



#### ASPECT: ECONOMIC PERFORMANCE AND INVESTMENT RETURN ON CAPITAL ALLOCATION

Our financial results are made possible by our operational excellence, safety, risk management approach, and ethical and effective conduct by AES people at all our businesses. We achieved a number of our objectives in 2014 despite the impacts from adverse hydrology and other factors that affected our Adjusted Earnings Per Share (EPS) by US \$0.10.

## We achieved new financings for US \$5.2 billion

Still, we earned Adjusted EPS of US \$1.30, which was at the lower end of our original guidance range of US \$1.30 to US \$1.40. We were able to offset these issues through operational improvements, accelerated cost savings and our capital allocation decisions, including share repurchases and debt prepayments.

#### Our 2014 strategic achievements include:

- Received US \$1.9 billion from new financial partnerships in our subsidiaries;
- Announced or closed 10 transactions for US \$1.8 billion in equity proceeds from asset sales;
- Broke ground on six new platform expansion projects, totaling 2,226 MW, and won long-term contracts to build 1,384 MW of capacity;
- Allocated US \$608 million to reduce Parent debt and improve our credit profile;
- Returned US \$452 million back to shareholders; and
- Announced a doubling of our dividend, with an intended growth rate of 10% per year.

We also achieved a record number of new financings at US \$5.2 billion, which ensures our debt is largely fixed rate, with longer term maturities and denominated in the functional currency of the business.

By efficiently managing our operations, we have reduced our global administrative expenses by about a third, or US \$200 million cumulatively, achieving the goal we established in 2011 one year early. Going forward, we're focusing on additional cost savings initiatives.

Following our goal of reducing complexity by simplifying our portfolio, since 2011 we have reduced the number of countries where we operate from 28 to 18 and raised US \$3 billion in equity proceeds from asset sales. In 2014 alone, we closed 10 transactions totaling US \$1.8 billion in equity proceeds to AES. As a result of our efforts, 80 percent of our 2014 earnings and Proportional Free Cash Flow was generated in 10 countries in the Americas.

## We raised a total of US \$1.9 billion from four new partners

Through financial partnerships, we are expanding our access to capital and fine-tuning our portfolio's global macroeconomic exposure and commodity risks. In total, we have raised US \$2.5 billion in proceeds to AES. In 2014 we raised a total of US \$1.9 billion from four new partners:

- Estrella and Linda Groups in the Dominican Republic;
- Global Infrastructure Partners (GIP) in Chile;
- La Caisse de dépôt et placement du Québec (CDPQ) in the United States; and
- Electricity Generating Company Limited (EGCO) in the Philippines.



Our overall capital allocation during the last three years has been very shareholder focused. We have allocated 78 percent of our discretionary cash to Parent debt prepayments and returning cash to shareholders. We have allocated US \$1.6 billion to decrease our Parent debt by almost 20 percent and improve our financial flexibility. We have also reduced our share count by 10 percent and doubled our dividend to US \$0.10 per share per quarter, beginning in the first quarter of 2015.

Finally, we are pleased that despite our shortfall in Proportional Free Cash Flow, we generated US \$523 million in parent free cash flow, above the expected guidance mid-point of US \$500 million. Our successful execution has positioned us to deliver average annual cash flow growth of 10 to 15 percent over the next four years as our construction projects come on-line. We recognize that 2015 will be a challenging year due to negative macroeconomic factors and poor hydrology in Brazil. Nonetheless, we will continue to execute on our strategy to create shareholder value by continuing to pull the levers we have outlined.

#### MONG DUONG II RECEIVES PFI ASIA BEST PRACTICE AWARD



Mong Duong II is a 1,240 MW coal-fired power plant that will provide power for 2.25 million Vietnamese households upon completion. The project is expected to achieve commercial operations during the second half of 2015. Once completed, this project will contribute meaningful cash flow to the company, while also providing Vietnam with a safe and reliable source of electricity to help support its growing economy.

The project won a Project Finance International (PFI) Asia Best Practice Award. This is the second PFI award the Mong Duong II construction project has received. In 2011 the project received the award for Asia Pacific Power Deal of the Year.

Following the 2011 award, PFI continued to monitor the implementation and progress of the Mong Duong II project. The project received the PFI Asia Best Practices Award for the power sector by exceling in the following categories: government procurement, private sector development, bond deal, infrastructure deal, power sector, and renewables.

The project is the country's largest private sector power project, and AES is the first independent power producer (IPP) to reach successful closure of a financial deal in Vietnam since 2003.



# OPERATIONAL EXCELLENCE

AES businesses improve lives by fueling quality of life, local economies and the well-being of families around the world. We continually improve the way we work and strive to deliver energy in the most efficient, safe and reliable manner we can, and we encourage our businesses to perform above and beyond expectations and strive for excellence.

Guaranteeing a regular supply of electricity to our customers requires the use of modern technologies for power delivery as well as system reliability monitoring. Thus, it is essential that we strive for excellence as we operate our businesses each day.

We consider operational excellence to include not only supplying reliable, affordable power and ensuring our plants are available to run as much of the time as possible, but also managing physical and cybersecurity, disasters and emergencies, public safety, and environmental performance.

For each of these dimensions of our operations, we have management systems in place that provide training to support better performance as well as a uniform system of Key Performance Indicators (KPIs) for all of our distribution and generation businesses.

Operational KPIs performance is tracked on a monthly basis and reported in the Executive Leadership Monthly Performance Review meeting. Additionally, KPIs are tied to the compensation of AES people at the business and corporate levels and yearly global targets are set and disclosed in corporate filings.

AES businesses have no direct responsibility over the programmed capacity to address projected long-term electricity demand in the countries where they operate. Local government and authorities perform studies to anticipate energy needs, and our businesses can act as market players and make investments that are aligned with the corporate strategy and criteria.

#### ASPECT: AVAILABILITY, RELIABILITY AND ACCESS TO ELECTRICITY

With more than 30 years of experience, our diverse mix of generation sources and utilities provides us the strength and flexibility to adapt to local and regional growing energy needs, maximize plant efficiency and deliver the electricity needed now and in the future, which is essential to human progress, economic growth, public health and security.

Our 2014 operating performance for the year was driven by the strategic management of our assets and cost reductions across our portfolio, but we also faced dry hydrological conditions across a few markets in Latin America and reliability challenges at our generation businesses in the Philippines and the United States as well as our utilities in Brazil.

#### Generation

We own and/or operate power plants, which we use to generate electricity for our customers, such as utilities, industrial users and other intermediaries under both long-term contracts and in competitive markets. We strive to provide diverse fuel technologies that are well-suited to the individual markets in which we operate. These fuel technologies include coal, diesel, gas, oil, pet coke and renewables.

247 MW of new capacity came online in 2014

OPERATIONAL EXCELLENCE



In 2014, we added 247 MW of new capacity through one platform expansion project: IPP4 in Jordan. We also broke ground on six new platform expansion projects totaling 2,200 MW. Also, Southern California Edison (SCE) awarded AES 20-year Power Purchase Agreements (PPAs) to provide 1,284 MW of combined cycle gas-fired generation and 100 MW of interconnected battery-based energy storage. The System Operator Northern Ireland (SONI), the firm that manages the reliability of the electricity system, also awarded to AES a contract to provide additional capacity of 250 MW to meet a projected energy shortfall over the coming years.

# We have 7,141 MW of new capacity under construction — the most in our 34-year history.

Our planned future capacity growth will come from a combination of projects currently under construction and development. We have 7,141 MW of new capacity under construction — the most in our 34-year history. These projects — which are expected to come on-line through 2018 represent US \$9 billion in total capital expenditures, with the majority of AES' US \$1.5 billion in equity already funded.

Country	Power Plant	Fuel	Gross MW
	Cochrane	Coal	532
	Alto Maipo	Hydro	531
Chile	Guacolda V	Coal	152
	Cochrane Energy Storage <sup>1</sup>	Energy Storage	20
	Andes Solar	Solar	21
Colombia	Tunjita	Hydro	20
Dominican Republic	DPP (Los Mina) Conversion	Gas	122
India	OPGC II	Coal	1,320
Panama	Estrella del Mar I	Fuel Oil	72
	IPL MATS	Coal	2,400
United States	Eagle Valley CCGT	Gas	671
	Warrior Run Energy Storage <sup>1</sup>	Energy Storage	20
Vietnam	Mong Duong II	Coal	1,240

*Table 1: Megawatts under construction - 2014.* 

<sup>1</sup> Energy Storage MW are a power plant equivalent dispatchable resource, including supply and load capability.



In pursuit of operational excellence, AES businesses are continuously looking for ways to improve performance and develop new adjacencies and enhancements that help us better serve our customers.

For example in 2014, Los Mina (Dominican Republic, MCAC SBU) successfully installed innovative fogging technology that generates an additional 15 MW at the 236 MW gas-fired generation facility. This increased capacity will allow Los Mina to provide additional power to their customers if required. The installation of fogging technology in gas turbines allows the recovery of a substantial part of the rated output of the gas turbine in order to compensate the loss of power due to the increase of ambient air temperature.

#### **POWERING A CLEANER FUTURE FOR CALIFORNIA**



**Rendering of Alamitos Energy Storage** 

AES is providing innovative energy solutions designed to meet California's long-term electricity needs and help achieve its environmental goals. By using advanced battery-based energy storage and modern combined cycle gas turbine (CCGT) technology, we are laying the groundwork for a better, smarter and cleaner power grid.

In November 2014 AES was awarded 20-year contracts by Southern California Edison (SCE) to provide 1,284 MW of combined cycle gas-fired generation and 100 MW of interconnected battery-based energy storage (equivalent to 200 MW of flexible energy storage resource). This new capacity will be built at the company's existing power plant sites in Huntington Beach and Long Beach, located south of Los Angeles, California.

AES offered SCE a suite of energy solutions designed to modernize vintage power plants and bring the cleanest and best technology to Southern California. These new power solutions help support a low carbon, highly reliable grid that makes the most of California's natural resources.

In addition to replacing older plants, SCE chose advanced energy storage as a cost-effective way to ensure critical power system reliability in the Western Los Angeles Basin. This new storage resource will provide unmatched operational flexibility, enabling the most efficient dispatch of other generating plants, lowering cost and emissions, and supporting the ongoing addition of renewable power sources.

This win not only ensures our continued strong presence in the U.S. Independent Power Producer (IPP) market and Southern California in particular, but it also consolidates our global lead in the use of utility scale lithium ion batteries for grid applications.



AVERAGE PLANT AVAILABILITY FACTOR

Generation in Gigawatt-hour (GWh) was down 4 percent compared to 2013, mainly driven by dry hydrological conditions in Brazil and Panama, as well as higher unplanned outages at our generation plants in Ohio and the Philippines. The dry conditions were partially offset by new capacity in Chile. In 2014, our generation portfolio performance in terms of commercial availability deteriorated, largely driven by the unplanned outages mentioned before. Most of these events have been resolved and going forward, mitigation plans have been implemented.

SBU	Coal	Natural Gas	<b>Renewables</b> (Hydro, Wind, Biomass, Landfill Gas)	Oil, Diesel & Petcoke	Total
AES Total	69,669.48	25,528.47	29,189.11	5,456.24	129,843.29
Andes	18,168.10	10,496.70	7,250.91	0.14	35,915.86
Asia	6,726.63	0.00	0.00	487.61	7,214.23
Brazil	0.00	0.51	7,352.95	0.00	7,353.46
EMEA	5,823.03	6,663.17	10,030.65	858.70	23,375.55
MCAC	5,518.53	5,822.38	2,004.75	3,962.09	17,307.76
US	33,433.19	2,545.70	2,549.85	147.70	38,676.43

Table 2: 2014 Net Energy Generated (GWh) by SBU and fuel type.

Commercial Availability (CA) <sup>1</sup>	2011	2012	2013	2014	2014 target
AES total	92.2%	89.1%	93.5%	90.5%	93.86%
Coal	90.2%	88.3%	88.4%	83.51%	
Gas	92.4%	91.4%	90.4%	95.31%	
Hydro	99.9%	97.1%	98.3%	97%	
Oil	97.7%	99%	100%	95.47%	
Wind <sup>2</sup>	95.6%	96.8%	96.3%	95.65%	

Table 3: Commercial Availability by energy source, 2011 - 2014.

<sup>1</sup> Commercial Availability: Actual variable margin, as a percentage of potential variable margin if the unit had been available at full capacity during outages

<sup>2</sup> Commercial Availability of a wind farm is determined using a different methodology, that is why it is not included in the AES Total



#### Distribution

Our AES utilities businesses deliver electricity to approximately 10.4 million customers. The reliability of our distribution networks is tracked by the average number and duration of system interruptions per customer and is consolidated based on ownership-adjusted EBITDA. In addition, AES sets targets for customer satisfaction (percentage of customers satisfied/greatly satisfied) as one of five KPIs for the utilities' businesses.

Our utility portfolio performance declined mainly driven by severe weather-related impacts at our

Brazilian businesses, which increased our System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI). For example, the area served by AES Sul in Brazil experienced severe weather conditions such as atypical frequent summer storms (14 storms within 28 days with winds higher than 150km/h), which caused damage to the distribution infrastructure and impacted performance.

Nevertheless, we continue to experience an improvement trend over the past years due to proactive programs to improve reliability and customer satisfaction.

Business	2011	2012	2013	2014	2014 target
Actual	10.02	7.01	5.96	6.13	5.23
AES El Salvador	19.56	17.39	18.31	19.38	
AES Eletropaulo	10.43	8.35	7.99	8.86	
AES Sul	15.37	14.26	14.08	18.30	
Dayton Power & Light (DP&L)	-	1.56	1.32	1.82	
Indianapolis Power & Light (IPL)	0.59	0.95	0.81	0.95	

#### Table 4: System Average Interruption Duration Index (SAIDI)<sup>3</sup>, 2011 - 2014.

<sup>3</sup> SAIDI - represents the total minutes of interruption the average customer experiences annually.





Figure 4: Utility businesses SAIDI trend, 2011 - 2014.

