PINNACLE WEST CAPITAL CORPORATION, AN ENERGY-HOLDING COMPANY BASED IN PHOENIX, ARIZONA, FOCUSES ON THE BUSINESS OF ITS PRIMARY SUBSIDIARY, ARIZONA PUBLIC SERVICE COMPANY (APS).

APS is Arizona’s largest electric company, providing retail and wholesale electric service for 128 years to customers across most of the state.

Our company has published this report each year since 1994 to share our sustainability performance and vision with our stakeholders and the public.

The APS Vision
Creating a sustainable energy future for Arizona.

The APS Mission
We safely and efficiently generate and deliver reliable electric power and related services to our customers.
FOCUS ON SUSTAINABILITY

There are very few companies in Arizona that can trace their roots back more than 100 years. We can, and we are making plans to be as much a part of Arizona’s future as we have been a part of its past.

That’s what sustainability means to us: looking ahead to the future and implementing processes today to position us for success for the long term. Sustainability is a core business strategy and is ingrained in our culture of excellence and commitment to continuous improvement in all areas of our operations.

For example, our 2014 Integrated Resource Plan (located at aps.com/resources) is our roadmap for continuing to provide safe, reliable and affordable electricity to the communities we serve, in a way that is cleaner and more efficient. With that as a guide, we are making investments in our operations and equipment to ensure a sustainable future for our company and our state.

In 2013, we implemented a corrective action program that allows us to identify, investigate and track human and equipment performance, as well as identify trends and opportunities for continuous improvement. We are also enrolling all employees in a human performance program, providing them the tools to identify and effectively manage error-prone situations, improving our safety and operational performance. Applying these programs throughout the company allows us to better share lessons and successes effectively.

Additionally, we are investing in our employees to develop individuals who will guide APS now and in the coming years. Employee Network Groups representing a diverse range of interests and cultures, provide opportunities for networking, mentoring and growth. There are now nine of these groups established at APS, and nearly a third of all employees participate.

Sustainability also means preparing the workforce of tomorrow. We are a founding member of the Arizona Energy Workforce Consortium, a public-private partnership working with Arizona colleges to educate and train the talent necessary to power our industry for years to come.

By focusing on our future, we are creating a legacy of community stewardship and business leadership. We are proud to continue to rank among the best in our industry for customer satisfaction and service reliability, and even more proud of our employees for improving safety performance to reach a record company low for OSHA recordable injuries in 2013.

Ultimately, our success is fundamentally linked to the vitality of the communities we serve. Beyond the thousands of volunteer hours readily given by our employees, retirees and their families, APS works with schools, social services and other agencies to ensure a bright future for everyone in our state.

The highlights in this report touch on the many and varied efforts we are doing now to remain a company our customers, shareholders, employees and our state can still depend on far into the future.

Thank you for your interest in our company and this report.
DONALD E. BRANDT

Chairman, President & CEO,
Pinnacle West and APS

ANN C. BECKER

Vice President, Environmental,
and Chief Sustainability Officer, APS
At Pinnacle West, long-term shareholder value results from combining our commitment to powering Arizona’s future with safe, reliable and affordable electricity, with deep community involvement, a constructive regulatory environment, targeted investments in new technologies and solid financial results.

- $3.3 billion planned investment in Arizona’s electricity infrastructure through 2016
- $406 million net income, or $3.66 per share; (2012: $382 million net income, $3.45 per share)
- A- or equivalent credit ratings; strongest in 30 years
After attaining several all-time highs earlier in the year, our share price ended 2013 up 3.8 percent. Total shareholder return—a combination of stock price appreciation and dividends—was 8 percent, slightly trailing the 9.6 percent return of the S&P 1500 Electric Utility Index. The overall stock market, as measured by the S&P 500 Index, had a strong recovery in 2013 with a total return of 32.3 percent.

Our performance over the last five years continues to outpace our industry and the broader market. We have increased total shareholder value by $3.7 billion over that time period. Looking ahead, we currently expect to grow our rate base from $7.2 billion in 2013 to $9.9 billion in 2018, for compounded annual growth of approximately 7 percent.

As Arizona continues its economic recovery, we will be there to power its growth. Existing home sales are 17 percent higher than in 2012, and permits for new housing increased by 12 percent. Business investment in the region has led to an 8 percent gain in construction jobs. Arizona’s population is growing at double the national rate and APS is ready to grow along with it.

**RECOGNIZING EXCELLENCE**

Our commitment to excellence in all areas of our operations is recognized within and outside of our industry. We are proud to share a few of our awards from 2013:

**100 BEST CORPORATE CITIZENS – CORPORATE RESPONSIBILITY MAGAZINE**

For the third consecutive year, Pinnacle West was listed on Corporate Responsibility Magazine’s 13th annual list of “100 Best Corporate Citizens,” ranking 35th overall from among thousands of companies worldwide.

**TARGET ROCK UTILITY SUSTAINABILITY INDEX – TARGET ROCK ADVISORS, LLC**

Pinnacle West was one of three utility mid-cap companies recognized for the list’s “triple bottom line” standard: environmental stewardship, economic performance and societal contribution.

**SUSTAINED EXCELLENCE AWARD – U.S. DEPARTMENT OF ENERGY/ENVIRONMENTAL PROTECTION AGENCY**

The U.S. Environmental Protection Agency presented APS with its Sustained Excellence Award for the fourth consecutive year for the utility’s continued leadership in protecting the environment through energy efficiency.
37% reduction in average outages per customer; 27% reduction in average outage minutes per customer since 2003

410 megawatts of new solar power generation added in 2013

160-day continuous run for all three units at Palo Verde Nuclear Generating Station, second best ever at the plant

OPERATIONAL EXCELLENCE
A FUTURE in focus
WHEN OUR CUSTOMERS FLIP A SWITCH, THEY EXPECT ELECTRICITY TO BE THERE. WHILE THEY MAY TAKE RELIABLE ENERGY FOR GRANTED, WE TAKE THE RESPONSIBILITY FOR DELIVERING POWER SERIOUSLY.

SYSTEM RELIABILITY

APS consistently ranks in the top quartile for system reliability in the utility industry. Despite one of the hottest summers on record in 2013, APS provided nearly 1.2 million Arizona customers with exceptional reliability, averaging an outage rate of 0.78 per customer.

This performance is a result of continuous efforts over the last decade in improving the overall health of the electric grid, now and for the future. APS is transitioning to a smarter, more flexible and resilient energy grid by integrating innovative technologies into its systems and equipment.

The automated meters deployed to over 98 percent of APS customers increase our ability to monitor power quality and predict demand, while allowing our customers to take control of their usage and billing. New technologies on power lines and in electrical substations enable APS to operate more efficiently, leading to long-term cost savings for our customers and increasing our system reliability.

ENERGY DIVERSIFICATION

A diverse fuel mix—fossil fuels, nuclear and renewables—is critical to manage overall price volatility for our customers, reduce risks in the supply chain and ensure energy is flowing through the grid during all times and seasons. In addition to increasing our renewables, we are also improving our existing generation portfolio to maintain our high reliability performance and increase operational effectiveness for years to come.

In our 2014 Integrated Resource Plan, we forecast that natural gas will surpass nuclear and coal by 2029 to become the largest source of energy for our customers. Plans are under way at the natural gas-fired Ocotillo Power Plant to replace two
1960s-era steam units with five new combustion turbines. The plant will support system reliability with quick-start turbines, designed to respond to quickly changing renewable energy output. The turbines will run cleaner and more efficiently than the older units while nearly doubling the plant’s overall capacity, providing power to the growing metro Phoenix population.

The Four Corners Generating Station is now situated to continue to operate well into the future, following our acquisition of Southern California Edison’s share of units 4 and 5 and the closure of units 1, 2 and 3 at the end of 2013. We plan to install state-of-the-art Selective Catalytic Reduction (SCR) systems on the newer, more efficient units 4 and 5. With this path forward, APS is significantly lowering emissions at the plant and continuing to provide an important, reliable, low-cost energy resource to customers along with hundreds of jobs for residents, many of whom are Navajo, in the Four Corners area.

Palo Verde Nuclear Generating Station’s three units ran uninterrupted for 160 days, the second-longest simultaneous run in plant history. Palo Verde recorded a number of records in 2013, including the plant’s shortest ever refueling outage (Unit 1); the most energy produced by a nuclear reactor in the United States (Unit 2); and the highest capacity factor of all plants globally (94.78 percent, Unit 2).

We added 410 megawatts (MW) of new solar power to our portfolio in 2013, including the 250-MW Solana Generating Station. Solana not only generates enough power to serve 70,000 Arizona homes, it also produces energy for up to six hours after the sun goes down, when demand is at its highest. To date, Solana has had an economic impact to the state of more than $1 billion.

EMERGENCY PREPAREDNESS

Energy reliability is too important to our customers to risk it being compromised in emergency situations. That’s why APS established an Emergency Operations Center (EOC) to support company operations and responses to unforeseen events. The EOC is a “central command” location where key individuals from throughout the company can be deployed to share information and make critical decisions. Along with our business continuity and emergency response plans, the EOC allows us to respond, manage and minimize the negative impact of emergency events to our system.

STRENGTHENING THE SUPPLY CHAIN

Uninterrupted service means more than electricity, it also means keeping every part of our operations moving. The new Supplier Relationship Management program improves
how our employees work with our key suppliers. We also hosted the inaugural Supplier Forum in 2013 for a day of sharing ideas and building relationships between APS senior leaders and key suppliers of critical products and services.

**WALKING THE EFFICIENCY TALK**

As energy leaders in Arizona, we have a responsibility to aggressively pursue energy efficiency in our own facilities, as well as those of our customers. Our 2013 metered electricity use was 32,464 megawatt-hours (MWh), compared to 2012 use of 35,040 MWh.

APS is creating a fleet of custom “hybrid lite” Class 5 trouble trucks to reduce emissions and save on fuel costs. The trucks are now the company standard for single-bucket trucks. When the engine is not running, they use an electric powered hydraulic system to operate a boom equipped with a small bucket. APS is also partnering with the Electric Power Research Institute to evaluate plug-in hybrid vehicles for use as utility service trucks. As part of the pilot study, APS is purchasing two light-duty trucks and two medium-duty bucket trucks, which will help us study the performance and operational requirements for these vehicles.
Record-low eight reportable environmental incidents in 2013, down 69% from 2012

More than 1,000 megawatts (MW) of diverse renewable energy available to customers, enough to power 250,000 homes

8.7 million pounds of waste diverted from landfills through Inventory Recovery recycling program (39.2% of total APS waste)

ENVIRONMENTAL STEWARDSHIP
A FUTURE IN FOCUS

APS IS PROACTIVELY WORKING TO REDUCE EMISSIONS, CONSERVE WATER AND MITIGATE OUR IMPACT ON NATURE TO ENSURE WE ARE PROTECTING OUR STATE’S NATURAL RESOURCES FOR THE ENJOYMENT OF FUTURE GENERATIONS.

TAKING ACTION ON CLIMATE CHANGE

Our 2014 Integrated Resource Plan (IRP) includes carbon risk and cost, and forecasts increased use of comparatively efficient natural gas, carbon-free renewables and energy efficiency over the next 15 years. The IRP anticipates that by doing this, we would produce 14 percent less carbon dioxide and use 24 percent less water per megawatt-hour of energy produced.

We have also set and achieved aggressive fleet miles-per-gallon and facilities energy efficiency targets since 2008. Overall, since 2008, we have reduced carbon dioxide emissions by 13.3 percent.
Our efforts often have a ripple effect, multiplying the benefits across the community. For example, APS sells its fly ash, a byproduct of coal power production, to concrete manufacturers. This adds to our bottom line, reduces greenhouse gases and reduces production costs and emissions for the concrete producers. The Cholla Power Plant sold almost 75 percent of total ash production for recycling in 2013.

**ENVIRONMENTAL EXCELLENCE**

APS has achieved International Organization for Standards (ISO) 14001 Environmental Standard certifications for all of our fossil-fueled generating facilities, as well as at our primary transmission and distribution service center (Deer Valley). Between 2015 and 2017, we plan to extend our ISO 14001 Environmental Management System to cover the remainder of our Transmission & Distribution operations.

**CLEANER GENERATION, CLEANER AIR**

By shutting down units 1, 2 and 3 and installing additional pollution controls at the Four Corners Generating Station, APS is making a significant contribution to improving air quality in the area. Emissions of particulates are expected to decline by 43 percent, nitrogen oxides (NOx) by 36 percent, carbon dioxide (CO2) by 30 percent, mercury by 61 percent and sulfur dioxide (SO2) by 24 percent. Furthermore, water use at the plant will decrease by 6,000-acre-feet per year.

**VEGETATION MANAGEMENT ACCOLADES**

APS was one of two utilities honored in 2013 with Right-of-Way Steward Founder’s Awards for our leadership in receiving the first two Right-of-Way Stewardship Council (ROWSC) accreditations globally. The ROWSC program provides standards of excellence for environmental stewardship and recognizes utility companies who demonstrate their commitment to superior vegetation management practices.

The National Arbor Day Foundation recognized the high-quality standards of our Forestry and Special Programs department’s vegetation management efforts with its “Tree Line USA Utility” distinction for the 17th consecutive year. The department was lauded for administering a superior program of professional tree care, providing annual worker training as well as implementing tree planting and public-education programs.

**USING WATER WISELY**

APS shares its substantial expertise in the fields of water reuse and management, from local conferences to international consulting. In 2013, APS participated in local water resource planning through involvement in the Groundwater Users Advisory Committee, the Colorado River Basin Study Group and the Water Salinity Study Committee. Palo Verde Nuclear Generating Station often provides international leadership and valuable operating experience on the use of reclaimed water for nuclear power generation.
Consumers have more control than ever in how they buy products and services, and that includes electricity. We are committed to meeting customers where they are and are introducing new offerings to provide more options for energy use, billing cycles and how they receive information.

In addition to time-of-use plans, equalizer payment options and other programs that cater to a customer’s lifestyle, APS introduced an option for customers to pick the due date of their bills. Energy efficiency programs, such as refrigerator recycling, CFL bulbs and home energy audits, provide customers a number of ways to save energy and money. It’s no wonder the advertising campaign touting these programs was called “Options.”
Customer service is also community service. Our employees, retirees and their families continue to give generously of their time and resources to improve the communities where we serve. After all, we live here, too.

**SHARING A COMMUNITY VISION**

The APS Foundation and APS Corporate Giving programs allow APS to make a significant impact in the communities where our families, neighbors and customers live and work. In 2013, APS made $9.6 million in corporate and foundation contributions, an increase from $8.3 million in 2012. We use these funds to invest in Arizona’s future workforce by supporting Science, Technology, Engineering and Math (STEM) education and in organizations that contribute to the vitality of Arizona, such as education, arts and culture, economic development and human services.

**ENGAGING EMPLOYEES**

Our employees are the face of our company. Our employee volunteer program, renamed “Community Connectors,” regularly ranks at or near the top of the Phoenix Business Journal’s list of corporate volunteer programs. Last year, more than 300 APS employees served on non-profit boards throughout Arizona, and our employees and retirees raised more than $4 million for our Community Services Fund, benefitting United Way and other local non-profit agencies.

**GETTING SOCIAL**

APS increased its online presence with the launch of a more customer-friendly website (aps.com); a Facebook page (facebook.com/apsFYI); and Twitter feed (@apsFYI). The social media channels allow us to communicate about customer programs, community events and outage information while putting a human face on the company, and help us extend our customer service to a new medium.

5th out of 54 large investor-owned electric utilities; 2013 J.D. Power residential customer survey

75% increase in paperless billing after launch of redesigned aps.com
EMPLOYEES
A FUTURE in focus

OUR 6,700 EMPLOYEES ARE VITAL TO ACHIEVING OUR VISION OF A SUSTAINABLE ENERGY FUTURE FOR ARIZONA. THROUGH OUR LEADERSHIP DEVELOPMENT PROGRAMS, CONTINUING EDUCATION AND SKILLS TRAINING, AND BUILDING A TALENT PIPELINE OF FUTURE EMPLOYEES, WE ARE CREATING A HIGH-PERFORMING CULTURE TO LEAD APS FOR YEARS TO COME.

28 percent of our workforce participates in an APS employee network group

35 recordable safety incidents; record-low, down from 177 in 2007
UNITED IN SAFETY

We want all of our employees to go home at the end of the workday as healthy as when they arrived. Our “zero incidents” culture has resulted in year-over-year reductions in recordable events for six straight years, with 2013 being our best safety year on record. Our recordable injury rate (35, compared to 47 in 2012) is expected to place APS in the top 10 percent of utilities for safety performance. Additionally, the Palo Verde Nuclear Generating Station achieved OSHA’s Voluntary Protection Program STAR status in 2013, reflecting a deep commitment to safety and exceptional safety performance.

STRONG SKILLS, HIGH PERFORMANCE

In 2013, APS made its first appearance in G.I. Jobs magazine’s list of “America’s Top 100 Military Friendly Employers.” Our military veterans make up about 21 percent of our workforce; their skills and work ethic are invaluable to our business.

We have a positive relationship with our union employees and respect their rights to bargain collectively. Almost 30 percent of our employees are represented by the International Brotherhood of Electrical Workers (IBEW) and in 2013, 240 Palo Verde security officers voted to change their union representation to the United Security Professionals of America (USPA). We strive to maintain positive labor relations and resolve issues quickly, with a positive outcome for employee and company.

DEVELOPING TOP TALENT

Our people are our greatest assets. We continually seek to hire and develop a talented and diverse workforce.

To foster emerging leaders and support existing leaders, we introduced a variety of internal programs such as Leadership Fundamentals for employees promoted into their first leadership role. Palo Verde Nuclear Generating Station designed Leadership Development Academy, a three-week program that builds from Leadership Fundamentals and adds comprehensive hiring and talent management strategies.

62 U.S. Military Veterans hired through our Troops to Energy Jobs program
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Our Mission:
We safely and efficiently generate and deliver reliable electric power and related services to our customers.
FORWARD-LOOKING
STATEMENTS

This report contains forward-looking statements based on current expectations. These forward-looking statements are often identified by words such as “estimate,” “predict,” “may,” “believe,” “plan,” “expect,” “require,” “intend,” “assume” and similar words. Because actual results may differ materially from expectations, we caution you not to place undue reliance on these statements. A number of factors could cause future results to differ materially from historical results, or from outcomes currently expected or sought by us. A discussion of some of these risks and uncertainties is contained in our Annual Report on Form 10-K and is available on our website at pinnaclewest.com, which you should review carefully before placing any reliance on our forward-looking statements, financial statements or disclosures. We assume no obligation to update any forward-looking statements, even if our internal estimates change, except as may be required by applicable law.

OUR VISION:
CREATING A SUSTAINABLE ENERGY FUTURE FOR ARIZONA

This report was prepared using guidance from the Global Reporting Initiatives’ (GRI) G3 Guidelines and Electric Utilities Supplement and focuses on APS, our primary subsidiary. Information in this report is reviewed and verified internally. In addition, we participate in a report benchmarking and review process with the Coalition for Environmentally Responsibility Economies (Ceres).
Sustainability is a core business strategy at Pinnacle West, not a standalone program. We've incorporated the concepts of sustainability throughout our business, building strategies based on those principles and pursuing measurable goals and results. We're committed to creating a model that builds long-term strategic value and success for our company and the communities we serve.

Our Strategic Framework plays a very important role in setting the overarching rules for engagement—who we are and aspire to be; our vision and mission; how we behave—our values; and where we must excel—our Critical Areas of Focus. This sets the foundation for building sustainability into business operations. During our business planning process, we identify our corporate and business unit metrics, and the initiatives under these that align with our Critical Areas of Focus.

Our business plans are designed to support our long-term company strategy and provide APS with a single, well-defined direction. In short, these plans help us prioritize our work, collaborate across the organization, allocate our resources, and measure our progress with rigor and discipline.

We’ve incorporated tiered metrics and a Corporate Resources Operating Model, or CROM, into the business planning process. CROM provides a consistent, enterprise-wide, gap-based planning process. Our tiered metrics create a single, enterprise scorecard to define and measure success. Tiered metrics assist with gap closure and creating goals based on benchmarking. Incorporating sustainability concepts and goals into our business planning process moves sustainability deep into our organization, providing employees with a clear idea of key issues, goals and targets and their role in achieving our vision.

**KEY SUSTAINABILITY ISSUES**

Our key sustainability issues are identified in our business plan and incorporated into our Tier 1 metrics, which then become part of every employee's performance plan.

Shareholder value is increased by our sustainability efforts, with our focus on:

- Superior reliability and operating performance across our business
- Excellent customer satisfaction and deep community involvement
- Affordable electricity rates
- A balanced, high-performing power generation portfolio
- A constructive regulatory environment
- Targeted investments in new technologies.
- Solid financial results

**GOVERNANCE**

Good corporate governance is an essential component of a sustainable company, enabling the company to fulfill its business, environmental and social responsibilities. Pinnacle West has a strong corporate governance structure and strives for transparency with our stakeholders. We provide great detail on our governance structure to the public on our Pinnacle West website: pinnaclewest.com.

**LINKS**

- Pinnacle West 2014 Proxy Statement
- Corporate Governance Guidelines
Board Committee Summary

· Audit Committee

· Corporate Governance Committee

· Finance, Nuclear and Operating Committee

· Human Resources Committee

· Code of Ethics for Financial Executives

· Ethics Policy and Standards of Business Practices

· Director Independence Standards

· Fair Disclosure Policy

· Pinnacle West 2013 Annual Report

· Pinnacle West Website

**Board of Directors**

As of Dec. 31, 2013, the board of directors consisted of 10 directors, nine of whom have been determined to be independent and including two women and one minority. The Pinnacle West CEO is the only board member who is not independent.

**Public Affairs**

Our Code of Ethics and Business Practices describes how employees and company interact with public officials. The Public Affairs department takes the lead on interactions with state and federal officials. We do not make direct contributions to political candidates or office holders. A formal political action committee (PAC) is available to employees who elect to contribute. We maintain strict adherence to the laws governing campaign contributions and PACs.

**Involvement with Pesticides, GMOs, Fur, Alcohol, Tobacco, Firearms, Nuclear Weapons, Military Products, Pornography or Gambling Products**

We have no direct business involvement/revenues in these product areas.
MILITARY CONTRACTS & PERCENTAGE OF TOTAL REVENUE

We do not have any specific military-related contracts. However, as a public service utility, we provide electric services to all customers within our service territory, including military facilities.

CHILD & FORCED LABOR

We comply with all laws and regulations regarding child labor or forced labor in the workplace. Our internal staffing policy states that all external candidates selected for regular positions must be 18 years of age.

CODE OF ETHICS AND BUSINESS PRACTICES

Pinnacle West has a long tradition of operating with integrity and has adopted policies to help ensure continued high levels of ethics and business conduct. The Pinnacle West Ethics Policies and Standards of Business Practices are summarized in a publication called Code of Ethics and Business Practices, which is available to the public on both the Pinnacle West and APS websites. The Code builds on the corporate values of safety, integrity and trust, respect and accountability.

All employees can access the Code on the company’s website and the internal Ethics website. All company officers, board members and employees are required to take annual training on the Code and to pass an online test. The training is also available for the public to review on our website. The Code also places ethical expectations on contractors and third-party agents by stating: “We expect that our contractors and third-party agents will follow similar principles when working with or on behalf of our company.” The company also has a statement of ethical expectations applicable to all suppliers, which is available to view on aps.com.

APS employees, contractors and others who work with our company are strongly encouraged to report any questions or concerns related to our Code of Ethics and Business Practices—or any other issue regarding potential illegal or unethical conduct. They may go directly to our Ethics department or use the company’s Helpline (800-446-8441) or Helpline Web (www.ethicspoint.com). An outside firm operates the Helpline and Helpline Web 24 hours a day, seven days a week and affords employees the opportunity to ask questions and report concerns anonymously.

CODE OF ETHICS FOR FINANCIAL EXECUTIVES

Pinnacle West has adopted a Code of Ethics for Financial Executives, located on our Pinnacle West website.

ECONOMIC PERFORMANCE

Our economic performance is summarized in our annual report. Pinnacle West recorded net income of $406 million, or $3.66 per share in 2013, compared with net income of $382 million, or $3.45 per share, in 2012. Ongoing earnings were $3.66 per share, up 4.6 percent from last year. Our board of directors increased the annual dividend in 2013 to $2.27 per share. This was the second year in a row the dividend was increased, each time by 4 percent. Our goal is to continue increasing the dividend at a similar rate going forward.

For the third time in as many years, the three major credit agencies upgraded our corporate and unsecured debt ratings to A- or the equivalent. These are the strongest credit ratings we have had in 30 years. Our performance over the last five years continues to outpace our industry and the broader market. We have increased total
shareholder value by $37 billion over that time period.

Our Sustainable Cost Management Initiative continued to deliver value in 2013. We now operate with a more robust set of tiered metrics and performance targets, a rigorous business planning process and an embedded process improvement model. These initiatives, along with management attention, have helped keep our operations and maintenance costs in line with retail sales growth over the last several years.

Our job at APS is to power our state’s bright future with safe, reliable and affordable electricity. Our management team remains focused on performing that core business well. Our plan includes:

· Continued investments in the neighborhood-level power grid to ensure reliability in communities across Arizona.

· Targeted investments in smart-grid technologies that enhance customer satisfaction, improve power quality and enable the continued growth of distributed generation and other technical advances.

· New state-of-the-art generation, such as our planned modernization of Ocotillo Power Plant in Tempe, to provide reliable, affordable power that serves our customers day or night, rain or shine.

· Additional environmental controls for Four Corners Generating Station and certain other generating plants, to comply with increasingly strict emissions requirements.

· A 10-year plan for the construction of 275 miles of new high-voltage transmission lines to support reliability and deliver energy from renewable energy projects to population centers.

· The continuation of our AZ Sun program of large-scale solar generation, providing more solar to more customers at a lower cost.

· In total, we plan to invest $3.3 billion in Arizona’s electricity infrastructure through 2016. Looking even further ahead, we currently expect to grow our rate base from $7.2 billion in 2013 to $9.9 billion in 2018, for compound annual growth of approximately 7 percent.

ECONOMIC IMPACT ON OUR COMMUNITY

According to a 2010 economic impact report by Arizona State University’s W. P. Carey School of Business, APS contributed $3.4 billion to the Arizona economy and supported 39,200 Arizona jobs. You can read more about our economic development work in Customers & Community.
Effective stakeholder engagement is a critical part of our business plan and essential to our ongoing success. Our company has numerous programs and activities for engagement, communication and consultation with our communities and other stakeholders. This includes working with our stakeholders on a wide range of company issues such as developing our long-range resource plan, siting transmission lines and substations, bringing new economic development into our communities, developing our renewable energy portfolio and expanding our customer energy efficiency programs. Stakeholder engagement is not just a slogan with us—collaboration is the way we do business and a way we improve our business.

WORKING WITH OUR CUSTOMERS

Whether it’s through an Energy Forum, where we ask our customers to provide their input on our state’s future energy needs, or via an online survey, our company interacts with customers in a variety of ways. We utilize newsletters, our 24-hour call center, focus groups, office visits, our websites and our active community outreach and volunteer programs. The company also conducts semiannual customer satisfaction surveys.

APS is using popular digital communication channels to engage customers in new ways and open lines of dialogue. APS recently established a presence on Facebook (facebook.com/apsFYI), and on Twitter, @apsFYI keeps customers aware of the status of large outages, mainly during Arizona’s summer monsoon season. In addition, the instant-access nature of Twitter helps us keep the news media updated with accurate information, which benefits those customers who rely on the news. Twitter also allows us to proactively reach out to and assist customers who have experienced an issue and wrote about it online.

Beyond Twitter, the APS YouTube channel gives customers access to videos meant to both entertain and educate, often about energy efficiency programs that can help lower their electric bills. APS is committed to using these digital channels to benefit customers and will continue to look for more opportunities to do so.