Business	2011	2012	2013	2014	2014 target
Actual	5.59	3.93	2.97	3.70	4.01
AES El Salvador	8.03	7.52	6.92	5.93	
AES Eletropaulo	5.50	4.64	4.34	3.81	
AES Sul	9.27	8.44	7.41	8.99	
Dayton Power & Light (DP&L)	-	0.79	0.58	0.92	
Indianapolis Power & Light (IPL)	0.60	0.82	0.73	0.71	

#### Table 5: System Average Interruption Frequency Index (SAIFI)<sup>4</sup>, 2011 - 2014.

<sup>4</sup> SAIFI – represents the average number of interruptions the average customer experiences annually







#### GUARANTEEING RELIABILITY AND DISTRIBUTION CAPACITY DURING THE WORLD CUP



During 2014, Brazil was busy preparing to host the FIFA World Cup. AES Brazil worked hard to ensure the games, and the fans, had the power they needed as well as to guarantee there were no disruptions in the distribution of energy during the matches.

AES Eletropaulo, which serves various cities in the State of Sao Paulo, was part of a committee created to unify all public and infrastructure services

involved with the games of the World Cup, such as the fire department, city hall and civil defense. AES Eletropaulo reinforced its contingency plan with more than 2,000 employees working in shifts 24 hours/day during the World Cup. AES people also were on call on during the matches as a backup plan.

The strategic points of the concession area included power circuits near hospitals, airports, bus stations and hotels as well as regions with high concentrations of fans. We worked proactively to avoid any event with the distribution network during the games, and we were prepared to respond as soon as possible if anything happened.

Also, as part of the effort to ensure energy was supplied to the Corinthians Stadium, which hosted the World Cup's opening ceremony, the stadium was set up to receive supply from two independent energy circuits, so one would work even if the other was undergoing problems.

Another guarantee for the maintenance of energy distribution during the event was the commissioning of the new 120 MW Juscelino Kubitscheck Distribution Transformation Station. This station supplies energy to approximately 300,000 people.





#### **Customer Satisfaction**

AES sets annual targets for customer satisfaction as one of five KPIs for utility businesses that impacts annual compensation of business leaders. The targets and actuals are tracked on a monthly basis in the Executive Monthly Performance Review meeting. Our utilities' customer satisfaction surveys target both residential and commercial customers.

In cases where nationally and/or regionally conducted third-party surveys are available, AES utilities participate in them. These include J.D. Power & Associates for our US utilities and CIER/ ABRADEE surveys for our El Salvadoran and Brazilian utilities. The surveys, with their statistically significant representative samples, included AES' complete customer base and employed similar methodologies in 2013 and 2014.

AES has experienced a recent growing positive trend in customer satisfaction in 2013 and 2014 as compared to 2011 and 2012. This is mainly driven

by a Service Quality and Image Recovery Plan implemented by our Brazilian utility AES Eletropaulo.

The 2014 customer satisfaction results for AES' utilities businesses combined is lower than the established target attributable to external factors related to lengthy severe weather in Brazil, as mentioned before, that had an effect on customer sensitivity. The third party survey conducted in Brazil occurs in March every year during summer weather conditions and often is negatively impacted by weather-related energy outages.

### Some of our customer satisfaction highlights include:

#### US SBU

- IPL has the best satisfaction rating amongst Indiana investor-owned utilities and the fifth highest customer satisfaction ranking out of the seventeen utilities included in the Midwest Mid-size region, as measured by the J.D. Power and Associates 2014 Electric Utility Residential Study.
- IPL ranked number one, for the second consecutive year, in business customer satisfaction among Midwest Mid-Size Utilities in the J.D. Power 2014 Electric Utility Business Customer Satisfaction Study.
- IPL and DPL were recognized in December 2014 as two of only three Midwest electric utilities named as 2014 Utility Customer Champions by Cogent Reports, a division of Market Strategies International.

	2011	2012	2013	2014	2014 target
Percentage of customer satisfaction <sup>5</sup>	77.8%	79.1%	86.4%	85.6%	87.5%

#### Table 6: Consolidated Customer Satisfaction for distribution businesses 2011 - 2014.

<sup>5</sup> The consolidated Customer Satisfaction Totals from 2010 to 2012 do not include IPL and DPL satisfaction results due to the different survey methodologies.



#### Brazil SBU

- AES Eletropaulo was recognized by the Exame Magazine's Sustainability Guide as the best company in the energy sector and as a leader in customer relations for initiatives such as the Jeito AES de Atender (JAAT) program.
- Achieved the best position in PROCON Ranking (a government agency that defends the rights of clients) for AES Eletropaulo in 10 years. AES Eletropaulo improved six positions in relation to the State Ranking 2014, going from 21st to 27th. AES Eletropaulo's answered complaints index also improved. This ranking considers all complaints registered and classified by the PROCON from January to December 2014.
- AES Eletropaulo received the ABT Award in Technical and Quality Management Service from the Brazilian Institute of Relationship Marketing (IBMR).
- AES Eletropaulo received three awards based on client support improvements made to its website, mobile support and in stores. The awards were granted at the 2014 Smart Contact Center Congress in São Paulo and acknowledge the best practices in customer relations. AES Eletropaulo also received the highest accolade of the event, which is given annually to the company with the best practices in customer relations.

Our generation businesses also focus on customer satisfaction, which is measured through surveys and discussions related to long-term purchase power agreements. For example, our Europe SBU developed CRM guidelines/policies in 2014 that are applicable to our businesses in order to improve their relations with customers as well as to standardize these processes within the SBU.

#### ASPECT: CYBERSECURITY

At AES, we consider cybersecurity a safety issue that starts with our people — we must put safety first when leveraging the power of the Internet both at work and at home. The energy sector continues to be the top targeted industry in regard to industrial control system attacks. According to The Industrial Control Systems Cyber Emergency Response Team (ICS CERT), the organization responsible for industry response to cybersecurity threats in the United States, in 2014 the energy sector garnered 32 percent of industrial control system attacks. The majority of these attacks are reconnaissance to capture infrastructure/ architecture designs or determine system capabilities. As a result of the growing cyber threats targeting industrial control systems, the U.S. Congress and the European Community (EC) are working to strengthen national policy and regulatory requirements.

Although AES has not experienced any significant intrusion to our systems or customer data, the converging trends drove the recent evolution of our cybersecurity plan from broad strategic goals to a highly organized program supported by five well-defined elements (see Figure 6).

In order to better manage global cyber risk, the AES Cybersecurity Team is implementing a Data Lifecycle Risk Model to address cybersecurity risk at the data, infrastructure/application and end user levels as well as a system criticality and impact methodology for networks in the power operations environment.

In 2014 we expanded the AES Cybersecurity Guidelines to better address critical operational systems risks. The latest guidelines were developed in synchronization with the AES Cyber Program's strategic roadmap and current cyber risks and are based on industry standards such as the U.S.



Figure 6: AES Cybersecurity Program Elements.

Department of Energy's Capability Maturity Model, SANS Institute Critical Controls and the U.S. National Institute of Standards and Technology (NIST) Cybersecurity Framework. The Cybersecurity Team continuously refines the program's risk-based approaches to address the constantly changing threat environment that the energy sector and, more specifically, AES must counter on a real-time basis.

In order to further mitigate cyber risk, the Chief Information Security Officer (CISO) works in direct coordination with all AES businesses to identify risks and determine appropriate mitigation solutions and best practices in proactive monitoring. AES also partners with key U.S. government agencies and other agencies abroad as well as with leading technology companies to help reduce the likelihood of a cyberattack, and allow the Cybersecurity Team to respond quickly and appropriately if the company is impacted.

To better communicate the growing importance of cybersecurity to our business success, the Cybersecurity Team is developing a unified communication strategy designed to collect all of the communication means and channels currently used as well as leveraging others used by different functions within AES. The goal is to better communicate a unified set of cybersecurity themes and reinforce messages. These efforts will aid in the institutionalization of other program elements and ensure a more secure and self-perpetuating cybersecurity culture.

In addition to developing a more robust communication strategy, the AES Cybersecurity Team is also consolidating and expanding current cybersecurity awareness initiatives, positional skillset identification and assignments, and training curriculum development efforts into a comprehensive initiative entitled the AES Cyber Academy. The Academy is an expansion of the Cybersecurity Team's efforts to raise awareness regarding cybersecurity threats and risks across not only our cybersecurity personnel but the entire AES global workforce. The AES Cyber Academy will also expand the training opportunities for all AES people needing or interested in gaining greater cybersecurity skills.

Finally, on the technical side of cybersecurity operations, the corporate office has worked with the SBUs to improve the security architecture and segmentation of their networks. In addition, AES Corporate and SBUs have begun the process of transitioning to a single global Security Operation Center (SOC) to unify cyber defenses and create cost savings and technical synergies for both enterprise and power operations systems and applications.



Our Cybersecurity Guidelines cover over 10 foundational areas of cybersecurity and are based on industry standards and best practices.

In 2014 the Cybersecurity Team was recognized by SANS Institue for their efforts to keep AES safe by identifying an opportunity to improve AES' defense architecture by piloting and then implementing a global advanced threat protection solution to complement our existing defenses (such as firewalls, intrusion prevention and detection systems, anti-malware software, and web and email content filters). SANS is the most trusted and the largest source for information security training in the world, and since 2011 has been celebrating those "Difference Makers" whose innovation, skill and effort have driven real improvements in information security.

The Global Cybersecurity Team also received accolades for the development of the 2014 AES Cyber Ninja Guide, which provides a comprehensive set of guidelines designed to educate, enable and empower AES people and contractors to play an active role in protecting themselves and their families from the growing risks of connectivity.

The guide was prepared through a collaborative effort among all six SBUs and the AES Cybersecurity Team and covers topics related to:

- Cybersecurity when working in the field or in AES facilities;
- Cybersecurity when working outside the office;
- Suggestions on what to do in specific threatening situations; and
- Cyber safety tips when traveling.



AES Cyber Ninja Guide provide guidelines to educate, enable and empower AES people and contractors.

#### ASPECT: DISASTER/EMERGENCY PLANNING AND RESPONSE

AES businesses face a multitude of potential scenarios that can cause significant business and operational disruption. Natural disasters, weather, as well as socio-political instability can affect our operations.

As a provider of essential services, we have established programs to ensure our operations are prepared to cope with unusual disruptions. Our management approach includes a set of emergency preparedness standards describing requirements for the development, review and implementation of Business Continuity Plans at each AES location.



These plans, which also consider local regulations, include preparedness for:

- Operational emergencies;
- Emergencies involving nature, e.g., severe weather, floods, earthquakes, tsunamis, etc.;
- Off-site emergencies that will have a significant impact on operations or staff; and
- Physical security measures, including evacuation of our employees in case of unrest.

We proactively prepare for such events with the goal of keeping our business and operations running effectively, safely and securely. To ensure business continuity, scenarios are defined with actions to maintain an acceptable level of operational capability while restoring AES operations.

Such actions include continual monitoring of weather systems; staging of resources prior to anticipated emergencies; mobilization to restore outages; clear and frequent communications with customers, the media and government officials; continuous improvement of our emergency response capabilities based on past performance; collaboration with neighboring utilities, contractors and government officials; and extensive storm response training including detailed storm simulations. In addition, each business trains its people and, when necessary, establishes an educational program with the local communities.

#### We have programs in place to ensure our operations are prepared to deal with unusual disruptions

For example, as part of a proactive risk prevention plan for its hydroelectric plants, AES Panama conducted simulation exercises with the communities near its plants of Bayano and Esti. More than 80 people representing AES Panama, national safety institutions and the local governments participated in two separate simulations of potential disaster scenarios designed to help assess emergency alert procedures as well as determine emergency response capacity and coordination with government institutions. This simulation exercise allowed the local team to test the effectiveness of our procedures and raise awareness in our neighboring communities about the risk of living in flood-prone areas.

In addition to emergency preparedness standards, each business has a comprehensive playbook with the following plans: Business Continuity, Cybersecurity, Physical Asset and Personnel Security, Crisis Communication, Stakeholder Management and Succession.



#### COMMUNITY APPLAUDS RECOVERY EFFORTS DURING WINTER STORM



Early in 2014, much of the United States suffered from a major winter storm that brought record low temperatures to most of the country. Our utility and Indianapolis Power & Light (IPL) in the US Strategic Business Unit (SBU), faced significant outages and challenging work conditions.

The storm affected the highest number of customers in the IPL served area since September 2008. The extreme conditions of cold temperatures, high winds, snow and ice, plus less daylight added extra challenges to the restoration efforts when compared to 2008's storm caused by winds from Hurricane Ike.

After days of 16-hour shifts, minus 40 degree Fahrenheit wind chill temperatures and snow-buried access to damaged lines and transformers, the restoration of

approximately 65,000 customers affected by the storm was completed by the target date. During the recovery efforts, there were continuous updates to the Indiana Utility Regulatory Commission (IURC), state and local agencies, and key accounts as well as communications to the public via traditional and social media.

These efforts were recognized with an editorial cartoon in the Indianapolis Star depicting an IPL lineman in a Superman uniform on a utility pole battling the elements. Additionally, the local city council passed a special resolution honoring a five-day restoration effort by IPL and mutual assistance crews that restored 1,000 outage events during the city's worst storm since 1978.

IPL also received many emails from grateful customers, who included a variety of community members such as downtown hotel representatives, local university officials and homeowners. Words like "awesome," "heroic" and "respect" were repeatedly used.



### ENVIRONMENTAL PERFORMANCE

#### OUR APPROACH

At AES, we are committed to our company vision to be the world's leading sustainable power company that safely provides reliable, affordable energy. We seek to select environmentally compliant as well as an environmentally sound energy solutions for each market we serve through impact evaluations, technological innovation and implementation of appropriate environmental controls.

We have established a governance structure that ensures assigning clear roles, responsibilities and accountability for overall environmental performance and goal attainment. Each business managed by AES is responsible for aligning their local environmental goals with AES company-wide and SBU goals.