APS offers a Spanish-language section on aps.com to communicate with the more than 32,000 APS customers who have indicated a preference for Spanish language communications. APS also provides a Spanish-language bill for customers who request it. Spanish-speaking customers also have the opportunity to interact with Spanish-speaking associates at our call center. Our goal is to provide the highest level of customer service to all of our customers.

From these customer interactions, we are better able to evaluate the results of our customer satisfaction efforts, reward top performing individuals and teams, and identify areas for continuous improvement. Customer satisfaction results play a role in the annual performance assessment for most leaders and managers. Results are also used to determine a portion of APS’ annual
company-wide incentive pay. Throughout APS, customer input and feedback is sought prior to and following major initiatives and events (such as new bill designs, rate adjustments and major curtailment efforts) to help direct communications and assess the impact on overall customer satisfaction. Additionally, customer satisfaction research results are used to identify and prioritize opportunities to improve and assist in decision-making and allocating customer service and related resources.

EMPLOYEES
APS produces a daily online newsletter called Newsline to provide employees and retirees with real-time news and information on important company issues and events. Important and late-breaking news is made available to the company’s managers and employees through various communication vehicles. The company’s Intranet site, Inside APS, can be accessed through all company workstations and is a one-stop resource for all company information. Employees can comment on articles and provide feedback. Pinnacle West also offers employees an online sustainability discussion board to promote employee dialogue about sustainability topics and ideas.

The APS Employee Suggestion Program is designed to give employees an opportunity to submit their ideas around innovation, cost savings and waste elimination. Employees can submit their ideas through an online form, and an employee “champion” from the appropriate area will follow-up on their suggestions. The employee receives periodic updates on the status of their suggestion. The Employee Suggestion Program is part of our larger employee engagement program called Power of One, which showcases how the power of one employee’s contributions, one team working together in the same direction and even one idea can improve how we work.

APS also has a Corrective Action Program (CAP). The Corrective Action Program (CAP) is a systematic process used to solve identified problems, including:

- Human performance issues
- Repeat equipment failures
- Programmatic and other deficiencies
- Fixing broken processes
- And other "corrective" actions

Corrective actions are entered into an online tracking system, assigned to specific people for evaluation, and followed through to correction. CAP promotes a self-critical and continuous learning environment by:

- Identifying, evaluating and addressing: the underlying causes of human performance errors, equipment failures, programmatic and other deficiencies
- Providing: the tools required to implement best human performance and practices to assure continuous improvement
LEARNINGS FROM THE CORRECTIVE ACTION ARE SHARED ACROSS THE COMPANY

In 2014, the company plans to conduct a comprehensive employee engagement survey to measure the feelings and attitudes of our employees. The survey will focus on a variety of issues relative to employee engagement, empowerment and energy, with the plan to identify and address areas of low employee engagement, including drivers of low engagement.

OUR COMMUNITY

APS works closely with municipalities, government agencies and the public to build consensus and proactively plan the generation, transmission and distribution resources necessary to accommodate the state’s customer and business growth. As part of the process, APS conducts environmental studies and extensive public outreach to identify sensitive areas in affected communities. This process is described in more detail in the Land Use & Biodiversity section of this report.

APS brings various stakeholders together in special focus teams to obtain feedback on specific issues or programs on an ad hoc basis. One example of this stakeholder process is our Demand-Side Management Collaborative Team. This group of external stakeholders is assembled on a regular basis to solicit input on the development and implementation of the company’s energy efficiency and demand response programs for customers. In addition, this group addresses and develops solutions for some of the issues facing our demand-side management programs, such as customer incentives and customer participation.

As part of an effort to engage community stakeholders, APS hosts a Community Partner Academy for local leaders. The two-day experience provides participants with an overview of the company and serves as a powerful tool for communicating with key constituents. We also have a formal corporate volunteer program, “Community Connectors,” that is an important part of our community outreach efforts. This extensive program partners Pinnacle West with communities across our service territory.

Likewise, our Small Business Development, Minority- and Women-owned Business Development, Statewide Economic Development and other business and community outreach programs all provide formal and ongoing outreach to our communities. These programs are discussed further in the Customers & Community section of this report.

TRANSMISSION AND DISTRIBUTION LINE SITING

APS conducts extensive environmental reviews for siting new transmission and distribution systems. For new power lines rated at greater than 115 kilovolts (kV), the Arizona Corporation Commission requires a Certificate of Environmental Compatibility (CEC) to be issued prior to construction. APS conducts a thorough siting process covering a broad range of environmental
issues and factors including land use, cultural resources, biological resources and habitat studies for rare and endangered species. APS also conducts a multi-faceted public process consisting of direct mailings, open houses, newspaper advertising and multiple jurisdictional, governmental and public meetings. APS also maintains a Transmission and Facility Siting website that provides ongoing information about siting projects to the public.

Beyond the regulatory programs, APS has a voluntary siting process for new transmission lines less than 115 kV and are not required to follow the process. This voluntary process is much like the CEC process with the evaluation of environmental factors and public participation for communicating transmission line siting and gathering public input. This allows APS to site transmission lines in the most sustainable manner that meets project requirements.

SELECTED AWARDS AND RECOGNITIONS

100 BEST CORPORATE CITIZENS
In March 2013, Pinnacle West was listed on Corporate Responsibility Magazine’s 13th annual list of “100 Best Corporate Citizens” for the third consecutive year. Pinnacle West ranked 35th overall from among thousands of companies worldwide. Recognized by PR Week as one of America’s top three most prestigious rankings for public companies, Corporate Responsibility Magazine’s “100 Best Corporate Citizens” list evaluates companies on their performance and transparency in five primary segments of corporate responsibility: energy and the environment, risk management, governance and compliance, employee relations and human rights.

TARGET ROCK UTILITY SUSTAINABILITY INDEX
Pinnacle West was one of three mid-cap utility companies recognized in the 2013 Target Rock Utility Sustainability Index. Implemented by Target Rock Advisors, LLC, the index measures the overall effectiveness of utility sustainability efforts using the “triple bottom line” standard: environmental stewardship, economic performance and societal contribution.

The awards were grouped into market capitalization categories to acknowledge the different challenges faced by utilities because of their size. The winners were chosen from a field of approximately 150 publicly traded energy utilities and related companies domiciled in the United States, representing some 350 distinct operating subsidiaries. Target Rock Advisors provides deep utility sector sustainability benchmarks and market indexes to facilitate sustainable planning and inform socially responsible investment decisions.

U.S. DOE/EPA SUSTAINED EXCELLENCE AWARD
In April 2014, the U.S. Environmental Protection Agency (EPA) presented APS with its Sustained Excellence Award for the utility’s continued
leadership in protecting the environment through energy efficiency. This was the fifth consecutive year the EPA recognized APS with this award. The honor recognizes APS as a national leader in promoting energy efficiency and reducing greenhouse gas emissions.

Award winners were selected from more than 17,000 organizations across the country participating in the ENERGY STAR program. Prior to 2012, just eight utilities nationwide earned the Sustained Excellence Award since the ENERGY STAR program began in 1992.

This is the eighth consecutive year APS has been recognized nationally by the EPA. In 2007, the company won Partner of the Year for Excellence in Program Delivery for its APS Residential CFL Lighting Program, and for the subsequent three years, APS won Partner of the Year for Excellence in Program Delivery for the ENERGY STAR Homes® Program.

**SOLAR ELECTRIC POWER ASSOCIATION**
In the Solar Electric Power Association (SEPA) 2013 Utility Solar Rankings, APS ranked third among American electric utilities for the most solar megawatts added to its system in 2013. This annual ranking is part of the SEPA’s Utility Solar Rankings report, which identifies national leaders in solar energy development. Last year, APS added 410 megawatts of solar to its generation portfolio.

SEPA is a non-profit group comprised of electric utilities, solar companies and other companies with an interest in solar electricity. From research projects and national events, to one-on-one counseling and peer matching services, SEPA is the go-to resource for unbiased and actionable solar intelligence.

**GREENTECH MEDIA**
For the second consecutive year, Greentech Media’s Top Networked Utilities Award recognized APS and nine other utilities in March 2013 for their innovative leadership in smart grid applications and “efforts to transform the electric utility industry.” The awards were based on nominations from the utilities and vendors, and judged by GTM Research Smart Grid Analysts. Greentech Media, headquartered in Boston, Mass., is a news, research and analysis firm in the business-to-business greentech market. GTM Research is the research arm of the company.

**KEEP PHOENIX BEAUTIFUL 2013 CORPORATE CHALLENGE WINNER**
APS was named the 2013 Corporate Challenge winner at the Keep Phoenix Beautiful Corporate Challenge, a citywide event where volunteers from Phoenix-area corporations participate in a beautification project.

**DEPARTMENT OF ENERGY’S NATIONAL RENEWABLE ENERGY LABORATORY (NREL) TOP 10 UTILITIES FOR RENEWABLE ENERGY**

**2013 TOP MILITARY FRIENDLY EMPLOYERS - G.I. JOBS MAGAZINE**

G.I. Jobs magazine has recognized APS as one of “America’s Top 100 Military Friendly Employers” for the first time. The company debuted at No. 60 on the list and joins U-Haul International as one of two Arizona companies ranked as “Military Friendly.”

G.I. Jobs magazine’s Top 100 list was drawn from a sample of 5,000 companies whose annual revenues exceeded $500 million. Criteria included the strength of military-recruiting efforts, the percentage of new hires with prior military service, retention programs, and company policies toward National Guard and Reserve service.
ARIZONA DIAMONDBACKS’ LIFETIME ACHIEVEMENT AWARD
APS received the Arizona Diamondbacks’ Lifetime Achievement Award at the D-backs’ Most Valuable Partner Awards event, acknowledging APS for its work with the Major League Baseball team in serving the community.

CHALLENGER SPACE CENTER FOUNDER’S SUPERNova AWARD
APS was presented the 2013 Founder’s Supernova Award by the Challenger Space Center. According to the Challenger Center, the Supernova Award is presented to a company, individual or organization that has been a longstanding supporter of the center and its mission.

PREVIOUS RECENT RECOGNITION

DOW JONES SUSTAINABILITY INDEX NORTH AMERICA
Pinnacle West was named to the Dow Jones Sustainability Index (DJSI) North America for eight straight years (2005-2012), and was one of only nine U.S. utilities in the Index.

First published in September 2005, the DJSI North America is often regarded as the premier index recognizing sustainable business practices for publicly held corporations. The Index is based on thorough quantitative and qualitative analysis of economic, environmental and social performance, and provides asset managers with reliable and objective benchmarks to manage sustainability portfolios.

ONE OF THE MOST INTELLIGENT ELECTRIC UTILITIES IN THE U.S.
In November 2011, Pinnacle West ranked fourth out of 78 U.S. electric utilities on the UtiliQ list, published by Intelligent Utility magazine and IDC Energy Insights. According to the ranking criteria, an intelligent utility is productive, uses resources wisely, deploys information and technology to the best advantage, provides options to its customers, maintains reliability and runs a sustainable business. The intelligent utility is steadfastly and thoughtfully realigning its objectives, business processes and technology to prepare for the future. The UtiliQ ranks utilities using an intelligence quotient (IQ) based on a company’s performance using five quantifiable intelligence metrics in the areas of productivity, renewable energy, smart grid initiatives, demand response/energy efficiency and information technology investment.

APS has been recognized as one of “America’s Top 100 Military Friendly Employers”
CHARTWELL BEST PRACTICES AWARDS
The Chartwell Best Practices Awards recognize excellence in utility best practices for marketing and customer service. Based in Atlanta, Chartwell Inc. is a specialized information provider that helps utilities improve their customer experience and, ultimately, customer satisfaction. Chartwell publishes case studies, quantitative research and industry data, and hosts conferences and other events for utility professionals.

APS was recognized in Oct. 2011 in the customer service categories among a collective 41 entries. It was the second time in three years APS won the award for Best Practices in Customer Service. Chartwell analysts recognized APS for the integration of its call center and website—a coordinated initiative to use customer service agents and technology improvements as a means to educate customers about the services available on the website and ultimately get more customers using aps.com. In 2009, APS won the award specifically for its proactive website.

CLAREMONT MCKENNA COLLEGE’S SOCIAL RESPONSIBILITY REPORT
Pinnacle West’s Corporate Responsibility Report received the highest overall score among utilities in the United States in the report 2009 America’s Largest Corporations: Utilities, Gas, and Electric Sectors Analysis by the Roberts Environmental Center at Claremont McKenna College (CMC). The Center, which analyzes social responsibility reporting efforts of domestic and international corporations, gave Pinnacle West’s report an A+. The next highest-ranked U.S. utility received a B+. 
$406 million net income, or $3.66 per share; (2012: $382 million net income, $3.45 per share)
37% reduction in average outages per customer; 27% reduction in average outage minutes per customer since 2003

410 megawatts of new solar power generation added in 2013

160-day continuous run for all three units at Palo Verde Nuclear Generating Station, second best ever at the plant

OPERATIONAL EXCELLENCE

A FUTURE in focus
WHEN OUR CUSTOMERS FLIP A SWITCH, THEY EXPECT ELECTRICITY TO BE THERE. WHILE THEY MAY TAKE RELIABLE ENERGY FOR GRANTED, WE TAKE THE RESPONSIBILITY FOR DELIVERING POWER SERIOUSLY.

OPERATIONAL EXCELLENCE

OUR ELECTRIC SYSTEM
Our customers have clear expectations of our company: we provide a safe, reliable and instantaneous supply of energy to power their busy lives. In order to meet those expectations, APS manages an electric system including power plants generating electricity, transmission lines carrying it from our power plants to substations, where it is regulated and transferred to the distribution system, which in turn carries the electricity to approximately 1.2 million residential, commercial and industrial customers across Arizona.

SYSTEM RELIABILITY
For APS, system reliability is a critical component of customer satisfaction. Our customers expect electricity to be there when they flip the switch, 24 hours a day, seven days a week. We take that responsibility seriously and are proud to report another exceptional year for our system reliability.

In 2013, APS customers saw an average of 0.78 outages. This reliability performance is the result of a concerted effort to improve the health of the electric grid over the last decade. Additionally, the System Average Interruption Duration Index (SAIDI) in 2013 was 71 minutes, placing APS’ system availability at 99.99 percent and above for the third year in a row.

APS is one of the nation’s most reliable utilities as measured by the average number and duration of service interruptions experienced by the typical customer. The company is a consistent top quartile performer for system reliability in the electric industry, and 2013 was no exception.
Despite the hottest summer on record, APS provided its approximately 1.2 million Arizona customers with an excellent level of reliability.

**GRID UPDATES & SMART TECHNOLOGIES**

Over the last 50 years, electric utilities have seen a number of changes with respect to the needs of its customers. Population and economic growth have resulted in both the physical expansion of utility service territories, as well as the total number of customers served. The evolution of customer end-use technologies (i.e., central air conditioning, computers, consumer electronics and electric vehicles) have increased both the total amount of power and energy consumed per customer, and customers’ reliability and power quality expectations.

The rapid advancement of the solar industry, specifically photovoltaics, has resulted in a dramatic increase in the total number of customer-sited distributed energy installations. To date, more than 20,000 APS customers have installed solar on their homes or businesses. These systems range in size from 2 kilowatts to 20 megawatts, depending on customer type and location. As the number of installations increase, APS will need to accommodate thousands of interconnection points of intermittent resources into a system traditionally designed to take power generated at a few central plant locations, transmit and distribute that power over the transmission and distribution systems, and deliver it to homes and businesses in a safe and reliable manner. The overall system was, for the most part, one-way power flow from source to load. With the integration of renewable resources, the system will need to accommodate two-way power flows and generation resources that will vary based on time-of-day and weather conditions, regardless of customer loads.

All of these changes, along with technology advancements on the utility side of the meter, have necessitated the need for grid modernization to meet the changing needs of our customers in the 21st century. The strategic deployment of advanced two-way communicating (“smart grid”) devices enable the utility to have greater visibility and automation of the grid to more efficiently manage the dynamic system, while providing more timely information to its customers to help them manage their individual energy needs.

By utilizing these types of devices, the utility gains a wide range of benefits. Along with
increased situational awareness, utilities can reduce labor costs associated with patrolling utility lines when determining outage locations and/or performing manual field switching. This results in lower maintenance costs and shorter outage restoration times. Other technologies provide greater asset health status, which in turn aids in the reduction of equipment failures or unplanned outages.

Customer benefits include increased reliability (fewer outages or faster restoration times), access to greater or timelier information (energy consumption history or system outage details), and the ability to take advantage of additional customer offerings (more rate options or new customer programs) to help them manage their overall energy needs.

**AUTOMATED METERING INFRASTRUCTURE (AMI)**
In the first quarter of 2013, APS installed the millionth automated meter. By the end of 2013, smart meters were deployed to over 98 percent of APS customers. Automated meters provide both APS and our customers numerous benefits: APS is better able to monitor power quality and measure demand more accurately, and customers have easier connections/disconnections, detailed energy monitoring (hourly and daily energy usage), and the ability to pick their billing cycle. There’s also an environmental and safety benefit—millions of avoided miles no longer needing to be driven by APS employees to read meters. In addition to the reduction in truck rolls due to monthly reads, APS has avoided nearly 1.6 million field service orders (as of April 2014) such as changes to a customer’s rate or customer connect/disconnect orders.

**OVER 1.2 MILLION AMI METERS DEPLOYED IN APS SERVICE TERRITORY**

<table>
<thead>
<tr>
<th>Installed AMI Meters</th>
<th>Yet to be Deployed</th>
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<tbody>
<tr>
<td>98%</td>
<td>2%</td>
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**ADVANCED DISTRIBUTION MANAGEMENT SYSTEM (ADMS)**
The Advanced Distribution Management Systems (ADMS) program employs a collection of technologies to manage the distribution system. This project combines the following programs into one system for distribution operators: Distribution Supervisory Control and Data Acquisition (DSCADA), Distribution Management System (DMS), and Outage Management System (OMS). Deployment is planned for 2014 through 2016. ADMS will help us understand asset health, improve outage management (return-to-service), optimize trouble call management, and enable condition-based maintenance programs.

**COMMUNICATING FAULT INDICATORS**
Communicating Fault Indicators (CFI) are devices indicating rapid changes in current. They provide real-time data to system operators for detecting and locating problems on the system and enable faster power restoration. The devices can be installed on overhead and underground distribution lines to detect whether current is flowing abnormally on the line and then communicate that status via cellular communications or visual indication on the device. This information can be used to identify
the location of system problems. Having this information upfront will help operations personnel patrol a line more efficiently and enhance system reliability.

COMMUNITY POWER PROJECT/HIGH PENETRATION SOLAR DEPLOYMENT STUDY
APS and its partners received a $3.3 million grant from the U.S. Department of Energy as part of the American Recovery and Reinvestment Act to study the effects of a high concentration of solar energy along a single electric distribution line. In 2010, APS began the procurement process to generate 1.5 megawatts of power from distributed sources, primarily solar panels. All installations began generating energy to the grid in early 2012. One-third of the energy comes from solar panels on 125 residential rooftops, one-third from a solar panel installation at an elementary school, and one-third from banks of solar panels at a neighborhood-scale solar plant. Due to the high level of solar production, APS embarked on the High Penetration Solar Deployment Study and is analyzing this distribution line to determine effects on the system. This multi-year study will help APS better prepare for an increase in solar on customer homes throughout the service territory.

LOAD RESEARCH DATA ANALYSIS TOOL/DEMAND PROFILE TOOL
APS has utilized the data from AMI meters to develop the Load Research Data Analysis Tool and the Demand Profile Tool to more accurately determine customer demands by class and rate. The Load Research Data Analysis Tool is used to determine if the money collected through the company’s rates appropriately covers the cost APS incurs to serve customers. The Demand Profile Tool analysis determines the average 24-hour load profile for each rate class for a given date range. APS uses these tools for various business needs such as load research, customer marketing, rate design and regulatory data requirements.

DISTRIBUTION FAULT ANTICIPATION
APS is working with Texas A&M University to test Distribution Fault Anticipation (DFA) devices. Similar to how different notes are played on a guitar, researchers have learned that failing equipment and different power line faults give off specific vibrations. By knowing the digital signatures of these vibrations, sensors allow APS to analyze them to understand current grid and equipment conditions. This enables APS to do preventive maintenance or respond faster to outages.

FIRE MITIGATION
The Fire Mitigation project is an initiative taken by APS to help reduce the likelihood of fire caused by the electrical system. This project involves deployment of new fuses that minimize discharge, a software program that helps determine ground faults, and devices that communicate when the power goes out. By June
2014, APS will complete the installation of more than 1,000 fuses on approximately 30 high-risk distribution lines in our Northwest and Northeast divisions. These feeders were selected by experts from our Forestry, Operations and Maintenance departments. This technology will help mitigate the risk of starting a fire and will notify distribution operators when an issue arises so they can respond more quickly.

**Flagstaff Smart Circuit Pilot**

APS is testing devices on power lines in Flagstaff that communicate with one another and central computers to isolate faults between poles and re-route power in the event of an outage. This reduces the amount of customers affected by an outage and helps APS speed the dispatch and repair process. The pilot has already reduced customer outage times by more than 65 percent.

**Home Energy Information Pilot**

APS began a two-year test of home energy usage with approximately 350 customers in the summer of 2013. The objective is to test the customer conservation effects of smart thermostats and mobile phone applications that display real-time energy use. APS also will test voluntary demand-response programs and pre-paid energy programs. We anticipate this pilot will help APS manage energy supply as it provides customers additional information and tools to help them manage their overall energy needs.

**Integrated Volt/VAR Control Pilot: Pioneer & Mazatzal**

In 2012, APS began testing Integrated Volt/VAR Control (IVVC) devices at its Pioneer substation in North Phoenix and Mazatzal substation near Payson. IVVC is the combination of software and devices along the distribution line to help keep voltage in a tighter range. Greater control of the voltage allows APS to minimize system losses and reduce power demand during periods of system peak. IVVC will also help improve Distribution Operations Center (DOC) visibility of the feeder voltage values to ensure customers are getting proper voltage.

**Network Protectors**

For customers such as hospitals, hotels and high-rise buildings requiring continuous power,
APS uses a spot network that provides redundant transformers, each powered from separate distribution lines. Network protectors communicate key spot network statistics to the operators in the DOC. This information improves the opportunity to identify problems and take mitigating actions prior to a catastrophic event. This visibility can reduce the cost of operations and maintenance through proactive monitoring.

**PHASOR MEASUREMENT UNITS**
A phasor measurement unit (PMU), or synchrophasor, is a device that measures alternating current (AC) waves on the high voltage transmission. These synchrophasors identify and analyze system vulnerabilities in real time, and detect evolving disturbances to minimize the possibility of widespread system blackouts. This information can also help determine the contributing factors in a transmission-level event.

**SOLAR PRODUCTION METERS**
A solar production AMI meter measures a solar installation’s energy production and communicates the information back to APS. APS then uses this information to help system operators better understand the amount of solar being generated and predict future solar generation. This information is also used to help refine the prediction algorithms used to help APS manage real-time power purchases to meet system needs.

**SUPERVISORY CONTROL SWITCHES**
A Supervisory Control Switch (SCS) is a switch that can be controlled from within the DOC. These switches allow the operators to remotely pick up, drop or shift load without sending out a Troubleman. Historically, a Troubleman would be called out to a site during an outage and have to manually operate the switches with the guidance of the operators. By automating these switches, customers will experience shorter outages due to eliminating the time spent by the Troubleman being called, traveling to the site and operating the switch.

**TRANSFORMER OIL ANALYSIS AND NOTIFICATION (TOAN)**
The Transformer Oil Analysis and Notification (TOAN) system is a device added to existing substation transformers to monitor their health. Once enabled, TOAN alerts APS operators when a transformer is experiencing abnormal conditions such as an increase in dissolved gases in the transformer oil. TOAN is twice as accurate (greater than 93 percent) as industry-standard diagnostic techniques. TOAN also helps APS proactively maintain substation transformers. APS’ TOAN project created the first automated system in the nation to combine online monitoring of transformer dissolved gases with analysis and notification of abnormal conditions. APS has two patents on the system.
TRANSMFORMER LOAD MANAGEMENT
Transformer Load Management (TLM) is a software application using AMI meters to determine the load on neighborhood transformers. TLM adds up hour-by-hour meter reads to calculate the hour-by-hour load on the transformer. With this loading information, APS can determine if a transformer is sized properly or if it should be upgraded to a more appropriate size. This tool is used by APS planners and designers when a customer adds load—such as an electric vehicle, pool pump or Jacuzzi—to the transformer. Additionally, this tool is used by DOC operators to determine proper sizing whenever there is an outage caused by a failed transformer.

ELECTRIC VEHICLE PROGRAM
Electric vehicles decrease emissions, reduce reliance on foreign oil, help the local economy, and are cheaper and easier for the customer to own. As such, in 2011 the Arizona Corporation Commission approved a residential time-of-use rate to support customers purchasing electric vehicles (EVs). The three-year pilot enables customers to save money by charging their EVs at night when demand on the system is at its lowest. At the end of 2013, there were 86 customers on the ET-EV time-of-use-rate. APS is also working with local stakeholders to help develop policies that promote the adoption of electric vehicles through the founding of the EVAZ Stakeholder Group.

ELECTRIC VEHICLES IN APS SERVICE TERRITORY (SOURCE: EPRI)
Through the use of these advanced operational platforms, robust system health monitors, and remote automation, APS is ensuring a flexible and adaptable grid that meets the future needs of its customers while delivering safe, reliable and cost-effective energy.

APS FOSSIL GENERATION
Electrical generation is part of our core business. We obtain most of our energy from APS-owned generating sources, supplemented by long-term power purchase agreements and spot market purchases. APS maintains a diversified mix of energy sources, including coal, natural gas and nuclear energy, as well as an increasing portfolio of renewable energy sources.

A diverse fuel mix is critical to manage overall price volatility for our customers, and to insulate against risks in commodity supply chains such
The facility is necessary to supply continuing load growth, as well as provide quick-start backup to variable renewable resources. Its location is perfectly suited to support the Phoenix area during peak conditions.

APS is committed to a transparent public process. Information about the Ocotillo project is available on azenergyfuture.com/ocotillo. The public can submit comments through the page and APS will hold at least two public open houses to share information and gather feedback.

**SHUTDOWN OF FOUR CORNERS UNITS 1-3**

In August 2012, the U.S. Environmental Protection Agency issued its Best Available Retrofit Technology requirements for the coal-fired Four Corners Generating Station on the Navajo Nation. The order required installation of expensive Selective Catalytic Reduction (SCR) systems on all five units. Rather than make significant investments in smaller, aging coal units, APS decided to shut down units 1-3 and install the SCR technology on the newer, more efficient units 4 and 5.

With the shutdown of units 1-3, and Southern California Edison’s requirement to divest itself from coal resources, APS was presented with a unique opportunity. The plant, a major source of employment in the area, will continue to operate and provide hundreds of jobs to the local community. APS customers benefit because the lost capacity is replaced at a very competitive cost.

The project is critical to the Phoenix metropolitan area and provides several benefits. It supports service reliability, improves the plant’s appearance, is better for the environment, creates construction jobs and adds additional tax revenue to the local economy.

In early 2014, APS announced plans to install five combustion turbines and decommission two existing natural gas boiler units at the Ocotillo Power Plant in Tempe, Arizona.

The 2014 and 2029 energy mixes show the shift towards cleaner energy sources. The 2014 energy mix is dominated by natural gas and nuclear, while the 2029 mix has a higher percentage of renewable and distributed energy (RE/DE). The shift reflects APS’s commitment to diversifying its energy portfolio and reducing emissions.

By shutting down the older units and installing additional pollution controls on the newer units, APS is able to make a significant contribution to improving air quality in the area: emissions of...
Palo Verde marked a number of milestones in 2013. Between April 28 and October 5, all three units ran uninterrupted. This 160-day stretch is the second best in plant history. The spring unit 1 refueling outage lasted 29 days and 18 hours, the shortest duration in Palo Verde’s history, breaking the previous record of 31 days in 2012. Palo Verde unit 2 produced more energy than any other nuclear reactor in the United States, and placed second in the world. Unit 2’s 94.78 percent capacity factor was the highest of all plants in the top 10 producers.