AES has an Environmental Policy *(available on our website)*, which comprises four principles applicable to all of our operating businesses and construction projects. The policy sets the expectations for our AES people and contractors at all covered locations, and is the foundation of our environmental management approach.

Environmental performance is managed in accordance with an Environmental Management System (EMS) Framework that is consistent with the principles of the ISO 14001 Environmental Management System standard. Under the framework, each business develops an environmental program that includes environmental procedures, performance monitoring, audits and risk assessment, objectives, targets and action plans. A graphical representation of our EMS approach is shown in Figure 7.

In order to verify the adherence and compliance of our businesses to the AES EMS Framework and standards, we have developed an environmental audit program that includes both formal external (conducted by Environmental Health and Safety [EHS] specialists from outside the audited site) and internal (conducted by operating site personnel) audits. Findings are accompanied by a corrective action plan and an agreed upon completion date. Also, about 67 percent of our AES operating businesses have voluntarily certified their EMS to the ISO 14001 international standard.

## 61 AES operating businesses have an ISO 14001 certified EMS

#### **AES ENVIRONMENTAL POLICY**

- 1. Meet or exceed the requirements of environmental rules and regulations imposed by local, regional, and national governments and by participating financial institutions.
- 2. Meet or exceed our Environmental Standards.
- 3. Make decisions on additional expenditures based on a number of factors, including an evaluation of the local, regional and global environment where the term "environment" is broadly defined as the external surroundings or conditions within which people live including ecological, economic, social and all other factors that determine quality of life and standard of living.
- 4. Seek continual improvement of the environmental performance at every AES business.



Through our global EHS Management Information System (EMIS) known as AESOnline, we collect and interpret environmental data from every business across the world that AES manages. In 2014 we expanded the set of key environmental metrics collected from operating businesses and construction projects. Specifically, we expanded the number of air emissions metrics recorded in AESOnline.

In 2014 we also developed new guidelines related to biodiversity protection, which brings the total

number of specific environmental standards that are part of the AES EMS Framework to 12. These standards, based on industry best practices, set minimum environmental performance requirements for operating businesses and projects under construction. In many cases their requirements are more stringent than locally applicable environmental regulations. The businesses are responsible for implementing and managing compliance with these standards.



*Figure 7: Elements of AES Environmental Management System.* 



#### ACHIEVING NEW HEIGHTS IN ENVIRONMENTAL MANAGEMENT IN THE PHILIPPINES



In 2014, as part of AES Philippines' continuing commitment to sustainability, our Masinloc power plant successfully certified their Integrated EHS Management System (IMS) to the ISO 14001 and OHSAS 18001 international standards. These certifications are a testament to AES Philippines' commitment to honor the environment in its day-to-day operations and to create a healthy and safe workplace for its people. AES has invested in the energy

sector in the Philippines since 2008, becoming the largest US investor in the power sector of the country. In April 2008, AES seized the opportunity to enter the growing Philippine energy market when it acquired AES Masinloc, a 600 MW thermal power plant in Zambales Province. After 3 years of its acquisition AES completed the rehabilitation of the Masinloc power plant and turned the plant into the most efficient and reliable coal-fired plant of the country.

ISO 14001 is an internationally accepted standard that helps companies identify and manage their impact on the environment. It is designed to provide an assurance that the company's environmental impact is being measured and improved. OHSAS 18001, on the other hand, is a British standard for occupational health and safety management systems that aims to assist organizations in managing and controlling their health and safety risks as well as improving their occupational health and safety performance.

#### 2014 GLOBAL ENVIRONMENTAL GOALS

AES first established the expectation of setting environmental goals in 2008 with the companywide implementation of our EMS Framework. For 2014, the following annual corporate-level environmental goals were set as part of our ongoing pursuit for environmental management excellence.



#### 2014 GLOBAL ENVIRONMENTAL GOALS

1) At least 95 percent of employees at each AES business must attend environmental awareness training

#### ACHIEVEMENT



97percent training rate achieved

This training communicates AES' expectations related to environmental protection, stewardship and sustainability. Its content fulfills the broad requirement for "environmental awareness" training under the ISO 14001 standard but does not replace environmental training that may be warranted by the specific tasks to be performed, or by local legal or regulatory requirements.

 Each AES business will complete a comprehensive environmental aspects and impacts assessment (AIA), an EMS Scorecard evaluation, and create EMS action plans as needed.



100 percent of annual AIAs and EMS Scorecard evaluations completed

AES has an environmental aspects and impacts assessment (also known as environmental risk assessment) tool to identify the aspects of the businesses' operations and services that interact with the environment and assesses whether these environmental aspects have the potential for significant impact on the environment. Also, AES has established a 12-element EMS Scorecard evaluation process to assess the quality and strength of environmental management systems and culture at AES operating businesses and construction projects. Businesses need to score 80 or better out of 100. For 2014, AES operating and construction businesses were required to update their AIAs and EMS Scorecards, and establish EMS action plans as needed.

3) Each AES business will quantify their direct and indirect greenhouse gas emissions (GHGs)



100 percent of greenhouse gas emissions reports completed

In 2014, AES committed to enhancing its direct and indirect greenhouse gas emissions inventory and establishing a baseline. The first results of this effort can be seen in this report.

#### **ASPECT: AIR EMISSIONS**

Combustion of fuels to generate electric power results in the release of both conventional and greenhouse gas (GHG) air emissions. Depending on the fuels used to generate power, these conventional air emissions may consist of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM) and mercury (Hg). Also, the combustion of fuels results in the direct emission of Scope 1 GHGs, primarily carbon dioxide (CO<sub>2</sub>). Air emissions from AES' generation businesses comply with applicable national, local and, in some cases, international regulatory requirements. Wherever possible, our businesses take appropriate, practical steps to reduce air emissions.

Air emission levels depend on many factors, including power generation system diversity and efficiency, demand for electricity, weather, fuel availability and prices, and emission controls deployed.

Air emissions are tracked using continuous emission monitoring systems (CEMS) and/or operational



parameters (e.g., fuel use and appropriate emission factors). Air emissions are managed by the businesses using a combination of power generation plant combustion unit design and air pollution control equipment (APCE).

The installation of emission control systems is primarily dictated by locally applicable environmental laws and regulations. Also, some of our businesses are required to report air emission quantities to various local and national environmental regulatory agencies.

AES used the services of Lloyd's Register Quality Assurance Inc. (LRQA) to conduct a limited assurance of all of AES' 2013-2014 air emissions data with a main objective of increasing credibility and transparency of AES' air emissions reporting. In addition to third party verification, an internal AES quality assurance/quality control (QA/QC) process was used to validate reporting in prior years (2010, 2011 and 2012).

#### Direct Greenhouse Gas Emissions, Scope 1

In 2014, AES expanded its direct greenhouse gas emissions scope to include direct Scope 1 GHG emissions from non-power generation sources (such as those from motor vehicle uses). This was a big step forward for AES, given our size, the diversity of businesses and specificity of local business and markets.

We expanded the direct GHG emissions scope to include direct Scope 1 GHG emissions from non-power generation sources.

Our 2014 Scope 1 data represents our ownership-adjusted CO2 equivalent (CO2e)

emissions from the following sources:

- Major fuel-fired power generation stationary sources (e.g., boilers, gas turbines, reciprocating engines);
- Smaller fuel-fired sources (e.g., emergency generators, space heating, portable equipment);
- Vehicle emissions (passenger cars, light trucks, heavy duty vehicles); and
- Direct releases of CH4, SF6 and HFC-based air conditioning refrigerant gases.

Our enhanced GHG Inventory accounts for all GHGs required by the UNFCCC/Kyoto Protocol (with the exception of PFCs and NF3, which are not used in our operations) and is calculated using methodologies and emission factors from "The Greenhouse Gas Protocol" (WRI/WBCSD). Our CO2e values take into account considerations defined in IPCC Fourth Assessment Report (AR4 – 100 year). More complete details on how the emissions are calculated are disclosed in AES' response to the CDP's 2015 Climate Change Questionnaire.

AES' Scope 1 emissions stayed below the 2014 target of 100 million metric tons, and our actual Scope 1 emissions were slightly lower compared to 2013. It is important to note that 2014 was the first year we comprehensively tracked emissions beyond major power generation units.

Table 7 shows the GHG emissions values on an ownership-adjusted basis for the years spanning from 2011 to 2014.

Some AES businesses participate in emission trading schemes such as the Regional Greenhouse Gas Initiative (RGGI), the European Union Emissions Trading System (EU ETS) and the California Greenhouse Gas Cap and Trade Program. Refer to Table 8 for more complete information on these programs.



Greenhouse Gas Emissions (Equity Adjusted)	2011	2012	2013	2014	FY 2014 target
Direct Emissions (Scope 1) <sup>1</sup> , thousands metric tonnes CO2e	81,186	80,854	75,449	74,973	100,214
Emissions Intensity for Thermal Generation, metric tonnes CO2e per MWh	0.807	0.787	0.768	0.771	

Table 7: Scope 1 Greenhouse Gas Emissions, 2011 - 2014.

<sup>1</sup> 2011 - 2013 Scope 1 emissions represent CO2e emissions (including CO2, CH4 and N2O) from major stationary combustion sources.

Carbon Trading Framework	SBU involved	Period	Allowances allocated	Allowances purchased	Verified emissions, metric tonnes CO2e
California Cap & Trade	US	2014	1,548,510	0	1,548,510
EU ETS	Europe	2014	752,985	5,303,947	7,291,206
RGGI	US	2014- 2016	0	1,600,000	1,499,060

Table 8: Allocation of CO2 Emission Allowances by Carbon Trading Framework.

AES' 2014 CO2 emissions from biologically sequestered carbon include emissions from our biomass (Laja, Chile, Andes SBU) and landfill gas (Nejapa, El Salvador, MCAC SBU) burning power plants. The main drivers for biogenic CO2 emission rates during the last four years are the divestment of assets and organic growth through the addition of Nejapa in 2011. AES has voluntarily disclosed these and other details on our carbon emissions via the CDP Program. Complete details related to AES' inventory, methodology, regulatory regime, generation sources, etc., can be found on *CDP web page*.



Biogenic CO2 Emissions	2011	2012	2013	2014		
(Equity Adjusted)	thousands metric tonnes					
Landfill Gas	224	176	97	82		
Biomass	14	20	26	15		
Total	238	196	123	97		

Table 9: CO2 Emissions from Biologically Sequestered Carbon, 2011 - 2014.

#### Indirect GHG Emissions, Scope 2 and Scope 3

AES made significant steps in 2014 to enhance the quantification of indirect greenhouse gas (GHG) emissions — Scope 2 and Scope 3 — from all of its businesses globally. Our equity ownership adjusted 2011 through 2014 indirect GHG emissions are reported in Table 10.

#### **SCOPE 2 EMISSIONS**

Through the end of 2013 we tracked Scope 2 GHG emissions only at our Brazil SBU. Beginning in January 2014, AES expanded to tracking its Scope 2 GHG emission on a global level. Our enhanced inventory now includes indirect GHG emissions from: (1) electricity purchased from non-AES generated sources for the business' own use; and (2) for AES distribution companies, transmission and distribution losses of non-AES generated electricity sold to end users.

#### We enhanced the quantification of Scope 2 and Scope 3 emissions from all the businesses globally

Given that the GHG Protocol's Scope 2 Guidance was only finalized in January 2015, AES used a location-based method to estimate its 2014 Scope 2 emissions by using country grid factors provided in CO2 Emissions from Fuel Combustion Highlights (2013 Edition) published by the International Energy Agency. The expansion of our Scope 2 inventory explains the significant increase in our Scope 2 emissions in 2014. Since 2014 is considered to be a baseline year for AES' company-wide Scope 2 emissions quantification, no targets could be set for 2014.

Greenhouse Gas Emissions	2011	2012	2013	2014			
(Equity Adjusted)	thousand metric tonnes CO2e						
Electricity-Related Indirect Emissions (Scope 2)	93	87	90	576			
Other Indirect Emissions (Scope 3)	"No data available"	"No data available"	"No data available"	2,922			

#### Table 10: AES Indirect Greenhouse Gas Emissions (Scope 2 and Scope 3), 2011 - 2014.

Note: 2011 - 2013 Scope 2 emissions represent emissions from our Brazil SBU only and Scope 3 air travel emissions are not adjusted for equity ownership.



#### **Scope 3 Emissions**

Although Scope 3 emissions are traditionally considered to be de minimis for the electric utility industry, in 2014 we started tracking indirect emissions from electricity sales to customers by our distribution businesses in El Salvador, Brazil and the United States as well as emissions from business air travel by AES employees. We follow the methodology provided in the GHG Protocol's Scope 3 Standard and associated Technical Guidance.

#### NOx, SO2 and Other Air Emissions

The data in Table 11 has been adjusted by equity ownership and refers to SO2, NOx and mercury emissions resulting from our businesses' major fuel combustion units from 2011 to 2014.

Air emissions data related to mercury primarily consists of emissions from coal-fired electric power generation units. The 2011 to 2013 mercury emissions data presented in Table 11 only reflects emissions data available for the majority, but not all, of our US SBU coal-fired units, and this data has not been externally verified. 2014 data includes mercury emissions from all of our global coal- and petcoke-fired power plants and has been externally verified. The increasing trend in SO2 emissions noted in 2013 and 2014 is due to using a fuel mix having higher sulfur content. The annual quantities of NOx emissions depend on the dispatch by fuel type and NOx emission controls available. The NOx mass emissions trend during the last four years has been down as a result of a combination of lower dispatch and better emission controls.

#### Reduction of Greenhouse Gas (GHG) and Other Air Emissions — Energy Efficiency for Our Customers

Our businesses are continuously looking for ways to improve power generation efficiency and reduce emissions. During 2014 AES operating businesses implemented diverse emission reduction projects through process improvements and equipment replacements. A total of 23 emissions reduction projects in ten countries were completed, resulting in estimated annual CO2e savings of 17,819 metric tonnes. Examples of projects that were implemented during the year include replacement of older plant lighting systems with more energy efficient LED systems, transformer and pump optimization, and boiler heat rate improvement initiatives.