NUCLEAR WASTE
Like all nuclear power plants, Palo Verde produces nuclear waste in the form of spent fuel, along with other low-level waste such as particulates are expected to decline by 43 percent, nitrogen oxide (NOx) by 36 percent, carbon dioxide (CO2) by 30 percent, mercury by 61 percent and sulfur dioxide (SO2) by 24 percent. Furthermore, water use at the plant will decrease by 6,000-acre-feet per year.

STARTUP RELIABILITY
2013 marked another year of improvement in the startup reliability performance of our gas turbines. Reliable startups help maintain grid stability by ensuring available power when needed. Our natural gas fleet—Redhawk, Sundance, West Phoenix and Yucca plants—had combined startup reliability of over 97 percent, with Sundance leading the way at 99 percent. APS owns 29.1 percent of Palo Verde’s units 1 and 3. APS owns about 17 percent of unit 2 and leases an additional 12.1 percent, resulting in a 29.1 percent combined interest.

Nuclear power is a critical aspect of our climate change response, generating large amounts of electricity with essentially no carbon emissions. With the 2011 license extension, Palo Verde units 1, 2 and 3 are expected to operate until at least 2045, 2046 and 2047, respectively.

APS is the operator and part owner of the Palo Verde Nuclear Generating Station, located 50 miles west of Phoenix, Ariz. Palo Verde has been the largest nuclear generation facility in the United States for 22 consecutive years. Its three units have produced over 30,000 gigawatt hours of energy in nine different years since entering operation.
With Palo Verde approaching 25 years of operation, the design life of the evaporation ponds was reached. But, in order to reline a pond, it must first be emptied. How to empty a pond without any place to put the water? Build another. In the end, Palo Verde designed a robust system of interlinked evaporation ponds that allow operators to maximize evaporation, and rotate water as necessary to reline or make repairs. In 2013, the last of the evaporation ponds was placed into service after relining.

The liner system represents new best available control technology for evaporation ponds. They are double-lined ponds, with a leachate collection system. This advanced system allows operators to determine where leaks are coming from and measure the rate of leakage through the first layer. If the leak rate exceeds a certain threshold, the water is transferred to another pond and the leak repaired. This system provides operators flexibility and a substantially increased margin of safety for preventing leaks.

**FUKUSHIMA**

Following the 2011 Tōhoku earthquake and tsunami, and the resulting issues at Fukushima Daiichi, Palo Verde initiated an internal review of risk evaluation and emergency preparedness issues, treating the disaster as a lesson-learned opportunity to drive continual improvement.

The Nuclear Regulatory Commission (NRC) issued a series of interim staff guidance documents regarding implementation of recommendations resulting from their evaluation of the disaster. The NRC has directed nuclear power plants to implement the first tier recommendations of the NRC’s Near Term Task Force. In response to these recommendations,
Palo Verde expects to spend approximately $100 million for capital enhancements to the plant over the next several years. APS’ share of the cost will be 29.1 percent.

**EMERGENCY PLANNING**

Emergency planning for Palo Verde is a cooperative effort involving Pinnacle West, APS, the State of Arizona, Maricopa County and the Town of Buckeye.

All planning activities represent a comprehensive response to federal regulations and guidelines. The Arizona Division of Emergency Management’s Radiological Emergency Preparedness Program has detailed information on emergency planning for Palo Verde.

You can access more information about the Palo Verde Nuclear Generating Station here: aps.com/renewable energy.

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**APS RENEWABLE ENERGY**

APS continues to be a leader in the development and testing of renewable resources, particularly solar energy. We believe investing in renewable energy will result in environmental benefits, hedge the costs of potential climate legislation and the increasingly stringent environmental regulation of fossil-fueled generation, and provide an economic boost to our state.

In 2014, we expect renewable energy to supply about 9.5 percent of our retail customers’ electricity needs. Renewable energy is a critical component of our long-range resource plan. APS projects 3 percent annual load growth over the next 15 years, resulting in a peak demand of approximately 13,000 megawatts (MW) by 2029. Accelerating the development of renewable energy is a linchpin in meeting this growth. For more information about APS’s renewable resources, look at our renewable portfolio.

**SOLAR**

In 2013, APS added approximately 410 MW of large-scale and customer-owned solar capacity to our system. To date, APS has spent nearly $1 billion on solar projects in the state and has 750 MW of solar capacity available on the system through ownership and power purchase agreements. This solar capacity is enough to serve approximately 185,000 customers.

**AZ SUN PROGRAM**

With the AZ Sun Program, APS is investing in the development of up to 200 MW of photovoltaic solar projects in Arizona. The five-year program is expected to have at least eight solar facilities online by 2015 and create more than 2,000 Arizona construction jobs. In 2013, APS saw three AZ Sun facilities reach commercial operation. Currently, the AZ Sun Program is producing 118 MW of clean, renewable energy for customers—with more on the way.
RENEWABLE & DISTRIBUTED ENERGY PRODUCTION

SOLANA GENERATING STATION
Last year, construction on the 250-MW Solana Generating Station was completed and placed into service. The highly anticipated concentrating solar project—one of the largest in the world—has been successful in demonstrating the feasibility of storing solar energy for use after the sun goes down. Solana is able to provide six hours of full-capacity operation from stored solar energy.

Unlike photovoltaic solar power, concentrating solar power plants allow for the storage of thermal energy in molten salt heat storage vessels. The plant design is similar to a traditional coal or natural gas power plant—except the heat source to produce steam is the sun, rather than fossil fuel. When the sun is at its peak, Solana is able to collect 1.75 times as much heat as the turbine can use. This extra energy is stored by melting salt in insulated vessels. The energy stored in the molten salt can provide heat to drive the turbines at full output for six hours after the sun goes down.

RENEWABLE ENERGY INCENTIVE PROGRAM
To help customers with the cost of adding renewable energy systems to their homes or businesses, APS offers its Renewable Energy Incentive Program.

GREEN-E CERTIFICATION
Green-e is a national certification and verification program for renewable energy developed, offered by the nonprofit Center for Resource Solutions (CRS). This certification recognizes the renewable energy for meeting environmental and consumer protection standards. Through certification, the APS Green
Choice program utilizes the Green-e logo on the APS website. Since 2008, all of APS’ Green Choice renewable energy has been sold under this certification program.

RENEWABLE ENERGY STANDARD & DISTRIBUTED ENERGY
In 2006, the ACC adopted the Arizona Renewable Energy Standard (RES). Under this standard, APS must supply an increasing percentage of retail electric energy sales from eligible renewable resources, including solar, wind, biomass, biogas and geothermal technologies. The renewable energy requirement increases annually until it reaches 15 percent in 2025. In APS’ 2009 regulatory settlement agreement, APS committed to an interim renewable energy target of 10 percent by year-end 2015, which was double the existing RES target of 5 percent for that year.

For detailed information on our renewable energy performance in 2013, please review our 2013 Renewable Energy Standard Compliance Report.

ENERGY EFFICIENCY
Helping our customers use electricity more efficiently is a critical component of our sustainability efforts. By taking steps to conserve energy, customers can reduce their costs and also provide significant benefits to the environment. APS offers a wide variety of demand-side management (DSM) and energy efficiency programs to our residential and business customers. These include rebates and incentives for installing energy efficient equipment, as well as training and energy information services to help customers improve operating efficiency and reduce demand.

Conserving energy means less power needs to be generated to meet customer demand, resulting in reduced levels of emissions impacting the environment and fewer resources consumed in energy production. Looking to the future, energy efficiency allows APS to defer the construction of new generation to meet the demand for electricity. As shown in the graph on the following page, by 2020 APS’ energy efficiency programs will accumulate electricity savings equal to the output of eleven 100-MW gas-fired peaking units.

Our 2013 Energy Efficiency and Demand-Side Management goal was to save 530,500 megawatt-hours (MWh); we achieved 538,841 MWh of reduction, 101.6 percent of our goal. This exceeds the 5 percent cumulative requirement set by the ACC.

<table>
<thead>
<tr>
<th></th>
<th>2013 AVOIDED</th>
<th>CUMULATIVE AVOIDANCE</th>
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</thead>
<tbody>
<tr>
<td>WATER (MILLION GALLONS)</td>
<td>1,558</td>
<td>8,014</td>
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<tr>
<td>SOX (POUNDS)</td>
<td>21,864</td>
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<td>NOX (POUNDS)</td>
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<td>CO2 (MILLION POUNDS)</td>
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<tr>
<td>PM10 (POUNDS)</td>
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</table>

ENERGY EFFICIENCY STANDARD
In 2010, the ACC established one of the most aggressive energy efficiency standards in the nation. The policy requires APS to achieve a
savings equivalent to 22 percent of retail sales by 2020, and provides performance-based incentives when we achieve those savings.

In 2013, the energy efficiency requirement was 5 percent of APS retail sales. We achieved 538,841 MWh of savings: 101.6 percent of the commission’s goal. We achieved the cumulative MWh savings goal and spent $18.5 million less than the 2012 budget.

Moving forward, our 2014 Integrated Resource Plan identifies demand-side management, energy efficiency and other innovations in that space as key resources to meet increased demand.

For more detailed information about our demand-side management programs and energy efficiency, check out our 2013 DSM Compliance Report.

**APS ENERGY STAR HOMES**

The APS ENERGY STAR Homes program was developed in 2006 to bring homeowners the best in energy-efficient construction. The program has been recognized nationally and has received the Environmental Protection Agency’s Partner of the Year Award from 2007 through 2013. The ENERGY STAR awards are presented to a select group of organizations exhibiting outstanding leadership year after year. Award winners are selected from the more than 17,000 ENERGY STAR participating organizations across the country.

When designing and building homes, APS ENERGY STAR homebuilders include such features as:

- Improved insulation
- Sealed ducts and building envelope
- Balanced room air pressure to improve air flow throughout the home
- High-efficiency heating, air conditioning and fresh air ventilation
- Efficient windows
- ENERGY STAR lighting and appliances

In return, the builders receive up to $1,500 per house, sales and technical training, advertising and marketing materials from APS.

**ENERGY EFFICIENCY FOR ALL CUSTOMERS**

APS has a robust portfolio of energy efficiency programs that allows all APS residential and business customers the opportunity to participate in at least one program and save money on their electric bill. These are details on our APS website.

**APS ENERGY WISE LOW INCOME ASSISTANCE PROGRAM**

APS’ Energy Wise Low Income Assistance Program is designed to improve the energy efficiency, safety and health attributes of homes for customers whose income falls within the defined federal poverty guidelines. This program
serves limited-income customers with various home improvements including cooling system repair and replacement, insulation, sunscreens, water heaters, window repairs and improvements as well as other general repairs. In addition, low income families are provided Crisis Bill Assistance. The program is administered by various community action agencies throughout APS’ service territory.

**SHADE TREE PROGRAM**

Customers can get free trees and planting directions through our Shade Tree program. Trees are planted in locations that shade customers’ homes from the sun, reducing cooling costs in the hot Arizona desert.

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**EMERGENCY OPERATIONS**

In 2013, APS established an Emergency Operations Center (EOC) to support company operations and respond to emergency events. The Corporate EOC is a location where key individuals from throughout the company can be deployed to share information and make critical decisions. There is a primary and a backup facility to provide a variety of communications technologies supporting operations in emergency circumstances. In addition to the physical infrastructure, APS has business continuity and emergency response plans to ensure we have the best chance possible of minimizing system impacts and reduce the impact of contingency scenarios.

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**APS SUPPLY CHAIN**

**SUSTAINABLE SUPPLY CHAIN MANAGEMENT**

At APS, our goal is to acquire goods and services from suppliers who share our commitment to social, environmental and economic sustainability goals. We want to do business with companies who wish to contribute to a sustainable energy future. To help identify suppliers who share our goals, our sourcing events for goods and services routinely include questions related to sustainability and environmental performance. Supplier responses are evaluated during the selection process.
Our top tier suppliers’ ongoing performance and improvements on sustainability matters are discussed during regularly held supplier performance review meetings. Supply Chain Management (SCM) maintains extensive relationships with our suppliers, engaging them in value-enhancing partnerships. We work with our suppliers to mutually align our goals and measure performance using agreed upon key performance indicator (KPI) scorecards. We have mutual respect for each other’s expertise and ideas as we jointly seek to create and enhance our sustainability practices.

SCM standardizes its own operations by identifying and driving center-led processes, including the way APS engages in procurement or vendor-related practices. Sustainable decision-making is optimized by using systems and deploying processes to enable company subject matter experts in conducting thorough analyses.

**ENERGY UTILITY INDUSTRY SUSTAINABLE SUPPLY CHAIN ALLIANCE**

In 2008, APS joined the Electric Utility Industry Sustainable Supply Chain Alliance, a group of North American electric utility companies formed to improve the environmental performance in the electric utility industry supply chains. The Alliance seeks to do this by developing voluntary consensus standards for the creation of a supply chain that is environmentally responsible, efficient, cost effective and positively impacts communities. Methods for this include:

- Minimizing the impacts on the environment of our supply chain operations and the products and services we source
- Continuing to emphasize supplier diversity, protecting the health and safety of our employees, and contributing to the well-being of the communities we serve
- Utilizing lifecycle economics and efficient supply chain operations while ensuring the reliable delivery of products and services

APS provides a leadership role in the Alliance in several areas. In 2013 and 2014, Barbara Gomez, APS vice president and chief procurement officer, holds the role of Alliance Chair. She provides leadership and overall direction, as well as leading the strategic planning and goal evaluation process. APS is also the executive sponsor of Alliance committees and working groups including Project Management Office and Supplier Sustainability Survey.

In 2013, the Alliance developed and made publicly available the best practices for utility wood poles by identifying utility and supplier best practices to reduce the overall life cycle environmental impacts of the product. In addition, the Alliance enhanced its annual supplier survey to gather more relevant data on supplier sustainability practices. This information will be used to create initiatives for suppliers to develop, implement or enhance their current sustainability efforts. Best practice sharing between utilities is a key component to the Alliance. APS has shared practices including double stacking transformers to minimize logistics and handling.

**POLICIES AND PROGRAMS SUPPORTING A SUSTAINABLE SUPPLY CHAIN**

Procurement staff are the purchasing experts of APS. Prior to making purchases, procurement staff evaluate requests to verify if there is a more
All hazardous materials used by the company are required to be reviewed by a chemical review team prior to purchase to ensure the use of materials with lower environmental and safety impacts. The teams review new products and compare them to existing products to see which provides the greatest overall benefit to the company. These teams also provide ongoing reviews of current products to evaluate for “greener” alternatives. Through this process, APS has reduced the number of chemical products used across our system and reduced the potential risk of the chemical products we use by substituting products with a lower potential for health or environmental impacts.

2013 SUPPLY CHAIN SUSTAINABILITY INITIATIVES
Logistics and Warehouse Operations play a significant role in SCM’s sustainability efforts. These groups coordinate the timely shipping and receiving of materials to and from the end user. In 2013, these departments worked together to improve efficiencies as material was issued and staged for transportation. To avoid lost productivity and increased handling, material is now issued once Logistics receives a request. This request provides a reliable need date, and

sustainable option available and help APS avoid additional costs. This includes refurbishing existing equipment when possible, seeking supplier expertise on comparable products that can meet our needs, and working with end users to clarify requests and avoid extraneous orders. In 2013, SCM procurement staff recognized nearly $200,000 in avoided costs by exercising care and diligence when placing orders.

APS’ Environmental and Safety policies confirm our corporate support for green procurement, including sections on use of safe products and services, sustainable use of natural resources, stewardship of natural resources and pollution prevention. Our internal corporate procurement procedures further defines this policy. The purchase of all products, including chemicals and hazardous materials, will only be made after consideration of the product’s total life cycle. Prior to procurement, materials must be evaluated for environmental attributes such as recycled content, toxicity and disposal options. Employees making procurement decisions share in this responsibility to minimize adverse environmental impacts and future liability.
confirmation that each order has been authorized for shipment. New stalls for staging now clearly identify which order belongs to which destination and all material is labeled and separated to avoid arrival at incorrect destinations. Improving the efficiency of this process reduces the number of material handling touch points and potential restocking for items ordered significantly ahead of the actual need date.

In support of APS’ commitment to continuous improvement, SCM is working on several sustainability initiatives begun in 2013 for 2014 implementation. The initiatives include:

- Implementing a centralized online document storage to encourage and expedite document sharing while remaining in accordance with APS document retention policies
- Updating and enhancing our Supplier Code of Conduct
- Enhancing purchase order processes to document and record the efforts taken to minimize economic, environmental and social risks

MATERIAL DATA SAFETY SHEET
All chemical products used at APS are included in an electronic material safety data sheet (MSDS) system available to any employee across the company. APS facilities may use only those products approved for use and which are coded on this system. The electronic MSDS system provides other benefits to our environmental, health and safety efforts by allowing us to quickly identify the specific chemical ingredients contained in the products at our facilities, while highlighting the risk profile of specific products.

APS has transitioned to the Globally Harmonized System for Hazard Communication (GHS). We have updated the Hazard Communication training to address the new GHS standards, and ensured all employees were trained by our internal October 25, 2013, deadline. We have also implemented an effective, web-based system called SiteHawk.

CONTRACTOR SAFETY
APS has a contractor safety program to communicate the minimal requirements we expect of our contractors in terms of environmental compliance and employee safety. Suppliers complete a safety questionnaire at least once a year to gather information about several different safety statistics.

Contractors are expected to follow the same safety and environmental performance as APS employees. Procurement staff will be notified on a monthly basis of any contractors who do not meet the minimum requirements. For contractors who do a substantial amount of work at APS sites, their current safety record and related metrics are reviewed and discussed during periodic supplier performance reviews.

SUPPLIER OF THE YEAR AWARD
In 2012, APS worked with more than 4,000 suppliers and spent more than $1.2 billion while building relationships that are dependable and cost effective. In its annual tradition, APS recognized six suppliers who delivered exceptional value to the company and its customers, while also exhibiting a commitment to APS’ company values. APS employees nominated the 2013 Supplier of the Year award...
winners based on the supplier’s performance, customer service, value-added relationship, commitment to sustainability, engagement in the community and focus on health, safety and environmental concerns in 2012.

SUPPLIER RELATIONSHIP MANAGEMENT
The APS Supply Chain Management team followed the 2013 Supplier of the Year Awards with its first Key Supplier Forum, featuring attendees from 25 of APS’ key suppliers.

These key suppliers represented approximately 25 percent of APS supply chain spend in 2012 and provide critical products and services to multiple areas of the company. The concept behind the forum was to bring together suppliers and APS’ senior leaders for a day of relationship building and knowledge sharing. APS leaders expressed their interest in suppliers becoming more than just commodity providers, but becoming true partners for the mutual success of everyone.

Environmental department in the ISO 14000 certification of the APS Deer Valley location. Also, the IR team was able to help APS avoid over 8.7 million pounds of landfill waste last year. This total represents 39 percent of all waste from APS. Through its efforts to identify and sell reusable equipment and materials, the IR team generated about $1.8 million dollars in asset sales.

SUPPLIER DIVERSITY PROGRAM
APS’ commitment to supplier diversity is ingrained in the understanding that the participation of diverse suppliers in the procurement process is “just good business.” While the basis of our commitment to diversity may appear straightforward, the effects of this strategy are complex and far reaching. Our efforts have a positive and influential effect on targeted sectors of our local economy that might not otherwise engage in business with large corporate partners. In the end, the supplier diversity goal is to leverage diverse business participation to ensure the highest quality goods and services purchased at competitive prices are integrated into the company’s supply chain.

The Supplier Diversity program continues to grow by introducing mentoring and education initiatives to assist diverse businesses in building
their capacity. By identifying existing high-quality diverse businesses, these efforts will develop today’s tactical vendors into tomorrow’s strategic partners.

2013 SUPPLIER DIVERSITY AND DEVELOPMENT TARGETS AND RESULTS
APS’ 2013 supplier diversity goals once again set the bar high for the business units and SCM. For 2013, our target spend was $105 million; we exceeded that goal with $123 million spent, 17 percent above our goal. In the past five years, APS’ direct spend with diverse businesses has exceeded $490 million. Since the inception of the Supplier Diversity program over 20 years ago, APS has spent more than $1.5 billion with certified diverse businesses.

Every year, APS aims to increase not only the spend with our diverse suppliers, but also the number of our diverse suppliers. In 2013, we conducted business with nearly 200 diverse suppliers in the various areas of our company. To engage more diverse suppliers, the Supplier Diversity group hosts “How To Do Business with APS” workshops and attends select conferences related to diverse supplier business opportunities.

DIVERSE SUPPLIER EXCELLENCE AWARDS
APS celebrated five diverse businesses based on their 2012 performance at the APS Diverse Supplier Excellence Awards. The annual event spotlights the top minority- and women-owned suppliers who have provided exceptional service and a commitment to APS’ core values of community involvement, high performance and operational excellence, commitment to sustainability and value-added partnership. Two of the 2013 winners were also awarded the distinguished title of Supplier of the Year. In addition, two other winners were multi-year awardees for the Diverse Supplier Excellence awards and Supplier of the Year awards.

TAKING AAAME AT SMALL BUSINESS
The APS Academy for the Advancement of Small, Minority and Women-Owned Enterprises (AAAME) is a nine-month business mentoring program designed, sponsored and administered by APS. Participants must be a certified or certifiable diverse business enterprise. We define a diverse business enterprise as a company at least 51 percent owned and controlled by an individual whose business is defined as a Minority Business Enterprise, Women Business Enterprise, or Service-Disabled Veteran-Owned Small Business. Eligible participants must provide a product or service a utility can reasonably be expected to utilize.

AAAME participants meet twice a month as a group and once a month with their APS mentor. Throughout the AAAME program, participants receive training and mentoring in utility specifics, business growth and strategic
APS FACILITIES & FLEET

APS FACILITY ENERGY MANAGEMENT

As energy leaders in Arizona, we have a responsibility to aggressively pursue energy efficiency in our own facilities, as well as those of our customers. One key area of effort in our cost and energy management is the reduction of office space in use.

APS has established a voluntary internal energy use metric that measures our annual electric consumption at all metered facilities across our organization. The metric sets a goal of a 1-to-3 percent annual reduction in energy use each year between 2009 and 2013. This metric allows us to monitor the effects of our various energy efficiency efforts at facilities across our company.

Our 2013 metered electricity use was 32,464 megawatt-hours (MWh), compared to 2012 use of 35,040 MWh.

Significant fluctuations in weather, particularly summer heat in the Valley and winter temperatures in the northern regions, have an impact on energy use. Constant changes in the number, size and occupancy of our facilities directly impact energy consumption, can make metrics difficult to accurately measure and verify. We are currently working toward implementing the ENERGY STAR rating system at all of our metered facilities. This will standardize the methodology by normalizing variables to provide consistent feedback on how efficiently our facilities are operated. APS’
Corporate headquarters and Paradise Valley Service Center have earned the ENERGY STAR designation for the past three years. In addition to managing our energy usage at existing facilities, we have committed to design, construct and operate our new and remodeled facilities to the ENERGY STAR and LEED Silver standards.

In 2003, our corporate headquarters in downtown Phoenix was converted to the Northwind Cooling system. The system uses an industrial grade, ice-based chiller that manufactures three million pounds of ice each night when utility loads and rates are lowest. Northwind serves a number of downtown buildings, and provides district heating and cooling which avoids significant energy usage from less efficient, independent systems. The conversion to Northwind eliminated the onsite requirement need for cooling towers and their associated air conditioning chillers, resulting in a significant reduction in water consumption in the cooling towers, and the elimination of CFC refrigerant R-11 from the chillers.

**APS LEEDS BY EXAMPLE**
APS is a registered member of the U.S. Green Building Council and has committed to a voluntary goal of incorporating Leadership in Energy and Environmental Design (LEED) principles in our new building design and ongoing building maintenance. APS now has five LEED-certified facilities. Our Don Robinson Building, APS Learning Center, and the Wickenburg and Flagstaff Service Centers are Silver LEED certified and our Ocotillo Service Center is LEED certified. Also, many of the environmentally friendly and cost-efficient practices used in our LEED buildings have been extended to other buildings throughout the company. This includes standardizing equipment and lighting as well as design, procurement and maintenance processes to LEED specifications.

**APS MOBILE FLEET**
APS is creating a fleet of custom “hybrid lite” Class 5 trouble trucks to reduce emissions and save on fuel costs. The trucks are now the company standard for single-bucket trucks. When the engine is not running, they use an electric powered hydraulic system to operate a boom equipped with a small bucket. APS is also partnering with the Electric Power Research Institute to evaluate plug-in hybrid vehicles for use as utility service trucks. As part of the pilot study, APS is purchasing two light-duty trucks and two medium-duty bucket trucks, which will help us study the performance and operational requirements for these vehicles. APS has a recycling program specific to common fleet consumables: oil, oil filters and coolant.
In 2013, we recycled 13,913 gallons of motor oil, 63 x 55 gallon drums of oil filters and 1135 gallons of coolant.
In 2013, our mobile fleet (excluding generators) achieved 11.34 mpg (including medium and heavy duty vehicles) over 21,147,259 miles driven.

In late 2012, a joint value initiative was created to reduce the number of identified underutilized vehicles by 50 percent, with a goal of generating $1.5 million in fleet savings per year. An under-utilized vehicle is defined as a vehicle that is driven less than 6,000 miles per year. The initiative was kicked off in January 2013 and Transportation worked with the business unit delegates to turn in and dispose of a total 148 vehicles for a savings of $1.7 million.
Record-low eight reportable environmental incidents in 2013, down 69% from 2012

More than 1,000 megawatts (MW) of diverse renewable energy available to customers, enough to power nearly 250,000 homes

8.7 million pounds of waste diverted from landfills through Inventory Recovery recycling program (39.2% of total APS waste)

ENVIRONMENTAL STEWARDSHIP

A FUTURE in focus

APS IS PROACTIVELY WORKING TO REDUCE EMISSIONS, CONSERVE WATER AND MITIGATE OUR IMPACT ON NATURE TO ENSURE WE ARE PROTECTING OUR STATE’S NATURAL RESOURCES FOR THE ENJOYMENT OF FUTURE GENERATIONS.

POLICY & ORGANIZATION

Our environmental policy applies to all Pinnacle West and APS operations. In 1994, APS joined Ceres, a national network of investors, environmental organizations and other public interest groups working with companies and investors to address environmental stewardship and sustainability challenges. We adopted the Ceres principles for environmental stewardship and protection into our corporate environmental policy. Our environmental policy and our organization have continued to evolve in response to changing issues, trends and regulations.
BE ENVIRONMENTALLY SMART

- Strive for continuous improvement
- Manage all environmental risk
- Always communicate
- Reduce environmental footprint
- Target beyond compliance

APS’ ENVIRONMENTAL ORGANIZATION

APS has implemented an environmental management system that conforms with the International Organization for Standards (ISO) 14001 Environmental Standards. APS has achieved ISO 14001 certifications for all of our fossil-fueled generating facilities, as well as at Deer Valley, our primary Transmission & Distribution Service Center. From 2015 through 2017, we will pursue certification for the bulk of our Transmission & Distribution Service Centers. ISO 14001 certification is an important step in our continuous improvement goals. So far, our ISO 14001 program has helped to:

- Identify and control the environmental impact of our activities, products or services
- Improve our environmental performance continually

- Implement a systematic approach to setting environmental objectives and targets, achieving these and demonstrating that they have been achieved

COMPLIANCE

ENVIRONMENTAL AND SAFETY COMPLIANCE ASSURANCE PROGRAM

Our compliance assurance program establishes assessments and audits, reports results to management, establishes corrective and preventive actions, tracks the status of open items, ensures the confidentiality of information, is responsible for record retention and establishes roles and responsibilities.