Air Emissions	2011	2012	2013	2014	FY 2014 Target		
(Equity Adjusted)	metric tonnes						
Sulfur Dioxide (SO2)	173,812	170,256	195,699	222,392	247,146		
Nitrogen Oxides (NOx)	86,569	86,366	77,133	80,298	112,257		
Mercury (Hg)1	0.45	0.40	0.43	0.75			

#### Table 11: SO<sub>2</sub>, NO<sub>x</sub> and Other Emissions, 2011 - 2014.

<sup>1</sup> 2011-2013 mercury emissions represent emissions from select U.S. coal-fired power plants only. A 2014 mercury emission target has not been set because global AES tracking of these emissions only began in 2014.



## 23 emissions reduction projects in ten countries were completed

We are also implementing major air emission control technology replacements at some power plants to reduce non-GHG emissions. In 2014 three coal-fired power plants at AES Gener in Chile — Ventanas, Norgener and Guacolda — continued to improve their emissions controls, including installation of new SO2 scrubbers, high efficiency electrostatic precipitators (ESPs) and low NOx burners.

Also, we continued with the air emission control upgrades at the IPL's Petersburg coal-fired power plant in southern Indiana. IPL also broke ground on a combined-cycle gas turbine (CCGT) power station near Martinsville, Indiana. The construction of the CCGT at the Eagle Valley Generating Station will cost approximately \$600 million and generate 671 MW of electricity more efficiently and with fewer environmental emissions than the existing 341 MW coal plant, which will be retired in 2016.



The new CCGT will reduce the rate of SO2, NOx and particulate matter emissions by more than 98 percent as compared to the current Eagle Valley units. Effectively, all mercury, lead and fluoride emissions will be eliminated, and water use will be reduced by 97 percent. The construction of the plant will begin in the spring of 2015 and is expected to be completed in 2017. IPL plans to reduce its dependence on coal from 79 percent in 2007 to 44 percent in 2017, making natural gas IPL's largest fuel generation source.

Several of our distribution businesses offer renewable energy and demand-side efficiency programs, which result in GHG emission reductions by their customers. Each utility offers different levels and types of programs, depending on market conditions. Some examples of the programs and efforts carried out for residential and industrial customers to leverage energy efficiency and load optimization include: modernization of lighting in public schools, health centers, and public buildings; LED replacements in traffic lights; supporting the removal and recycling of lower efficiency appliances; providing energy efficiency manuals for customer awareness; and energy management consulting for optimization of electricity use.

The construction of the CCGT at the Eagle Valley Generating Station will reduce by 98% the rate of SO2, NOx and particulate matter emissions as compared to the current units

Some examples of specific successes at our distribution businesses are:

- From 2009 through 2014, DP&L's (Ohio, US SBU) residential and business programs helped customers save more than 1 million MW-hours of energy and helped reduce peak capacity by 172 MW.
- IPL's (Indiana, US SBU) residential and commercial/industrial demand side management programs have achieved a reduction of 460,000 MW-hours from 2010-2014.



 In Brazil, diverse programs executed in 2014 resulted in the reduction of more than 65,000 MW-hours in consumption. Also, during 2014, 60,000 connections were regularized, bringing the total to more than 650,000 connections regularized since 2004, benefiting more than 2.5 million people.

#### **ASPECT: WATER**

For our generation businesses, whether thermal or hydro, water availability is important not only to operate, but also to operate efficiently.

At our thermal plants, water is predominantly used for the steam cooling process where only a small portion of the water evaporates and the majority is returned to the water source body. Also, our hydroelectric power plants only pass the water through the water-driven power turbines, then it is immediately returned to the environment. As part of the EMS Framework, water risk management is mainly conducted at the local business level during the siting of the power plant. During operations, our businesses manage and monitor water quality and environmental related issues. Some businesses perform periodic analysis and stress testing of water availability on a local and aggregate basis. We also monitor the management of water resources and compliance with regulatory requirements through periodic external and internal EHS audits. Findings are properly addressed and closure actions are established.

In the past we have used the World Business Council for Sustainable Development (WBCSD) and the World Resources Institute (WRI) Global Water Tool to identify locations in water stressed areas, and we update our analysis annually if needed. Our analysis from the 2013 Sustainability report remains valid and Figure 8 shows a world map that presents the AES 2025 Projected Annual Renewable Water Supply Per Person by Watershed.



Figure 8 - AES: 2025 Projected Annual Renewable Water Supply Per Person by Watershed.



Based on the analysis, we identified that 22 percent of our power plants are located in regions where water supplies are under stress. For the purposes of water management and accounting, we assume the areas identified as "water stress," "water scarcity" and "extreme scarcity" as defined by the United Nations to be water stressed areas. Particularly:

- Water stress: An area is experiencing water stress when annual water supplies drop below 1,700 m3 per person.
- Water scarcity: Annual water supplies drop below 1,000 m3 per person.
- Absolute scarcity: Annual water supplies drop below 500 m3 per person.

In addition to the tools described above to evaluate and manage physical water-related risks (e.g., water stress), in 2014 we have established a process to systematically evaluate other types of water-related risks, such as reputational and regulatory risks. All of our businesses go through this process annually and results are consolidated on a global basis and communicated to internal stakeholders.

#### Water Withdrawal and Discharge

The AES water withdrawal inventory includes cooling water, process water and potable/drinking water (with the exception of bottled water). The water discharge inventory includes cooling water and process water discharges from open cycle cooling systems. Domestic sewage, rainwater and storm water effluents are not considered to be discharges and are not included in our inventory. Facilities with closed circuit systems are considered to be "zero-discharge."

The water withdrawal target set for the year (12.3 billion m<sup>3</sup> of water) was achieved.

Water Consumption	2011	2012	2013	2014	FY 2014 Target
	million cubic meters				
Total Water Withdrawal	8,727.90	7,310.80	8,117.05	6,552.76	12,295.00
Total salt / brackish water withdrawal	4,292.80	4,090.40	5,662.20	4,169.56	
Total municipal water supplies (or from other water utilities)	26.50	47.00	7.07	5.57	-
Total water from all other sources	4,408.60	3,173.40	2,447.78	2,377.63	-
Water returned to the source of extraction at similar or higher quality as raw water extracted	7,191.20	6,984.50	7,804.53	6,219.28	-

Table 12: Water Withdrawal and Discharge, 2011 - 2014 (million cubic meters).



During 2014, AES businesses utilized approximately 6.6 billion m3 of water, more than 94.9 percent of which was directly returned to the source at similar or higher quality than the raw water extracted.

# AES businesses recycled and reused over 1.6 billion m<sup>3</sup> of water

Overall, in 2014, AES businesses recycled and reused over 1.6 billion m3 of water. Water conservation efforts at individual operations include AES Masinloc (Philippines, Asia SBU), which decreased water related costs by 47.7 percent through improvement of their demineralization process and optimization of water consumption. Another example is from AES Eletropaulo in Brazil, which is developing a new project to install a device aimed at reducing water consumption in water taps. The initiative will reduce as much as 75 percent of water usage without losing efficiency. The ultimate goal of the project is to reduce 200 m<sup>3</sup>/month, saving US \$90,000/year. Our construction projects in Chile reuse water for dust suppression on project roads, while our coal-fired power plants reuse water for fly ash and coal yard dust suppression.

All the water withdrawal and discharge data for 2014 was verified by Lloyd's Register Quality Assurance Inc. (LRQA).

#### REDUCING WATER CONSUMPTION DURING START-UPS AT AES AMMAN EAST



Amman East is a baseload natural gas-fired power plant located in Jordan, Europe SBU. Due to an interruption in natural gas supplies, all power plants in Jordan needed to temporarily operate with fuel oil. To conserve oil quantity in the country, the plant's electricity offtaker requested shutdowns of the plant at night and startups in the morning. This practice created financial and environmental challenges for the business in term of heat rate losses,

noise issues and excessive water consumption. Using the methodologies of AES Performance Excellence (APEX), our team at Amman East was able to reduce water consumption during startups by 2,400 m3 annually, which resulted in more than US \$100,000 in annual savings.


# **AES ELSTA JOINS EUROPEAN RESEARCH PROJECT**

AES Elsta, located in the Netherlands, joined E4Water, a European research project focused on economically and ecologically efficient water management in the chemical industry. The main objective of E4Water is to develop, test and validate integrated approaches and methodologies for industrial water cycles. The expected impact of E4Water is a reduction of 20 percent in water and energy usage.

AES Elsta joins 19 other partner organizations and is a key player in this project because of its advantageous location and use of cooling water discharge. As part of the project, AES Elsta is considering other uses for the water. For example, the business constructed a temporary discharge pipeline and started sending discharged cooling water to the pilot hall for desalination purposes.

# ASPECT: EFFLUENTS AND BYPRODUCTS

The AES EMS and global environmental standards establish minimum requirements for the management of hazardous and special wastes, chemical and raw material management, and spill prevention and control through assessment of hazards, management actions, and establishing preventive and control measures. Each AES business is required to have emergency response plans, including spill prevention and containment plans. All spills are reported on a monthly basis through our EMIS.

Our water discharges may include cooling water and process water discharges, which can impact the quality of receiving streams such as temperature and pH. These impacts are managed through diligent control and monitoring of all water discharges for temperature, pH and chemical composition. The control may also include monitoring of upstream and downstream areas from our water discharge sources as well as monitoring of groundwater around our ash ponds. The results of these measurements are reported to regulators on a periodic basis. The byproducts streams from electric power generation, transmission and distribution businesses consist of small mass and volumetric quantities, and may include municipal solid wastes, construction and demolition debris, and hazardous and special byproducts such as PCBs, solvents, used oils, herbicides, etc. At this time, we are not quantifying these on an aggregate level as they are very diverse and their total quantities are negligible. However, as required by local applicable requirements, these types of byproducts streams may be tracked on an individual business level and reported to regulators on a periodic basis.

### Coal Combustion Products (CCPs) Generation, Reuse and Recycle

Coal combustion products (CCPs) include bottom ash, fly ash, synthetic gypsum (also referred to as flue gas desulfurization (FGD) gypsum), FGD solids and cenospheres. CCPs are generated when power plants burn coal to generate electricity or through the use of emission control technologies. CCPs could present an economic opportunity as they can become a source of cost savings and/or revenues when managed properly.



	2011	2012	2013	2014	FY 2014 Target
Ash & Gypsum generated (metric tonnes)	8,159,071	6,918,972	7,278,372	7,507,371	12,514,890
Ash and gypsum recycled	30.4 %	35 %	36.7 %	38.5 %	34 %

Table 13: CCPs Generation and Recycling/Reuse, 2011 - 2014.

Table 13 summarizes the 2014 targets for CCPs generated and recycled as well as the actual amounts generated and recycled during the past four years. The values have not been adjusted for AES equity interest (i.e., the waste totals and beneficially reused percentages are on a total site basis even if AES has less than 100 percent equity interest in a site).

AES businesses, whenever possible, make efforts to recycle and allow others parties to reuse CCPs in engineered products including cement, concrete, road bases, cover at solid waste landfills and liquid waste solidification/stabilization, wallboard and even bowling balls. This benefits the environment, the energy industry and the products themselves. As a result of these efforts, our businesses have increased CCP recycling and reuse by 8.1 percent since 2011. The percentages of recycling represent the total amount of CCP, but also include, in a small portion, some other solid fuel combustion byproducts such as wood and petcoke ash that were beneficially reused or recycled across AES.

AES used the services of Lloyd's Register Quality Assurance Inc. (LRQA) to conduct limited assurance of AES' 2014 CCP generation and recycle/reuse data.

# Environmental Cost Savings and Revenue Generation

The beneficial reuse and recycling of coal combustion products, other effluents and other

byproducts resulted in both cost savings and revenue generation during 2014.

# AES businesses recycled a total of 2.9 million metric tons of CCPs

During 2014, AES businesses recycled a total of 2.9 million metric tons of CCPs, which resulted in more than US \$15.9 million in avoided land disposal costs. In addition to CCP management, other environmental management practices can result in environmental cost savings and revenues. An example of cost savings in 2014 is AES Sul's (Brazil SBU) new system using container structures to protect damaged transformers from the rain and to preventing oil contact with water. The new system prevents effluents generation, mixing of oil with the water and consequently increases the possibility of oil reuse by means of regeneration. The business estimates annual cost savings of approximately US \$1,800 per container structure.

In 2014, AES businesses generated more than US \$1.3 million in revenues from environmental practices. One example of such activities is from AES El Salvador businesses (MCAC SBU), which through a recovery program of materials removed from electrical networks (cables, poles, metering devices and other) reported additional revenues of more than US \$200,000.



# Spills

According to the EMS and Environmental standards, AES reportable spills are any liquid spills reported to local environmental regulators and/or lost off AES property into the environment at a quantity equaling or exceeding 55 gallons (210 liters). Non-reportable spills usually represent small spills that are quickly contained or spills that are released into secondary containment.

In 2014, AES businesses recorded a total of 30 reportable oil and chemical spills. The volume of spills reported in 2014 ranged from 20 U.S. gallons to 500 U.S. gallons. These spills were caused primarily by equipment leaks or equipment failures.

All reported spills were cleaned up within a short time frame after the discovery of the spill and residues were disposed of properly. None of these spills resulted in significant environmental impacts, regulatory enforcement actions and/or significant fines/penalties, which is why they were not included in our 2014 Annual Form 10-K.

## **ASPECT: BIODIVERSITY**

AES produces, distributes and sells energy across a large geographical area, and our operations may interact with diverse ecosystems, landscapes and species. These interactions can occur during both the construction and the operations phases of our facilities.

Biodiversity issues and risk management for AES operating businesses and construction project sites are addressed under the AES Environmental Management System (EMS) Framework, which is implemented at each AES operating business and construction project under the following two processes:

- Completion of a mandatory annual environmental aspects and impacts assessment (AIA) process that assesses the potential impacts of recent or near future changes in environmental aspects, including biodiversity.
- Completion of a mandatory annual sustainability survey managed by AES
   Corporate that also collects biodiversity information, including the extent of land disturbances during the past year, nearby sensitive/protected areas, identification of protected species and habitats, and ongoing biodiversity protection initiative metrics.