Summaries of the completed compliance audits from selected Environmental, Health & Safety (EHS) programs and facilities are provided to the audit committee of Pinnacle West’s board of directors. In addition, the results from the compliance audits are reported to facility management, the vice president and chief sustainability officer, the responsible officer, and the CEO and president.
To ensure every effort is made to maintain compliance in our company’s complex and diverse operations, our compliance assurance program follows a four-tiered approach:

- Ongoing self-assessments of EHS programs by the operating facilities
- Focused self-assessments conducted by company EHS professionals
- Formal EHS audits conducted by a dedicated EHS audit team, which reports to the Pinnacle West director of Audit Services
- Periodic compliance reviews, a detailed review by the company of the compliance status of EHS programs

**CORRECTIVE ACTION PROGRAM**

Over the past three years, APS has implemented an enterprise-wide corrective action and human performance program. EHS has been a key user of the system. All regulatory compliance and standards conformance issues are tracked from identification through resolution. The system encourages any employee who notices any issue in need of evaluation or correction to submit a corrective action request. From there, a robust triage and work-down process is conducted to ensure the issue is appropriately resolved. A final key aspect is the effectiveness review, used to ensure the solutions that are devised are effective over the long term.

**NOTICE OF VIOLATIONS (NOVS)**

The company continued to have an excellent environmental and safety compliance history in 2013. The company did not receive any Occupational Safety and Health Administration (OSHA) citations during 2013. The company received two minor environmental NOVs during 2013:

- West Phoenix Power Plant: NOV for excess carbon monoxide pounds-per-hour emissions. The fine was $2,199.
- Palo Verde Nuclear Generation Station: Cited because of a parts washer leaking solvent. The fine was $720.

**ENVIRONMENTAL STEWARDSHIP BEYOND COMPLIANCE**

We are committed to sound environmental stewardship. Our environmental policy contains specific sections on stewardship of natural resources, pollution prevention, protection of the biosphere and sustainable use of natural resources.

We strive to go beyond compliance with our environmental efforts, when feasible, as part of our commitment to sustainable environmental stewardship.

**CLIMATE CHANGE**

Climate change is one of the most significant sustainability issues facing our company, our country and our world today. It is an issue requiring long-term vision and a steadfast effort. Since 1995, APS has responded to the challenges presented by climate change when the company accepted the U.S. Department of Energy’s Climate Challenge. At that time, we committed to limiting emissions to 1990 levels by 2000. We are
proud to say we met that goal. In 2006, the EPA honored APS with its Climate Protection Award, recognizing the many efforts the company has made in response to climate change.

**OUR POSITION ON CLIMATE CHANGE**

We have undertaken a number of initiatives to address emission concerns, including renewable energy procurement and development, promotion of programs and rates that encourage energy conservation, renewable energy use, and energy efficiency. APS currently has a diverse portfolio of renewable resources—solar, wind, geothermal, biogas and biomass—and we expect the percentage of renewable energy in our resource portfolio to increase in the coming years. As of the end of 2013, APS had a total of 755 MW of solar energy, including distributed energy, power purchase agreements and utility-scale solar installations, in addition to a variety of other renewable resources. Climate change is a critical consideration throughout our 2014 Integrated Resource Plan.

APS developed a comprehensive Climate Change Management Plan, which details the related scientific, legislative and policy issues, as well as potential physical and financial risks to APS, greenhouse gas (GHG) emissions inventory, APS technology innovation and GHG reduction efforts. The plan also outlines our company’s strategic approach to climate change management. This Climate Change Management Plan was submitted to the Arizona Corporation Commission (ACC).

**CLIMATE CHANGE GOVERNANCE**

Our climate change governance structure includes:

1. Board of directors and executive management engagement and oversight
2. Public disclosure
3. Emissions inventory
4. Strategic planning, including:
   a. incorporation into business operations
   b. establishment of GHG reduction targets
   c. development and implementation of business strategies to reduce GHG emissions and minimize exposure to regulatory, operational and other risks from climate change
APS’ climate change strategy includes the following components:

**STRATEGIC MANAGEMENT**

- A climate change governance structure that includes board and executive management engagement and oversight
- A written company position on climate change, which sets the foundation for APS’ legislative and regulatory intervention
- Legislative and regulatory monitoring and involvement at the federal and state levels
- Engagement with concerned stakeholders through communications such as this report, stakeholder meetings as part of our integrated resource planning process, voluntary participation in the Carbon Disclosure Project, and through the ACC regulatory process
- Identification of potential physical, regulatory and financial risks to our company associated with climate change

**GHG MANAGEMENT AND REDUCTION**

- An aggressive demand-side management/energy efficiency program to reduce electric demand both by our customers and our internal operations
- Addition of significant non-carbon emitting renewable energy resources
- Establishment of a voluntary carbon emission intensity reduction goal
- Inventory and reporting of GHG emissions
- Voluntary participation in the EPA’s SF6 Emission Reduction Partnership for Electric Power Systems
- Inclusion of carbon issues as a major component of our integrated resource planning process for future energy sources
- Voluntary actions to reduce emissions at existing generation facilities through improved efficiencies and increased capacity
- Voluntary actions in carbon sequestration, capture and avoidance
- Technology innovation to identify low-carbon energy sources, increase efficiencies, conserve energy, and to reduce emissions, or sequester, capture or avoid carbon emissions
- Fleet-management activities, including measures to increase fleet miles per gallon and reduce miles traveled
- Internal energy efficiency measures, including building all new facilities in accordance with LEED standards
intensity in APS-owned power plant emissions by 10 percent in target year 2010, from a baseline year of 2000. We are proud to report we have exceeded that target.

APS also set voluntary carbon reduction goals associated with reducing electricity use in APS facilities and decreasing mileage in the APS mobile fleet to reduce vehicle emissions. These are discussed further in the Facilities and Mobile Fleet sections of this report.

OTHER EMISSION REDUCTION SEQUESTRATION ACTIVITIES

**SF6 Reduction:** In 2004, APS joined the EPA’s SF6 Emission Reduction Partnership for Electric Power Systems. This is a voluntary, collaborative effort between the EPA and the electric power industry to identify and implement cost effective solutions to reduce sulfur hexafluoride (SF6) emissions. SF6 is a highly potent GHG used for insulation and current interruption in electric transmission and distribution equipment.
PowerTree Carbon Company: To achieve additional carbon dioxide reductions, APS joined 24 other electric utilities in a project with the PowerTree Carbon Company. The organization plants trees in ecologically sensitive areas of the lower Mississippi Valley, in cooperation with local and national governmental and conservation organizations. Planting began in 2003 and more than two million tons of carbon dioxide is expected to be sequestered over the 100-year life of the project.

POTENTIAL CLIMATE CHANGE LEGISLATIVE IMPACTS

In the past several years, the U.S. Congress has considered bills to regulate domestic GHG emissions. In 2009, the House of Representatives passed a comprehensive energy and climate change bill, but the Senate did not consider it or a similar bill in the 111th Congress. With a great deal of focus on the economy, it is unclear when Congress will consider another global warming bill.

The actual economic and operational impact of any legislation on APS depends on a variety of factors, none of which can be fully known until such legislation passes and the specifics of the resulting program are established. These factors include the terms of the legislation with regard to allowed emissions; whether any permitted...
reduction in NOx and SO2 emissions based on the impact of the Four Corners Accord, the installation of additional pollution controls at our coal-fired power plants, and the impact of APS' Resource Plan, which emphasizes non-emitting renewable energy and lower emitting natural gas generation for future resources, and has no future coal plants planned.

REGIONAL HAZE
Over a decade ago, the EPA announced regional haze rules to reduce visibility impairment in national parks and wilderness areas. The rules require states (or, for sources located on tribal land, the EPA) to determine what pollution control technologies constitute the best available retrofit technology (BART) for certain older major stationary sources. This impacts our emissions allowances will be allocated to source operators free of cost or auctioned; the cost to reduce emissions or buy allowances in the marketplace; and the availability of offsets and mitigating factors to moderate the costs of compliance. At the present time, we cannot predict what form of legislation, if any, will ultimately pass and we continue to monitor potential legislation.

Further discussion on potential impacts to APS of federal and state climate change legislation and regulation, including new EPA rules, can be found starting on page 17 of our 2013 Pinnacle West 10-K report. Also, the potential cost of carbon and impact of GHG emissions are considered in our resource planning, which can be reviewed at www.aps.com/resources.

CARBON DISCLOSURE PROJECT
Pinnacle West has participated in the Carbon Disclosure Project since 2006. Our detailed responses are available for public review on the Carbon Disclosure Project website.

AIR EMISSIONS
The air emission charts at the link below show our primary pollutants from power plant electricity generation over the past ten years.

APS’ SO2 AND NOX EMISSIONS SHOW SHARP DECREASES
Air emissions of sulfur dioxide (SO2) and nitrous oxide (NOx) have shown a sharp decrease over the past several years as a result of the voluntary installation of additional pollution controls at our coal-fired Cholla and Four Corners power plants. (See air emissions charts.) As shown in the charts, we anticipate continued significant
Cholla and Four Corners power plants. A detailed discussion of this issue can be found starting on page 19 of our 2013 Pinnacle West 10-K report, as can a discussion of mercury and other hazardous air pollutants.

**W A T E R**

APS is recognized as an industry leader in the responsible use of water resources in arid environments. With a focus on operational excellence and environmental responsibility, APS has set a standard for other utilities in similar arid environments. The APS Water Resource Management team is tasked with managing present water resources and planning for a reliable, economical and sustainable future.

Creating a strategy to support those goals requires balancing the need for reliability with the goal of using renewable and reclaimed supplies wherever possible. The challenge is to ensure operations are reliable and economical, while striving to protect finite natural resources. We believe finding an appropriate balance is critical to the interests of our customers and the communities we serve.
operations. Water must be managed as a critical resource that enables efficient generation for the long term.

Water resources must be managed over longer periods of time than are traditionally considered in the power industry, and in the context of other competitive water uses. Doing so allows us to plan water use in our operations and environment, while focusing on cost and efficiency that helps to protect the interests of our shareholders and customers. This balance helps drive decision-making and planning to find the best solution, which may not always be the least expensive, easiest or most obvious choice.

Accomplishing these goals is complex, requiring monitoring of developments in water treatment and cooling technology, and encouraging the development of those technologies where appropriate. It requires interacting with Arizona’s water community to work toward a more sustainable future. But most importantly, it requires rethinking what water means to our operations.
local, regional and international water-community activities. Interactions with the water and power communities allow APS to remain aware of developments, participate in key decisions and to share expertise.

In 2013, APS participated in local water resource planning through our involvement in the Groundwater Users Advisory Committee, the Colorado River Basin Study Group and the Water Salinity Study Committee; as well as numerous smaller and more focused working groups. These various working groups are shaping Arizona's energy and water future by improving the overall resource management and working to develop new water supplies. On a regional level, APS participates in the Electric Power Research Institute’s Water Research Center, which focuses on new technology to improve water use efficiency.

Additionally, APS shares its substantial expertise in the fields of water reuse and management by presenting regularly at conferences, seminars and roundtables, both locally and regionally. APS, and Palo Verde in particular, has provided national and international leadership on the use of reclaimed water for power generation, assisting the state of Florida, and the nations of Jordan, United Arab Emirates, China and others with valuable operating experience and consultation to support the development of nuclear power.

APS is proactively working to improve Arizona’s future and setting an example for others to follow by cooperating and planning with the communities we serve. As leaders, we believe it is our responsibility to act with integrity in the interests of not only our employees and

**WATER CONSERVATION AND REUSE: USE OF TREATED EFFLUENT**

A primary water conservation method is the reuse of treated effluent for power generation at the Palo Verde Nuclear Generating Station and at the Redhawk Power Plant. APS is one of the largest users of treated effluent for power generation in the United States. Palo Verde is the only nuclear facility in the world to use treated effluent as its primary water source. Using effluent significantly reduces the amount of potable surface and groundwater that would otherwise be required to support generation.

Each year, Palo Verde’s water reclamation facility processes about 23 billion gallons of treated effluent for power plant use, preserving enough potable water to serve approximately 400,000 people. Another way in which APS conserves water is through extensive treatment and careful management of water chemistry. This allows a high degree of water recycling in our electricity-generation process. Reuse of water supplies is maximized to the extent possible, reducing the volume that must eventually be discharged (“blowdown water”) to control the salinity and maintain proper chemistry of the water used in the power plant processes.

**COOPERATION AND LEADERSHIP**

In addition to ongoing operational commitments and strategic goals, APS regularly participates in
SOLID WASTES, WASTE REDUCTION AND RECYCLING

We have an aggressive waste reduction, recycling and reuse program in place at facilities across our organization. Each facility reviews its waste streams and looks for waste reduction opportunities. Some of these activities include working with suppliers to reduce packing materials and pallets, substituting products, paper reduction in offices and other strategies. Our second approach is an extensive program to recycle materials. APS’ Deer Valley Service Center

HAZARDOUS WASTE

We have had a hazardous waste minimization program in place for a number of years, resulting in significant reductions in the amount of hazardous wastes generated at APS facilities, as shown in the chart below. APS hazardous waste has been reduced from 193 tons per year in 2003 to 6.7 tons in 2013. Our Palo Verde Nuclear Plant also had an episodic generation of 51.5 tons of mixed lead waste from replacement of lead shielding blankets in 2013. In earlier years, a number of our facilities were large-quantity generators of hazardous waste. Our goal has been to have all of our facilities either small-quantity generators or conditionally exempt small-quantity generators of hazardous waste.

Our current goal is to maintain our hazardous wastes at the lowest possible level, recognizing the majority of our hazardous wastes are episodic in nature and often the result of maintenance, upgrade or remediation projects rather than ongoing business operations. All of our hazardous wastes are transported by permitted companies to EPA-permitted hazardous-waste-disposal facilities located in the United States.

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serves as a central management point for many recycled materials. Our power plants also work with local recycling agencies. This program strives to recycle essentially all of our paper, cardboard, scrap metal, used oil, antifreeze and wood waste.

Vegetative waste from our line-clearance activities is also a major component of our landfill waste. We currently recycle about one-third of our vegetative waste and are looking at alternatives to significantly increase the amount of this waste to be recycled.

**SOLID WASTES SENT TO LANDFILL THROUGH APS INVESTMENT RECOVERY SERVICES**

In 2013, APS recycled 39.2 percent of all waste generated. While we shipped nearly 6,800 tons of waste to outside landfills, we were able to recycle significant amounts of materials through either specialized streams (such as paper, metal, wood, reels and spools) or single-stream recycling of common materials.