Our businesses operate in accordance with all applicable laws regarding biodiversity issues. Based on the results of AIAs, our businesses develop targets and action plans to mitigate their impacts on local flora and fauna.

In 2014 we reinforced our commitment towards biodiversity by starting the development of an AES Environmental Standard titled "AES Biodiversity Assessment & Protection" to provide additional AIA guidance to our businesses on biodiversity risks. The standard will be completed in 2015, and will become mandatory for all environmental AIAs performed at AES' ongoing operational and construction sites effective January 1, 2016.

We reinforced our commitment towards biodiversity by starting the development of an AES Environmental Standard titled "AES Biodiversity Assessment & Protection"

For construction projects, including their site location selection process, biodiversity risks are assessed and mitigated during the pre-construction permitting and environmental impact assessment (EIA)



Major EPC Construction Project	Country	Link
Alto Maipo	Chile	<u>http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal. php?modo=ficha&amp;id_expediente=2933044</u>
Chivor/Tunjita	Colombia	The environmental regulation does not require AES to have an EIA, however we must have an Environmental Management Plan (PMA, by its initials in Spanish). The national environmental authority (ANLA-Autoridad Nacional de Licencias Ambientales) has agreed to the inclusion of the Tunjita Project into the Chivor's PMA.
Cochrane	Chile	http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal. php?modo=ficha&id_expediente=3030994
DPP (Los Mina) Conversion	Dominican Republic	http://ifcextapps.ifc.org/ifcext/spiwebsite1.nsf/78e3b305216fcdba 85257a8b0075079d/2fe252d3888252a285257d4900591eb2? opendocument
Guacolda V	Chile	http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal. php?modo=ficha&id_expediente=3510778
Los Andes Photovoltaic Park	Chile	http://seia.sea.gob.cl/expediente/ficha/fichaPrincipal. php?modo=ficha&id_expediente=6581267
Mong Duong II	Vietnam	http://www.adb.org/projects/documents/mong-duong-thermal- power-project-0
OPGC II	India	www.moef.nic.in www.opgc.co.in

Table 14: Links to the public website containing EIA/AIA results for major EPC construction projects.

phases of the project. Stakeholders at the local level are involved in reviewing and commenting on the potential risks/impacts on biodiversity. Usually information on the environmental impact assessments for our projects under development or construction are made publicly available on dedicated webpages either by the businesses or the regulatory bodies.

# The following are recent examples of individual AES biodiversity targets:

AES El Salvador (MCAC SBU) has a long lasting relationship with SalvaNatura, a regionally and internationally renowned organization focused on environmental conservation in El Salvador. Since 2011, AES El Salvador has supported SalvaNatura in its sea turtle protection program, SalvaTortuga. In 2014, AES El Salvador's target was to create a nursery, which would be capable of supporting the incubation of more than 100,000 sea turtle eggs, at Costa del Sol Beach.





AES Chivor (Colombia, Andes SBU) established a long-term target of increasing public and scientific awareness of the diversity of flora and fauna in the area of Santa Maria, Boyacá. During the period of 2005-2015, AES Chivor supported biodiversity research in the Santa Maria region and published its results annually for 10 years. By the end of 2014, AES Chivor published nine books dedicated to different families of plants and animals found in the region.

# Restoring Habitats and Protecting Wildlife

Across our operations, we own or manage thousands of acres of land associated with power generation facilities as well as distribution and transmission networks that also serve as habitats for a diverse range of plant and animal species. We implemented a number of initiatives to support the natural ecology on these properties and mitigate any impacts that may occur due to our operations. Some examples of such initiatives are:

 AES Tietê (Brazil) started a "A Onça-Parda na Bacia do Rio Tietê" project in partnership with the Pró Carnívoros Institute, which contributes to the conservation of the onça-parda — a puma species — and the local ecosystem, since the protection of this species ensures a balance of several others. The goal is to evaluate the environmental situation of the areas under the influence of AES Tietê, and to understand how this



species has adapted to the fragmentation of its original habitat, which is presently comprised of isolated tracts of forest amongst sugarcane, Eucaliptus and rubber tree plantations. The project started at the end of 2013, with the majority of its activities carried out in 2014, and it already has shown its first results, such as the identification of new puma cubs.

- In collaboration with the Nature Conservancy and Fundacion Moises Bertoni, AES Hawaii (US SBU) is supporting projects that include surveillance, biodiversity monitoring, tourism, environmental education and research at the Mbaracayú Forest Nature Reserve in Canindeyu, Paraguay.
- The grassland situated on the territory of our Elsta power plant (Netherlands, Europe SBU) was found to be home to two species of orchids — the Bee orchid (OPHRYS APIFERA) and Pyramidal orchid (ANACAMPTIS PYRAMIDALIS). AES Elsta took action to adjust its operating conditions to allow the flowers to bloom through the summer, which is critical for survival of the population. It was determined that, as a result of these practices, the number of Bee orchids increased from approximately 20 in 2007 to nearly 4,000 in 2014.



# STAKEHOLDER ENGAGEMENT

In today's business environment, companies have to continuously adapt to fast traveling information, regulation uncertainty and growing scrutiny from governments, the media and public opinion. AES interacts with myriad stakeholders across the diverse markets that we serve. A common strategic and consistent approach to manage our numerous stakeholders is thus fundamental to our success.

At AES, stakeholder engagement refers to the process of developing strong, proactive and consistent relationships with key stakeholders of the company. Stakeholder engagement is integrated into the company's global strategy as AES recognizes that it is critical for sustainability and its local affiliates' success and their social licenses to operate.

At the corporate level, the Global Stakeholder Engagement group provides the key elements of our engagement strategy, and at the same time manages certain key corporate level relationships such as government officials, ambassadors, international institutions, country representatives, heads of state, regulators and trade associations. At this level AES also manages the interactions and communications with investors and shareholders, high level government policy makers and institutions like the Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC). At a local level, the Market Business Leaders (the highest senior leader at a country level) directly oversee stakeholder engagement with the support of functional area leads.

The Global Stakeholder Engagement guidelines were developed based on the AA1000 Stakeholder Engagement Standard. The guidelines highlight the key elements of our engagement strategy and are comprised of a number of steps to engage with stakeholders.

As part of the management approach, businesses use a customized online platform to better anticipate and prepare for stakeholder risks, map stakeholders and effectively manage each stakeholder engagement strategy. Also, as part of the process to evaluate our new projects as well as to conduct daily operations, we identify the key stakeholders based on the unique characteristics of each country and business operation. This identification is determined based on:

- The position or favorability;
- The level influence;
- The level of involvement; and
- The level of interest or concern.

#### **STAKEHOLDERS**

AES engages with diverse stakeholders across the globe. Non-government organizations (NGOs), governments, communities, other market players, customers, lenders, investors and employees are stakeholder groups with whom we strive to maintain solid relationships.



We strive to strengthen relationships through meaningful engagement with our stakeholders. We work to structure stakeholder engagement activities to be interactive so we can receive effective feedback. The following table summarizes our current stakeholders and provides examples of ways of engagement, issues discussed and how the issues are addressed. The examples provided are typical but may not necessarily apply to all our businesses.

AES Stakeholders	Engagement	Key Issues	How Issues are Addressed
Suppliers	As a supplier of products and services ourselves, we understand the importance of open communication. We promote suppliers' success through clear policies, procedures, terms and conditions.	<ul> <li>Direct contact between vendors and AES' supply chain buyers and sourcing specialists</li> <li>Supplier performance score cards</li> <li>Published policies and guidelines such as safety requirements, environmental guiding principles and supplier diversity objectives</li> </ul>	<ul> <li>Centralized management of key supply chain categories such as fuel sourcing</li> <li>Developed and communicated safety, environmental, and diversity guidelines to existing and prospective suppliers</li> </ul>
Investors / Shareholders	<ul> <li>We regularly communicate with our investors regarding our business strategy and plan, risk management, financial returns, growth and governance via:</li> <li>Annual Shareholder Meeting</li> <li>Annual and Corporate Social Responsibility Reports</li> <li>Quarterly earnings presentations</li> <li>Investor Relations website</li> <li>Investor calls</li> <li>Proxy communications</li> <li>Rating Agency discussions</li> <li>Traditional and social media</li> <li>Investor and public forum events</li> </ul>	<ul> <li>Company management</li> <li>Capital allocation</li> <li>Governance</li> <li>Strategy and growth plans</li> <li>Financial performance and liquidity</li> <li>Shareholder returns, including dividends</li> <li>Risk management</li> <li>Environmental performance</li> <li>Return on investment</li> </ul>	<ul> <li>Healthy balance sheet and sufficient liquidity</li> <li>Ensure that investors are provided timely information on key issues</li> <li>Corporate reorganization to streamline the business for profitability</li> </ul>

Table 15: Main Stakeholders.



AES Stakeholders	Engagement	Key Issues	How Issues are Addressed
Customers	<ul> <li>We are invested in understanding our customers' perspectives and in addressing their concerns via:</li> <li>Internet-based feedback interface</li> <li>Customer satisfaction surveys</li> <li>24/7 customer call centers</li> <li>Publications and reports</li> <li>Energy efficiency and demand response programs</li> <li>Residential customer education programs</li> <li>Sustainable energy solutions</li> <li>Customized energy management solutions</li> <li>Wholesale and retail power and gas market participation</li> <li>Increased focus on diversity within our key customer groups</li> <li>Traditional and social media</li> <li>Participation in public events</li> </ul>	<ul> <li>Managing energy use with new technologies</li> <li>Lowering energy costs</li> <li>Using cleaner energy sources, including renewables</li> <li>More efficient energy use</li> </ul>	<ul> <li>Provide information and energy management tools via our websites</li> <li>Continue peak demand management programs</li> <li>Conduct advanced metering and dynamic pricing pilot</li> <li>Deploy on-site renewable energy systems for commercial customers</li> <li>Conduct energy-efficiency audits and building retrofits, and provided incentives for numerous energy efficiency measures</li> <li>Provide risk management services for wholesale and retail customers</li> </ul>

Table 15: Main Stakeholders (continued).



AES Stakeholders	Engagement	Key Issues	How Issues are Addressed
Governments	It is our duty to communicate with local, state and federal government officials in the countries where we do business to ensure that we develop sound energy policies that balance reliability, affordability and environmentally sound practices via: • Meetings with elected officials in communities surrounding power plants and utilities infrastructure • Power plant tours • Emergency planning exercises conducted with local/state agencies • Policy white papers, testimony and briefings • Regulatory proceedings and rate cases • FERC and NERC reporting • Reporting in compliance with national and local requirements across the globe	<ul> <li>Reliability</li> <li>Security, affordability and sustainability of electricity supply</li> <li>Energy market structure and regulation</li> <li>Job creation</li> <li>Environmental compliance</li> <li>Federal policies</li> <li>Financial/OTC derivatives</li> <li>Safety</li> <li>Fuel diversity and balanced energy matrix</li> </ul>	<ul> <li>Investment in new technologies to keep long-term electricity supply reliable, affordable and cleaner</li> <li>Engage in discussions with federal governments, partnership groups and EPA about environmental performance and policy</li> <li>Engage directly on financial reform legislation, GHG policy, Clean Energy Standard and federal loan guarantees</li> <li>Hire local manpower, and foster employment by establishing social responsibility programs for entrepreneurship, vocational training and job readiness, among others.</li> </ul>
Industry Observers	<ul> <li>We engage in dialogue with NGOs and other industry observers around the world through:</li> <li>Industry organizations, conferences and direct dialogue</li> <li>Participation in advisory councils, business alliances of NGOs</li> <li>Collaboration with NGOs in facilitating policy making dialogues</li> <li>Website</li> <li>Traditional and social media</li> </ul>	<ul> <li>Employment</li> <li>Business development</li> <li>Infrastructure</li> <li>Environmental performance and policies</li> <li>Job creation</li> <li>Safety</li> <li>Skilled work force development</li> </ul>	Engage in many NGO- sponsored dialogues on energy and environmental policy topics, including GHG policy, Clean Energy Standard and renewable energy incentives

Table 15: Main Stakeholders (continued).



AES Stakeholders	Engagement	Key Issues	How Issues are Addressed
Community	<ul> <li>We invest in, support and ensure dialogue with the communities where we conduct business via:</li> <li>Periodic community meetings in communities surrounding our facilities</li> <li>Career fairs</li> <li>Volunteer projects and financial contributions</li> <li>Participation in community events</li> <li>Website</li> <li>Traditional and Social Media</li> </ul>	<ul> <li>Employment of local talent</li> <li>Business development in local community</li> <li>Infrastructure</li> <li>Environmental performance and policies</li> <li>Job creation</li> <li>Safety</li> <li>Skilled work force development</li> <li>Social benefits</li> </ul>	<ul> <li>Updates on key issues and projects and feedback mechanisms on website</li> <li>Skilled work-force development programs with industry and labor stakeholders at community educational locations</li> <li>CSR programs</li> <li>Education on safe, adequate and efficient use of energy</li> </ul>
AES People	Engaging our people is critical to our business success and our employees expect open discussions about workplace safety, career opportunities, job satisfaction, diversity and inclusion, and benefits and salary via: • AES People surveys • Company intranet — OurAES.com • Multi-lingual update communications from company executives • Electronic newsletters • Employee Helpline • Yearly performance reviews • Online courses, classroom training and college degree programs • Leadership and employee development opportunities	<ul> <li>Workplace safety</li> <li>Career opportunities</li> <li>Job stability</li> <li>Diversity and inclusion</li> <li>Salary and benefits</li> <li>Company strategy and leadership</li> <li>Having a positive corporate image</li> </ul>	<ul> <li>Promote two-way communications</li> <li>Increase feedback mechanisms</li> <li>Increase involvement in company related activities</li> </ul>

Table 15: Main Stakeholders (continued).



# ASPECT: IMPACTS ON EDUCATION AND LIVING STANDARDS IN OUR COMMUNITIES

Infrastructure projects bring opportunities to local communities by providing employment, creating a demand for services and materials that help the local economy, and improving residents' quality of life via the provision of safe and reliable energy.

AES permanently engages in dialogue with community stakeholders to continue building relationships based on respect, trust and collaboration. AES businesses have implemented varying levels of engagement with local communities.

Whether entering a new location or operating at an existing facility, we work with the local government and communities to develop programs that can make a community stronger economically, socially or environmentally. For example, in 2014 DP&L (Ohio, US SBU) worked with state and local government and economic development officials to help encourage a major employer to come to the Dayton area. Part of the discussions included extending a 69 kV transmission line to the site and building a dedicated substation. DP&L is helping the region attract new businesses and stimulate economic growth by providing safe, efficient and reliable energy to its customers.

# AES businesses develop more than 100 community-oriented investment programs

As part of the management approach AES has established guidelines for developing Sustainable Corporate Social Responsibility Programs. These guidelines, suitable to different local contexts, provide tools for AES businesses to develop and implement sustainable social responsibility programs that are beneficial for our core business and the sustainable development of the communities in which the company operates.

In addition to specific donations, annually AES businesses develop more than 100 communityoriented investment programs in the areas of culture, education, environment, infrastructure, safety, health and social welfare. Some of these programs, which were designed improve education and living standards, include access to electricity and basic services; vocational training and employment opportunities for young people; and safety education, among others.

While developing these programs, AES businesses also engage in partnerships with various stakeholders to maximize the benefits of the programs and make a long-term, positive impact for the communities. Partners include government agencies, development agencies, municipalities, NGOs, universities and technical institutions, business partners and subcontractors.

During 2014, 57 percent of community related activities, programs, donations and sponsorships were in the area of education, capacity building and social welfare. Also, 76.9 percent of the money allocated to community-related activities, programs, donations and sponsorships were for education and infrastructure. This includes provision of electricity for underserved populations, education on safety, vocational training and provision of school supplies, among others. All of the programs' donations and sponsorships benefited more than 600,000 people directly and more than 24 million people indirectly.



# **10 YEARS PROVIDING SAFE AND RELIABLE ENERGY**



In 2004 AES Eletropaulo (Brazil) started a pilot program in partnership with the United States Agency for International Development (USAID) and the International Cooper Association to regularize electrical connections in a favela in Sao Paulo. Ten years later, the program is now integrated into the sustainability platform of AES Brazil and has benefitted more than 2.6 million people.

The goal of the program "Turning

Consumers into Clients" is to promote regular access to electricity for low income families in the AES Eletropaulo service area. In addition, the program includes improvements to street lighting; internal and external rewiring; replacement of high-consumption refrigerators for more efficient ones and incandescent bulbs with fluorescent lamps; and installation of showers connected to solar panel heaters. The program also offers lectures and educational services to promote the safe and proper use of electricity.

This program is win-win for both AES and the local community since it helps to reduce commercial losses but also promotes safety, social inclusion, development and well-being, as the community members benefit from safe and reliable energy and are able to use their bills as proof of residence.

The program by the numbers:

- Regulation of 647,604 illegal connections in 1,538 communities;
- Around 2.6 million people benefited;
- Replacement of 56,354 refrigerators and 2,157,187 lamps;
- 4,006 internal reforms; and
- 4,436 solar heating system installations, replacing conventional electric showers.





# **TRANSFORMING CONSUMERS INTO CLIENTS**

Figure 9: Transforming consumers into clients - value for stakeholders.



# PARTNERING TO BUILD CAPABILITIES



In 2011, AES and the Trust for the Americas established a regional partnership for the establishment of community centers in Panama, El Salvador and the Dominican Republic to improve the quality of life in the communities where AES is located through enhanced education, vocational training and employment opportunities.

In 2013 the partnership was expanded to Colombia, Chile and Argentina. While the center in Colombia opened that same year, the centers in Chile and Argentina started operations in 2014.

The AES Poeta Jovenes center in Chile represented a special milestone since it is the first center that the Trust for the Americas established in the country. It is located in the municipality of San Jose de Maipo, where AES Gener is developing the hydroelectric project Alto Maipo.

Thanks to the project, community members will be trained for six months in entrepreneurship and new information technologies.

## PROVIDING VOCATIONAL TRAINING AND EMPOWERMENT PROGRAMS TO WOMEN IN INDIA



OPGC, an AES generation business in India (Asia SBU), established a Skill Development and Vocational Training Center in 2011 to train and empower local women.

An analysis of the peripheral villages near the power plant showed local women were mostly working as domestic help and wage laborers, and they were not contributing to the

income of their family. Their economic dependence and low literacy level also undermined their position in the community.



After community consultations, the company created a program to provide skill development training for women that will contribute to their families' income as well as their economic and social empowerment.

The center provides free courses for tailoring and embroidery. As a result of the trainings, a substantial number of women have adopted tailoring as their main livelihood. Some have purchased tailoring machines and started their own shops in their villages or homes. They are stitching blouses, petticoats and dresses for women and girls of nearby villages as well as selling ready-made garments to the villagers. Others are working in their local tailoring/stitching shops as paid workers, and it has become a source of regular income for them.

OPGC has also collaborated with a local agency to increase employment. As a result, 18 women were sent for sewing machine operator training in the agency's school in Odisha.

During 2014, 130 women benefitted from the program.

#### **ASPECT: PUBLIC SAFETY**

We always put safety first—for our people, contractors and communities. At AES, we believe our success is directly linked to the safety and well-being of the people in the communities in which we operate.

Fatalities and other injuries related to the general public can occur when the public comes into contact with our medium and low voltage systems during public activities such as residential construction and vegetation pruning; touching downed electrical lines; playing and kite flying near our networks; and when attempting illegal network connections or thefts of network equipment. We actively track these types of incidents, but exclude tracking of public traffic accidents with our stationary network infrastructure such as power poles.

As part of our Environmental, Health & Safety (EHS) management approach and EHS standards, all incidents mentioned above are recorded and investigated by the local AES business. Based on the results of these investigations, mitigation measures are implemented as needed.

Because most incidents occur due to lack of knowledge by the general public of the dangers presented by them coming into contact with electric utility assets, our distribution businesses have developed public awareness campaigns to communicate and mitigate the risks related to activities near our power grids and to promote the safe use of electricity.

The programs and activities developed by the local businesses also include emergency preparedness drills, electrical safety tips on websites, and safety information outreach and campaigns.

Our distribution business customers can find safety information on the distribution company websites. This includes taking safety precautions during power outages or when power lines are down, and information on electrical safety during tree pruning and holiday seasons.

As indicated, in part as a result of these efforts, we have experienced a 42 percent decrease in the number of public fatal incidents since 2011.



Fatal Incident Cases <sup>6</sup>	2011	2012	2013	2014
General Public	52	45	44	30

#### Table 16: Public Fatal Incidents, 2011 - 2014.

<sup>6</sup> Fatalities that occurred in 2014 took place in the following four countries: Brazil (17), Cameroon (11), United States (1) and India (1).

Note: Our assets in Cameroon were sold during June 2014.

# SAFETY 101 PROGRAM AT IPL (INDIANA, US SBU)



The more electric distribution customers know about electricity, the better they can understand and deal with its hazards. For 10 years Indianapolis Power & Light's (IPL's) Safety 101 program has been teaching students, police and fire personnel, and business and community groups in a visual, entertaining way about how electricity is produced, how to use it safely, how to stay out of its way, and what can happen if you don't do so.

The presentation is led by senior IPL linemen in full protective gear, who vividly explain that humans, because we're made of water, are involuntary conductors of electricity. The audience also sees what happens when inanimate objects — mylar balloons, tree limbs and hot dogs — are exposed to electricity. IPL began offering Safety 101 presentations in 2004 and conducts approximately 40 presentations each year. In 2014, IPL reached more than 2,000 adults and children with the program.



# **OUR PEOPLE**

Every day, AES people work towards our mission of improving lives by providing safe, reliable and sustainable energy solutions while providing communities and countries the opportunity for social and economic growth due to the availability of reliable, affordable electric power. Our people are the foundation of our ability to achieve the long-term goals we've set for the company, and we recognize our people are our greatest asset. The success we've achieved would not be possible without the leadership, diversity, skills and knowledge that our people bring to the work they do. We refer to our permanent employees or supervised workers that drive our business as AES People. As of December 31, 2014, of the nearly 18,389 permanent full-time people, 71 percent were covered by collective bargaining agreements. We experienced a decline in this population in 2014 as a result of business divestitures that were made to align with our strategy of reducing complexity and exiting businesses and markets where we do not have a competitive advantage.

Charles de Ducines a Unit	Permanent - Full tim	Total Workforce	
Strategic Business Unit	Female	Male	Total
Andes	233	1,365	1,598
Asia	108	445	553
Brazil	2,115	6,702	8,817
Europe	397	1,610	2,007
MCAC	253	1,463	1,716
US	703	2,678	3,381
Corporate	121	196	317
AES Total	3,930	14,459	18,389

Table 17: 2014 AES people demographics by Strategic Business Unit (SBU).



Collectively, our workforce is comprised of individuals from diverse backgrounds, cultures and disciplines. As a result of this diversity, we do not view diversity simply as a responsibility to be met, a policy to implement, benefits to offer or a program to run. Instead, we leverage our diversity and integrate it into how we work and how we compete to win in the global marketplace.

Our view of diversity and the value it brings to our company and the communities we serve is not defined by race, gender, age or orientation. AES people who are running our plants, restoring power after storms or supporting our various business functions reflect the customers and communities whose lives are improved by the services we provide and the investments we make in local safety, infrastructure, education and environmental programs. We manage our workforce and talent globally. That means our people hail from the 18 countries in which we operate, affording us the opportunity to offer experiences that help our people develop to their fullest potential and ensure we have diversity across our leadership. As a result of the integration of these practices into how we work and the ways in which we select and promote talent, more than 50 percent of our Executive Leadership Team are from traditionally underrepresented groups today, including minorities and women.

As we look ahead, we recognize the world we live in, the markets we manage and the communities we operate in will continue to change. With those changes, how we leverage our diversity and the diversity we see in the countries we operate in around the world will open opportunities for us to boost our performance, build new businesses and put innovation to the test.

# AES KAZAKHSTAN INVESTS IN WOMEN LEADERS



At AES, it's the energy of our people that powers our success. To help our people grow, we provide experiences, training and development opportunities to help them reach their full potential. AES Kazakhstan, held a seminar specifically for women on their teams.

The seminar, called "Я сама" (in English "On my own"), was held for women

in the AES Kazakhstan succession pool. Programs for professional and personal development for women are important in industries that have traditionally employed men such as mining, utilities and construction. The seminar sought to help women build the skills they need to be successful in the energy sector and at AES.

Training and discussions were held over one full day. Among the trainers and speakers were company managers, AES people and an external trainer from a local psychology center. The program ended with a personal declaration signing requiring every participant to identify how they can to develop their own personal competencies using skills they had built that day.



Every year, AES employees receive training involving several subjects, related to competences essential to the company's business such as leadership, compliance and safety, but also to further develop their technical and leadership skills, according to their positions. Training and development programs are made through online resources, formal classroom training and on-the-job learning opportunities. In 2014, AES had an average of 41 hours of training per person.

# ASPECT: GLOBAL TALENT MANAGEMENT

At AES, we know we need to have the right people in the right place at the right time to meet the company's commitments and sustain our success, which is why we have a comprehensive approach to managing our talent and developing leaders.

Our global talent management strategy considers the full life-cycle of an AES person with a framework that enables us to help people reach their potential at AES, and help the company meet its financial and operational commitments.

First, we select the right candidate for the role someone who is aligned with our values, culture and leadership competencies. We believe it is important to develop our talent from within the company and leverage internal candidates whenever possible. For some positions, it is necessary that we recruit externally. Once the right candidate is identified and on-board, we immediately begin to leverage and further assess the person's skills and competencies. We focus on long-term engagement and ensure individuals are fairly and competitively rewarded for their performance. Ultimately, our goal is to put the right person in the right place at the right time. To help our people reach their potential, we use three primary mechanisms to discover and develop their talents as well as challenge and enhance their personal growth. We believe development comes through:



Formal learning, which comes from our ACE Academy for Development, which provides professional development, leadership and enrichment tools.



Assessment and Career Planning, which includes a development objectivesetting component and feedback, and



Experience and Exposure.



# ACE Academy for Talent Development

In 2014, we developed the ACE Academy for Talent Development, a global talent management program and philosophy. ACE Academy for Talent Development provides the tools and experiences our people need to grow their professional skillset, evolve their leadership competencies and take their career to the next level. It comprises three centers: ACE Professional Development, ACE Leadership Development and ACE Enrichment.

### **ACE Professional Development**

Formal training can build professional skills to help our people grow in their current role or into a new role within AES. The ACE Professional Development Center provides the tools our people need to grow their professional skillset and business acumen and take their career to the next level. This center is focused on professional development offerings and supporting tools to further develop AES people's professional skills. In 2014, we averaged 41 hour of training per person.



#### ACE Leadership Development

While leadership styles differ, there is a pattern of attributes, competencies and experiences that define a great AES leader. The ACE Leadership Development Center provides the tools our people need to lead — whether it's a project team, direct reports or an entire function. The courses and experiences offered in this center are focused on building AES Leadership Competencies.

As part of the ACE Leadership Development program, we also offer a senior leadership program

referred to as the Global Executive Leadership Program and Retreat. We have partnered with Georgetown University in Washington, DC, to facilitate our five-day, on-site transformational experience. The program further develops our senior leadership competencies in areas that we have identified as critical to our business both now and into the future. In 2015, we will have the first set of leaders participating in the program.



#### ACE ENRICHMENT

Our growth and development doesn't just come from formal training. We also learn through a variety of experiences whether it's a mentoring relationship, a job rotation or a stretch assignment. The ACE Enrichment Center provides the tools our people need to manage various development experiences such as insights into development areas from leadership assessments, building professional networks and on-the-job learning.

#### **Assessments and Career Planning**

#### ASSESSMENTS

Performance Management is a four-step process of timely communications and feedback that happens throughout the year:

- Performance Reviews: Leaders assess the performance of individuals and the development needs for their people. Individuals complete a self-evaluation, discuss their performance with their management and discuss development opportunities.
- Objective Setting Process: Leaders work with individuals to identify objectives and measures and suggest areas for development to support career development goals.
- Mid-year performance review: Leaders review and discuss performance to date against objectives. Individuals update their performance objectives and development plan as needed.
- 360 Mid-year Feedback: Leaders and individuals review 360 feedback reports with individuals and discuss development actions.

The performance management process allows people to not only better understand their role and responsibility but also what skills they need to grow their career.

#### CAREER PLANNING

Across the leadership team and through the organization, we conduct sessions on a quarterly basis to review, measure and understand our talent. These sessions are also used to identify development opportunities and action plans for people.

#### **Experience and Exposure**

#### EXPERIENCE

We believe development of our people is enhanced by gaining a variety of on-the-job experiences that help people expand their skills and hone their capabilities. We strive to purposefully give people a set of experiences that not only challenge them but also help them to reach their fullest potential at AES.

#### **EXPOSURE**

The Executive Leadership Team (ELT) and other Senior Leaders are committed to getting to know our global talent better, including up-and-coming and high potential talent. Our high potential talent is given the opportunity to interact one-on-one or through group sessions with the leadership team.

# Continuing to Strengthen our Culture

We began to focus on our workplace culture in 2012 with the goal of making the way we work a competitive advantage for the company. Culture at AES is about bringing energy to what we do through how we work together and the values we share around the world. We use a third-party assessment of our culture called the Denison Model, which links organizational culture and leadership practices to performance metrics.

Following our company-wide survey in 2013, we conducted strategy and culture work sessions, which we called "Taking It to the Next Level," with



more than 39 percent of our mid-level leaders in each of our four functional areas and in each of our six market-facing SBUs from March through October 2014. The goal of these sessions was to focus on the direction we're taking as a company, share our plans to support that strategy within each group and discuss how we'll work together to be successful. Each group took the time to brainstorm ways they can drive our performance even higher, and participants left the meeting with the objective to engage their people to make it happen.

We also used these sessions as an opportunity to directly interact with our top talent and emerging talent throughout the business. The ELT and SBU Presidents reinforce these messages by meeting with our people and top talent as they visit AES locations. They use these interactions to continue the dialogue about our strategy and culture, and encourage discussion and engagement.

We resurveyed our mid-level leaders in November with the goal of understanding the impact of the changes we continue to make in Strategic Direction and Intent, Vision, Coordination and Integration, Empowerment and Creating Change. From the survey, we found we improved in all five areas over the last year.

#### **Rewarding Our People**

We invest significant time and resources to ensure our compensation programs are competitive and reward the performance of our people. We have a performance-oriented total rewards program in place that allows us to attract, retain and motivate top talent. AES people who are not part of a collective bargaining agreement are eligible for an annual merit-based salary increase. In addition, individuals are eligible for a salary increase if they receive a significant promotion. We also offer profit-sharing in 13 countries, including the United States. The following table include the ratio of compensation for the highest-paid individual in each country to the compensation for all employees, and the increase in compensation for the highest-paid individual to the median increase for all employees.

Location	Ratio	Increase
Argentina	13	0.3
Brazil	94	1.0
Bulgaria	19	1.3
Chile	28	1.2
Colombia	25	1.6
Corporate	49	1.0
Dominican Republic	17	0.8
El Salvador	29	1.0
India	22	0.9
Kazakhstan	46	1.3
Mexico	6	1.0
Netherlands	9	1.3
Northern Ireland	4	1.3
Panama	25	1.7
Philippines	71	1.9
Puerto Rico	7	1.7
Sri Lanka	5	0.6
USA	14	1.0
Vietnam	62	1.1

Table 18: 2014 Annual Compensation Ratios andCompensation Increases by Country.



#### BEING RECOGNIZED AS A GREAT PLACE TO WORK

We aim to make AES the best energy company it can be by creating a workplace that enables our people to reach their potential, collaborate with others and contribute to our success while living our values. To do this, we use external measurements such as Great Place to Work rankings to gauge the success of our workplace initiatives to energize our people.

To engage in these rankings, our businesses participate in questionnaires and assessments that are performed by recognized regional and local institutions that not only consider the company's programs, policies and benefits, but also survey the people within the various businesses.

# Businesses in four SBUs were recognized by the Great Place to Work Institute

In 2014, six of our businesses across four SBUs were recognized as a Great Place to Work from the Great Place to Work Institute while other businesses received recognition from various other sources. Also, AES Corporate ranked as a top workplace according to a survey conducted by The Washington Post.

SBU	Country	Business	Recognition List	Institution
		AES Gener	Best Place to Work in Chile	Great Places to Work Institute
Andes	Chile	AES Eletropaulo	100 Best Companies in Organizational Human Development	Gestao e RH Magazine
		AES Sul	Best Place to Work in Brazil	Great Place to Work Institute
Brazil Brazil	AES Sul	Best Company to Start a Career in Brazil	Voce S/A Magazine	
		AES Brazil	Ten Most Competitive Trainee Programs in Brazil	Exame Magazine
Europe	Bulgaria	AES Bulgaria	Best Employers in Bulgaria	Aon Hewitt
	Mexico	TEG TEP	Best Company to Work in Mexico	Great Place to Work Institute
	Dominican Republic	AES Dominicana	Best Place to Work in the Dominican Republic	Great Place to Work Institute
MCAC Uni	United States	AES Puerto Rico	Best Place to Work in Puerto Rico	Great Place to Work Institute
	El Salvador	AES El Salvador	50 Most Attractive Companies to Work in El Salvador	Great Place to Work Institute
Corporate	United States	AES Arlington	Top Workplaces	Washington Post

Table 19: 2014 Workplace Recognitions.



### **AES Performance Excellence**

AES Performance Excellence (APEX) is a continuous improvement program that provides common methodologies and tools to solve business challenges. The program was established in 2006 and offers more than tools to solve problems — it

provides opportunities for AES people to add more value, satisfy customers, share best practices and grow through learning.

Our businesses around the world use APEX to improve customer processes, manage contractors and sourcing, resolve equipment failures and reduce overtime costs, among others. Employees are

# 2014 AES PERFORMANCE EXCELLENCE (APEX) AWARDS



We recognize the success of our people and their continuous improvement projects through our annual APEX Global Awards. These are the best projects recognized in 2014:

#### FIRST PLACE

The team at AES Philippines (Asia SBU) implemented an Electronic Supply Chain Management Facility (E-SCM) to better manage inventory with projected financial benefits over five years of US \$2.1 million.

#### SECOND PLACE

The AES Buffalo Gap team (US SBU) implemented an ultrasonic measurement technology to provide accurate wind speed and direction data without the use of moving parts. By adding a small, independent programmable logic controller (PLC), the team was able develop a stand-alone measurement system easily integrated into any modern turbine.

#### **THIRD PLACE**

AES Kazakhstan: Continuous Improvement for a Successful EPC Contractor. The AES Kazakhstan team worked to optimize their budget for the construction of a turbine achieving US \$4.35 million in total savings from the project budget by the end of 2015.

#### **REPLICABILITY AWARD**

AES Parana (Argentina, Andes SBU): Mitigation of Ambient Temperature Effect on a Combined Cycle Power Output to generate an additional 97 GWh per year with financial benefits of US \$780,000.

#### **REPLICABILITY AWARD**

The team at OPGC in India (Asia SBU) developed an energy conservation program that improved the plant Performance through Energy Optimization. The project received 100 percent funding from the India State Energy Department for a revenue increase of US \$0.8 million.



trained to develop skills related to project management and business performance improvement, and participate in sections to share many experiences related to the APEX Program. We continue to improve more processes at our business, and those improvements translate into real savings for the company.

More than 65 percent of our people have been trained to use APEX methodology and tools. In 2014 alone, approximately 445 projects using APEX translated into US \$195 million in benefits for AES (exceeding the target of US \$179 million), with 51 percent of benefits representing hard dollars of new revenue. More than 60 people were also trained in Lean Six Sigma during the year.

The goal for 2015 is to execute 325 projects using APEX, to achieve several million in benefits and to have 67 percent of our people trained on APEX methodology and tools, including 75 percent of our people at the corporate headquarters.

We also received external recognition. In the global competition of PEX (Process Excellence Network), three AES APEX projects were shortlisted under categories of best process improvement projects through transformation and technology as well as sustaining a mature process excellence program. The PEX Network's Excellence in Process awards aims to recognize companies that have used Process Excellence to improve efficiency, reduce waste and minimize costs. Established more than nine years ago, the awards are renowned for recognizing project and program process excellence.

# ASPECT: OCCUPATIONAL HEALTH AND SAFETY

At AES, we always put safety first — for our people, contractors and communities. We are committed to protecting our employees from work-related hazards as well as promoting their health while at work and at home. Accordingly, our goal is to provide our people with a safe and healthy working environment at all times.

Ten years ago, in 2005, we assessed our global Environmental, Health & Safety (EHS) performance, and decided to take it to new levels with the objective of reaching a world-class culture. The goal was to better align our company's EHS management system processes, leadership focus and actual performance with AES' corporate values.

Our efforts have resulted in: laying an EHS management system foundation, closing performance gaps in various EHS areas and implementing many of the industry's best practices. Now, we have entered the phase focused on sustainable continuous improvement in health and safety management practices and performance.

In 2014 we attained best in class utility industry safety incident minimization levels as measured against U.S.-based peers. For the first time, we reached a Lost Time Incident (LTI) case rate<sup>7</sup> performance below 0.09 for our combined workforce affiliations (i.e., AES people, operational support contractors and construction contractors) for the year, which is reflective of top 10 percent performance. We also had the lowest occupational fatality results in 2014 with one contractor fatal incident and no AES person fatality for the first time ever.

We attained best in class utility industry safety incident minimization levels as measured against U.S.-based peers

<sup>&</sup>lt;sup>7</sup> LTI Case Rate represents the number of lost time cases experienced by a workforce equivalent to 100 people working full time for a one-year period.



### **Health and Safety Management**

AES' Safety Management System (SMS) process is built on the OHSAS 18001 Occupational Health and Safety Management System model. The SMS provides a consistent framework for all AES operational businesses and construction projects to set expectations, measure performance and drive improvements in our safety and health management. It covers 18 system elements to drive continuous performance improvement. Each AES business implements and manages the SMS.

The foundation of AES' SMS is comprised of AES Safety Beliefs and Safety Principles (available on AES website), which call on all AES people and contractors to demonstrate safety commitment and support, as well as reinforcing the importance of safety. Also, AES' SMS includes 31 specific operational and 40 construction safety standards that are based on global electric utility best practices and often exceed the local regulatory requirements for some of the businesses. The standards cover areas such as fall prevention, electrical grounding, contractor safety management, job safety analyses and more. A diagram illustrating the 18 elements of the SMS process is provided in Figure 10.



Figure 10: AES Safety Management System Elements.



As part of the SMS, each business has to:

- Establish and maintain procedures for the identification and reduction of health and safety risks;
- Establish consistent methods for managing occupational health;
- Implement AES' policy of conducting all business in a responsible manner, free from uncontrollable hazards; to respect the health and safety of all AES people, contractors, customers, suppliers and community neighbors; and to comply with all applicable health and safety laws and regulations of the countries where our businesses operate; and
- Achieve AES' vision of being a recognized global leader for progressive, best-in-class health and safety practices and performance.

At AES, we are committed to creating a workplace in which all people are responsible and empowered, able to speak freely and ask questions and voice



concerns when it comes to safety. In 2014 we created the Speaking Safely helpline, a new way to voice concerns about workplace safety and the environment.

Speaking Safely is a secure and anonymous way to report safety concerns or violations and is available anywhere in the world — both by phone and online. In either case, the report is handled by a third-party vendor, to ensure confidentiality and anonymity. Once a report has been made, the person making the report is able to check on its progress at any time using a follow up tracking number.

# HEALTH AND SAFETY TRAINING, AUDITS AND COMMITTEES

Under the AES Safety Management System (SMS) framework, all AES people and contractors must undergo training to prevent work-related risks and occupational health hazards. Although this type of training is occasionally coordinated at the global and strategic business unit level, it is principally managed locally by business leadership and safety professionals.

The extent and type of training that AES people and contractors undergo is dictated by the safety and health risk exposure each individual has — the most highly exposed individuals will be required to attend a substantial number of hours of training annually, while AES people and contractors with a lower level of exposure (e.g., administrative workers) participate in at least monthly local safety meetings where safety and health performance updates and awareness are conveyed. The attendance level of AES people and contractors at these monthly safety meetings during 2014 was at 98 percent.

Specific emergency training, provision of personal protective equipment, setting of education/training targets and tracking of hours spent on training is all done at the local level. All these areas are reviewed periodically using the AES external and internal EHS audit process. AES external EHS audits are performed by an AES audit team of EHS



professionals from outside the business. Audits typically occur every 3 years for operating locations and annually for major construction sites. These audits focus on EHS management systems and culture, including the quality of overall EHS training at the business. Internal safety audits against all AES technical safety standards are conducted by site personnel on a continuing basis.

Safety committees at each AES location, with representation by all levels of staff, are in place at all operational and construction locations and work on varying local safety management, culture and performance initiatives.

#### HEALTH AND WELLNESS MANAGEMENT

The formal agreements AES businesses have established with trade unions and the commitments they make in non-union work environments cover health and safety issues, including risk premiums, sickness allowances, accident compensation, hospitalization, dental care assistance and life insurance. Additional topics may also be included in order to meet local legislation in the countries where our businesses operate.

We believe people have to feel motivated and satisfied in their workplace, so AES businesses offer several benefits, services and policies to our people

At AES we believe people have to feel motivated and satisfied in their workplace. Therefore, AES businesses offer several benefits, services and policies to our people, which are continuously improved by organizational environment and market surveys, to guarantee that the company is aligned with local practices and are also in compliance with all legal aspects. Some of these programs include

- Ergonomic assessments and improvements in the workplace, including illumination, noise, indoor air quality, temperature and ergonomic furniture assessments.
- Programs against smoking for employees and their families, including informative and motivational lectures, weekly psychological support group sessions as well as medication when necessary.
- Nutrition programs that offer educational lectures on the importance of well-balanced nutrition and healthier routines (including personalized professional assistance).
- Programs focused on non-work-related stress management and sedentary lifestyle, including walks for employees and family recreation; welfare advisors that employees can contact directly and confidentially; training activities conducted on topics related to cardiovascular risks; and promotion of physical activity.
- Labor gymnastics focused on ergonomic risk control and prevention of musculoskeletal disorders caused by fatigue arising from muscle tension at work, non-corrected posture vices as well as movements or efforts in detriment of joint health.
- Vaccination campaigns such as seasonal flu shots distributed to employees.

All AES people also can benefit from the services of International SOS, Inc., an AES contracted service, to ensure proper care in the event of a work-related illness or injury or travel-related emergency, either medical or associated to a special situation such as an evacuation due to civil unrest, etc.



#### CONTRACTOR SAFETY MANAGEMENT

Ensuring contractor safety is just as important to the operation of AES businesses as the safety of our own people. Each AES business has established contractor safety protocols and procedures that verify contractor qualifications, set safety performance expectations, and outline required training for all contractors before beginning work. This includes site- and task-specific safety training that must be completed prior to the commencement of the contract. Contractors are responsible to implement and manage all agreed upon safety protocols and procedures during their work at AES locations.

Examples of such procedures include mandatory safety orientations that cover site's safety requirements from personal protective equipment (PPE) and local hazards to emergency procedures and traffic rules. In some countries, our practices have helped to improve the quality and safety performance of contractor companies.

#### **Health and Safety Performance**

#### 2014 GLOBAL SAFETY GOALS

Our annual safety goals are our commitment to our people, our contractors and the communities in which our businesses operate and set our path to achieve world-class safety performance. The global safety goals established for 2014 are described below.



Mandatory monthly safety meetings were established in 2010, for all AES people. Since 2014, the safety meeting participation goal was extended to contractors, and these meetings are one of the tools used to obtain feedback on safety concerns, initiatives or best practices. Topics covered during these meetings range anywhere from AES Safety Belief discussions to managing stress at work, and always include a review of recent incidents and sharing of best practices.

 AES Leaders must complete the Safety Leadership training delivered via e-learning and/or alternative means with at least a 95% participation rate across AES



100% participation rate achieved

Safety leadership training of key business leaders is important to creating and maintaining a world-class safety culture. During 2014, AES developed an online safety leadership training course, covering topics such as safety leadership interpersonal skills and management tools. A total of 18,000 AES people completed the training course online.



#### **REACTIVE SAFETY METRICS**

Reactive safety metrics are those related to actual unsafe events that have occurred, and include first aid cases, OSHA recordable cases, Lost Time Incident (LTI) cases and occupational fatality incidents. AES reactive safety metrics reporting is substantially based on U.S. OSHA reporting requirements (29 CFR 1904). All the metrics are tracked using the AESOnline system, AES' global EHS management information system.

#### Reactive Safety Metrics: Occupational Fatalities

The number of occupational fatalities in 2014 represents an 82 percent decrease compared to the previous 3-year average. Although only one contractor fatality occurred during 2014, any fatality incident represents not achieving our ultimate safety goal in this area, which is zero incidents. Table 20 summarizes AES businesses' occupational fatality cases during the years 2011–2014 for AES people and contractor personnel.

The fatality case trend for the past four years for AES people has been decreasing, while the trend has been variable for contractors. After a fatality occurs, a team of experts from the global EHS team and other businesses travel to the site to analyze the circumstances that led to incident. After the investigation is over, corrective actions are determined and the information is shared across the organization to avoid similar incidents from occurring in the future. We continue to execute our program focused on safety management system excellence and proactive safety to strive to reach a zero incident workplace.

### Reactive Safety Metrics: Lost Time Incident Rates

AES has been able to significantly reduce the number of lost time occupational safety incidents impacting AES people and contractors by rigorous implementation of our Occupational Health and Safety (OHS) programs across the globe during the last four years.

# AES' businesses achieved their lowest LTI rates for AES people, operational contractors and construction contractors

AES businesses calculate LTI rates for their employees and contractors based on OSHA standards, so that they are comparable across any industry or group. The standard is based on 200,000 labor hours, which equates to 100 workers who work 40 hours per week and 50 weeks per year.

Occupational Fatalities	2011	2012	2013	2014
AES People	3	1	1	0
Contractors	3	6	3	1

Table 20: AES Occupational Fatality Cases, 2011 - 2014.





Figure 11: Lost Time Incident Rates - AES People, 2011 - 2014.

Our target for LTI rates was set to be below the U.S. utility industry top 25 percent benchmark LTI rates. Our businesses have been below this benchmark for the last several years. During 2014, AES' businesses achieved their lowest LTI rates for AES people, operational contractors and construction contractors — our businesses' aggregate LTI rate went down 21 percent for AES people, 33 percent for operational contractors and 45 percent for construction contractors compared to 2013.



*Figure 12: Lost Time Incident Rates - Operational & Construction Contractors, 2011 - 2014.* 



In 2014, our businesses experienced a total of 36 LTIs across our workforce with the following breakdowns:

- 17 LTIs for AES people;
- 17 LTIs for operational contractors; and
- 2 LTIs for construction contractors.

The majority of the 2014 LTIs resulted in injuries from slips, trips and falls from the same elevation (16.7 percent); falls from a different elevation (13.9 percent); and exposure to fire / explosion and exposure to extreme temperatures (both at 8.3 percent). Other 2014 LTIs included a combination of less frequent types such as exposure to or contact with rotating equipment, arc flashes and being caught in or between objects.

Safety and health performance has continued to improve during the last 4 years as a result of our proactive approach to safety. The LTI rate reductions achieved in 2014 compared to the average LTI rates achieved during the 2011-2013 period is attributable to our culture and focus on safety. However, to avoid complacency, during 2014 we continued multiple initiatives such as online safety leadership training and continuous tracking of 16 different safety management KPIs for approximately 170 global AES business leaders to continue driving safety performance improvement and consistency throughout the company. 2014 LTI rates for AES people and contractors have been verified by Lloyd's Register Quality Assurance Inc. (LRQA), who conducted a limited assurance of our LTI rate data and results.

#### PROACTIVE SAFETY METRICS: NEAR MISSES AND SAFETY WALKS

AES believes that all occupational incidents are preventable, which is why we have instituted several programs targeting proactive safety practices. Proactive safety metrics include safety walk performance, identification of unsafe behaviors and conditions, near miss incidents, and setting of and tracking the progress of SMS goals and action plans.

The difference between a near miss incident (where an injury could have happened, but did not actually occur) and a serious injury or fatality is often just a matter of a few inches in position or a few seconds in time. We can prevent injuries and save lives by reporting, collecting, sharing and analyzing near miss experiences and workplace hazards that, if not addressed, may lead to a more serious injury.

Our proactive safety walk and near miss efforts completed during the 2011-2014 period are illustrated in the following table. We consider both of these to be proactive safety metrics because a high level of leadership-work team engagement via safety walks identifies potential safety risks and improves safety culture, and the reporting and

Proactive Safety Indicator	2011	2012	2013	2014
Safety Walks	99,307	114,613	115,885	109,241
Near Misses	1,089	575	721	571

Table 21: Proactive Safety Metrics, 2011 - 2014.



correction of near miss incidents allows us to learn lessons from non-injury events to avoid more serious incidents involving actual injuries in the future.

Our annual numbers of safety walks are consistently high, indicating our leaders and work teams are frequently interacting on safety. The number of near miss incidents reported has decreased, which is expected because the number of our injury-related incidents has also decreased as our safety culture improves.

# Health and Safety Recognition

#### INTERNAL SAFETY RECOGNITION

Recognition for positive efforts and results is an essential element of a world-class safety culture. The AES Safety Milestone Program grants recognition to operational businesses and construction projects that achieve significant milestones based on the number of hours or years without an LTI to an on-site AES person (employee) or contractor. Also, AES businesses have local and regional programs that provide positive reinforcement for individuals and teams that demonstrate expected safe work practices. The businesses that achieved one or more "no LTI" safety milestones in 2014 were:

AES Business	Country	Period without an LTI	
ANDES SBU			
Tunjita Construction Project	Colombia	1 & 2 million hours	
Gener Transmission Lines	Chile	5 years	
Gener - Guacolda V (EPC Construction Project)	Chile	2, 4 & 6 million hours	
Gener - Santa Lidia	Chile	5 years	
Gener - Alto Maipo (EPC Construction Project)	Chile	1 million hours	
Cochrane (EPC Construction Project)	Chile	2 million hours (twice)	
Rio Juramento (Cabra Corral and El Tunal)	Argentina	5 years	
Gener Essa Nuevo Renca	Chile	5 years	

#### ASIA SBU

Mong Duong (EPC Construction Project)	Vietnam	2, 4, 6, 8, 10, 12 & 14 million hours
OPGC II (EPC Construction Project)	India	1 million hours

Table 22: Internal AES Safety Milestones - 2014.



AES Business	Country	Period without an LTI	
BRAZIL SBU			
Eletropaulo	Brazil	2 million hours (twice)	
Sul	Brazil	2 million hours (twice)	
AES Tietê Promissão	Brazil	10 years	
Tiete Nova Avanhandava	Brazil	5 years	
Tiete Agua Vermelha	Brazil	1 million hours	

### **EUROPE SBU**

Amman East IPP4 (EPC Construction Project)	Jordan	2 million hours	
Shulbinsk Hydroelectric Power Plant	Kazakhstan	1 million hours	
Amman East	Jordan	5 years	
Ust-Kamenogorsk Hydro	Kazakhstan	5 years	
MCAC SBU			
AES El Salvador	El Salvador	2 million hours	

#### US SBU

Buffalo Gap	United States	5 years
IPL Petersburg ECC MATS Construction Project	United States	1 million hours
Armenia Mountain	United States	5 years

Table 22: Internal AES Safety Milestones - 2014(Continued).



Another internal AES recognition program is the annual Golden Hard Hat Award. Created in 2009, each year the Golden Hard Hat Award honors an AES business that makes significant improvements in comparison to prior safety performance, that develops and rolls out new safety techniques or practices, or that implements systematic proactive practices. This is the highest safety recognition and in 2014 it was granted to AES Dominicana, a complex of three power plants in the Dominican Republic.

## **GOLDEN HARD HAT**



In 2014, AES' highest safety recognition was granted to AES Dominicana in the Dominican Republic.

AES Dominicana has a proactive safety program focused on behavioral safety. All employees have participated in SafeStart safety culture training, and they have created teams of volunteers called "SeguLiders" who perform safety

monitoring and implement safety improvement initiatives.

The AES Dominicana team achieved world-class scores in the 2013 DuPont Safety Perception Survey administered across AES, and the AES Andres power plant won the gold medal from National Quality Awards, the highest industrial award in the Dominican Republic.

#### **EXTERNAL SAFETY RECOGNITIONS**

Our businesses have also received numerous external safety awards as recognition of our strong safety culture and performance. Five of our businesses in the Europe SBU — Maritza, Elsta, Amman East, Ust-Kamenogorsk HPP, and Shulbinsk HPP — were recognized for excellence in their workplace health and safety from the British Safety Council by receiving their Safety Award (Merit Distinction). The British Safety Council is a global health, safety and environmental organization that works with businesses to improve their health, safety and environmental management. Each year, the British Safety Council invites both member and nonmember organizations to apply for their International Safety Award. The award recognizes a high level of competence in terms of health and safety management systems.



The following list identifies awards received during 2014.

AES Business	Country	Recognition	Granted by
	-	ANDES SBU	1
Chivor	Colombia	World Class Safety Award	ARL Sura
Norgener Transmission Lines	Chile	13 years without incapacitating accident	Mutual de Seguridad C.CH.C
		ASIA SBU	·
Kelanitissa	Sri Lanka	National Occupational Safety and Health Excellence Award	Ministry of Labor and Labor Relations, Department of Labor
Kelanitissa	Sri Lanka	Safety Innovation of the Year	Ministry of Labor and Labor Relations, Department of Labor
	1	BRAZIL SBU	1
Tietê	Brazil	Award Eloy Chaves, Safety	Eloy Chaves
	I	EUROPE SBU	1
Maritza	Bulgaria	British Safety Council Safety Award Merit	British Safety Council
Amman East	Jordan	British Safety Council Safety Award Merit	British Safety Council
Amman East	Jordan	RoSPA Gold Award	Royal Society for the Prevention of Accidents (ROSPA), UK
Amman East	Jordan	Safety Achievement Award	Edison Electric Institute
Shulbinsk HPP	Kazakhstan	British Safety Council Safety Award Merit	British Safety Council
Ust-Kamenogorsk HPP	Kazakhstan	British Safety Council Safety Award Merit	British Safety Council
Ust-Kamenogorsk HPP	Kazakhstan	The Best Safest Enterprise Competition	SENIM (Republic of Kazakhstan)
Elsta	Netherlands	British Safety Council Safety Award Merit	British Safety Council
Elsta	Netherlands	RoSPA Gold Award	Royal Society for the Prevention of Accidents (ROSPA), UK
Ballylumford	United Kingdom	RoSPA Gold Award	Royal Society for the Prevention of Accidents (ROSPA), UK
Kilroot	United Kingdom	RoSPA Gold Award	Royal Society for the Prevention of Accidents (ROSPA), UK
MCAC SBU			
TEG - TEP	Mexico	Safety Industry	Secretary of Labor and Social Prevision (STPS)

Table 23: External Safety Recognitions - 2014.


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## **ENGAGE IN THE CONVERSATION**









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