**COAL COMBUSTION WASTE**

On June 21, 2010, the EPA released its proposed regulations governing the handling and disposal of coal combustion residuals (CCRs), such as fly ash and bottom ash.

APS currently disposes of CCRs in ash ponds and dry storage areas at the Cholla and Four Corners power plants, and also sells a portion of its fly ash for beneficial reuse as a constituent in concrete production. The EPA proposes regulating CCRs as either nonhazardous waste or hazardous waste and requested comments on three different alternatives. The hazardous waste proposal would phase out the use of ash ponds for disposal of CCRs.

<table>
<thead>
<tr>
<th>2013 RECYCLING BY TYPE (TONS):</th>
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<tbody>
<tr>
<td>REELS &amp; SPOOLS:</td>
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<td>SINGLE STREAM:</td>
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</table>

The other two proposals regulate CCRs as nonhazardous waste and impose performance standards for ash disposal. One of these proposals would require retrofitting or closure of currently unlined ash ponds, while the other proposal would not require the installation of liners or pond closures. The EPA has not yet indicated a preference for any of the alternatives.

At the time of this report, it is not clear when the EPA will issue a final rule, including required compliance dates.

**WASTE/RECYCLING VENDOR AUDITS**

The Vendor Audit Program evaluates our vendors’ operations, environmental management systems and financial strength in order to minimize short- and long-term liability caused by vendor actions or omissions. The audits also help to ensure our waste materials are being properly managed once they leave our facilities. These audits are conducted prior to using any new vendors who provide waste disposal and/or recycling services to the company, and periodically thereafter.
POLYCHLORINATED BIPHENYLS (PCB) MANAGEMENT
For a number of years, APS has had an aggressive PCB management program in place to manage PCB and PCB-contaminated equipment. APS has been successful in reducing the use of PCBs in electrical equipment by targeting suspected equipment based on manufacturer name and serial numbers. The PCB status of our electrical equipment is tracked in an electronic database, which is readily available across the company. Between 2000 and 2013, APS removed 17,197 pieces of equipment from the distribution and substation systems, resulting in the disposal of over 3.6 million pounds of PCB-containing material.

SUPERFUND ISSUES
In 2003, APS was named as a potential responsible party in the Motorola 52nd Street Operable Unit 3 (OU3) Superfund Site located in Phoenix, Arizona. In July 2004, APS completed negotiations with the EPA and signed an Administrative Order of Consent. This formal agreement binds APS to determine the extent, if any, of its contribution to the regional groundwater impacts and to identify options for addressing the company’s contribution to those impacts under the EPA’s oversight and guidelines.

APS has completed implementing the scope of work specified in the Administrative Order of Consent to evaluate potential groundwater impacts at our facility. The results of the

groundwater investigation to date indicate volatile organic compounds have been detected in both the up and down gradient monitor wells at the APS facility at concentrations below the EPA’s maximum contaminant level for drinking water, with the exception of one down gradient well which has had concentrations of one volatile organic compound just above the maximum contaminant level.

APS will continue to monitor the groundwater as part of the ongoing work specified in the Administrative Order of Consent. Completion of
operations ceased. APS has voluntarily investigated and characterized our historical MGP sites. We have entered the MPG sites into the Arizona Department of Environmental Quality’s Voluntary Remediation Program, which specifically addresses the voluntary investigation and remediation of environmentally impacted sites in Arizona. We have completed and received closure from the Arizona Department of Environmental Quality (ADEQ) for the Prescott, Yuma and Globe sites.

SPILLS
In 2013, APS had eight reportable releases, none of which caused significant impact to the environment:
- A Four Corners unit exceeded its opacity limit
- A West Phoenix combined-cycle unit exceeded its carbon monoxide one-hour rolling limit during startup/shutdown
- A Palo Verde spray pond backwash sump overflowed during a rainstorm, resulting in a discharge to a sedimentation basin
- Missed an emissions performance test required on a unit within 180 days after exceeding a rolling 12-month operating time limit
- A Cholla unit exceeded a six-minute opacity limit
- A Four Corners unit exceeded its 30-day rolling average limit
- A quarterly carbon monoxide cylinder gas audit was not conducted at Sundance
- A Four Corners unit experienced five consecutive six-minute opacity averages above the limit

MANUFACTURED GAS PLANTS
Manufactured Gas Plants (MGPs) operated from the late 1800s to about 1950, making synthetic gas for domestic heating and lighting purposes. Several predecessors of today’s APS operated plants in Arizona communities including Phoenix, Globe, Miami, Prescott, Douglas and Yuma. The manufactured gas process created byproducts including lampblack, tar and oils, some of which remained at the sites after the Remedial Investigation Report for OU3 groundwater is currently scheduled for 2015.

APS continues to provide funding for the clean-up of the Hassayampa Landfill Superfund Site. APS sent industrial solid waste to this municipal landfill until it closed in the late 1970s. The facility was later designated as a federal superfund site and APS was named as one of a number of responsible parties. APS’ contribution to this clean-up effort is small, representing approximately 1.5 percent of the total annual assessment.

In April 2008, the EPA informed APS it may be a responsible party in the Gila River Indian Reservation Superfund Site in Maricopa County, Arizona. APS, along with three other electric utility companies, owns a parcel of property on which a transmission pole and a portion of a transmission line are located. The property abuts the Gila River Indian Community boundary and, at one time, may have been part of an airfield where crop dusting took place. Currently, the EPA is only seeking payment from APS and four other parties for past clean-up-related costs involving contamination from crop dusting. APS and the other parties reached a settlement with the EPA in 2011.
TOXIC RELEASE INVENTORY
APS is required by the EPA to report applicable releases of chemicals listed by the EPA through its Toxic Release Inventory (TRI) program. Our reportable releases under the TRI program are primarily contained in our air emissions from power plants, or are contained within coal ash. Our reporting facilities are the Four Corners Generating Station in Farmington, New Mexico, and the Cholla Power Plant in Joseph City, Arizona.

While the TRI quantities reported by our coal-fired power plants are fairly large (as is the case with most utility companies), the majority of these releases are actually captured by pollution control equipment, or are contained within our waste coal ash, which is either recycled for beneficial use or stored in coal ash ponds.

LAND USE & BIODIVERSITY

WILDLIFE PROTECTION PROGRAMS
APS Forestry & Special Programs (F&SP) is responsible for administering a variety of operations-related environmental programs associated with vegetation management, wildlife protection, landscaping, and natural resource planning and management. In addition to environmental benefits, the activities of this department also have a great impact on system reliability and public safety.

To meet the compliance requirements of the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA) and many other pertinent regulations, the department has evolved to include a dedicated staff of degreed natural resource professionals including foresters, arborists, biologists and an archaeologist.

Arizona's varied climates provide ideal habitats for a variety of bird species, including birds of prey like raptors. Raptors are naturally drawn to power poles because they offer a high place to perch, roost, nest and hunt. The large wing spans of raptors, however, make them vulnerable to harm by the electricity being carried on the power lines. The most common raptors affected in APS' service territory include Harris's Hawks, Red-tailed Hawks and Great Horned Owls.

APS, in partnership with the U.S. Fish and Wildlife Service (USFWS), has developed a
comprehensive Avian Protection Plan. The company has implemented new construction design standards that require the installation of avian-safe devices and coverings to minimize potential hazards for raptors and other birds. All new construction is installed in accordance with the APS avian-protection standards. Each year the company modifies more than 800 existing poles to meet these avian-safe design standards. Substations are likewise retrofitted with wildlife protection as necessary.

The company conducts a comprehensive nest-management program to protect birds that build their nests on electrical equipment. APS developed a nest platform that can be installed on the pole in a safe place when the nest creates a hazard for the birds and the electrical equipment. The nest is relocated to this platform and the chicks are placed back in the nest after installation. The adults return soon after to care for their young. In most cases, birds return year after year to use these same platforms for nesting.

Protecting birds from electrical contact also increases safety for members of the cat family, raccoons, squirrels and other wildlife whose curiosity and foraging habits draw them to climb power poles and other electrical facilities.

APS is a member of the Avian Power Line Interaction Committee (APLIC) and has worked closely with this group to revise the industry’s Suggested Practices for Avian Protection on Power Lines and Mitigating Bird Collisions with Power Lines manuals.

As part of the California Condor Reintroduction program, APS donated and installed a 1.5-ton array of nine solar panels, enough to supply 30 amps of power to the facility’s holding pen and to a field lab on top of the Vermilion Cliffs at the Grand Canyon. This keeps the water supply thawed through the winter, makes it possible for the staff to use video cameras for remote observation, and supplies electricity directly to the field lab.

APS collaborates with various environmental and conservation organizations and agencies on education and awareness programs, habitat enhancement projects, biological assessments and species conservation plans. Organizations and agencies include: Liberty Wildlife, Wild at Heart, National Wild Turkey Federation, Southwest Bald Eagle Association, United States Forest Service, United States Fish and Wildlife Service, Bureau of Land Management and Arizona Game and Fish.

Please see our Wildlife web page for more information.

**CULTURAL RESOURCE PROGRAM**

Arizona’s landscape has a long and rich history and boasts many culturally significant areas. To reduce the possibility of damaging national historic treasures and to ensure the company is
in compliance with current regulations, APS added a professional archaeologist to its staff. In addition to coordinating the cultural resource compliance component of new construction projects, efforts have been made to survey the majority of the company’s existing transmission system. Archeologists conducted these surveys to determine historical properties and archaeological sites, covering approximately 5,000 miles of transmission line corridors. APS documented more than 2,000 archaeological sites requiring special considerations during all construction and maintenance operations.

**APS FORESTRY PROGRAM**
The APS Forestry program includes the maintenance and control of trees, shrubs and brush growing around APS facilities and equipment—including overhead power lines, poles and underground electrical equipment. APS employs about 100 forestry professionals who manage vegetation to ensure the safe and reliable delivery of electrical service. APS Forestry maintains more than 20,000 miles of overhead power lines throughout the state.

In 2013, APS and Vermont Electric Power Company, Inc., were honored with Right-of-Way Steward Founder’s Awards for their leadership in receiving the first two Right-of-Way Stewardship Council (ROWSC) accreditations globally.

The ROWSC program provides standards of excellence for environmental stewardship and presents the opportunity for utility companies to demonstrate their commitment to such standards. The ROWSC establishes rigorous right-of-way vegetation management standards based on a set of predetermined principles, requires a formal application process, and enlists third-party auditors to ensure compliance with standards.

A few of the many strengths the audit found with APS’ right-of-way vegetation management program include:

1. Use of a variety of treatment methods to promote stable and compatible plant communities
2. Efforts to protect cultural resources
3. Efforts to protect threatened and endangered species

**APS collaborates with various environmental and conservation organizations and agencies on education and awareness programs.**
4. Efforts to develop herbicide programs on federal lands

5. Use of closed chain of custody system for herbicides

6. Industry leadership in promoting integrated vegetation management principles and right-of-way stewardship

7. The high quality standards of our vegetation management efforts have been recognized for the 17th consecutive year with the National Arbor Day Foundation’s “Tree Line USA Utility” distinction. The Forestry department was lauded for administering a superior program of professional tree care, providing annual worker training, as well as implementing tree planting and public-education programs related to proper tree care.

APS achieved the designation by meeting Tree Line USA’s five program standards:

1. Following industry standards for quality tree care

2. Providing annual training for employees in best tree-care practices

3. Sponsoring tree-planting and public education programs

4. Maintaining a tree-based energy conservation program

5. Participating in an Arbor Day celebration

APS Forestry has adopted a closed chain of custody best management practices process for herbicide treatment as part of the Integrated Vegetation Management (IVM) program. The benefits in using this program provide enhanced environmental stewardship through more accurate offsite mixing, reduced waste and no spillage, improved material tracking and no disposal concerns because of the returnable reusable containers. The IVM follows professional industry arboriculture standards and best management practices approved through the American National Standards Institute (ANSI A300).

It is often necessary to remove tall trees growing under or near power lines. In many circumstances, the company provides the customer with low-growing replacement trees. The department continues to make progress on an extensive multi-year tree replacement project in the Phoenix metropolitan area. Thousands of existing street trees, which normally require routine trimming in order to provide safe clearances from overhead wires, are being removed and replaced with appropriate low-water-use trees that do not grow tall enough to affect overhead power lines.
APS developed a brochure to encourage planting the “Right Tree in the Right Place,” and actively works with customers and communities to relay this message. The brochure is a homeowner’s guide to choosing and planting trees for a lifetime of beauty, safety and energy efficiency.

Every year, APS visits several local elementary schools and city parks around the state to host Arbor Day celebrations. These events involve an educational component involving the importance of trees in the environment. This is followed by a tree-planting ceremony on the school or park grounds.

APS Forestry is also responsible for landscaping maintenance for company substations and service centers. Several substations and service centers are landscaped each year, many with reclaimed native vegetation from the corridor of a new transmission line project. The reclaimed vegetation was not the appropriate species for the overhead transmission line corridor but was an excellent fit for landscaping around these substations. The reclaimed vegetation planted at all of the new sites is low-water-use plants that require no irrigation.

Please see our Vegetative Programs website for more information.
customers and communities

• A FUTURE in focus

SUCCESS FOR APS IS TIED TO THE VALUE WE PROVIDE OUR CUSTOMERS AND THE CONTINUED ECONOMIC VITALITY OF THE COMMUNITIES WE SERVE.

CUSTOMER SATISFACTION A PRIORITY AND REMAINS HIGH

APS has been serving the Arizona community longer than it has been a state. By exceeding our customers’ expectations and investing in the community, Pinnacle West and APS are investing in the future of the state and of our company.

APS has a team of ten relationship managers who provide customer service to key stakeholders throughout Arizona. They provide “boots on the ground,” demonstrating our commitment to customers and the community. By maintaining
open lines of communication and a presenting a friendly face, we’re able to proactively manage our relationship with key customers. Beyond just customer service, our relationship managers enable us to better manage our overall relationships with the communities we serve by monitoring the pulse of the community and finding opportunities for service and collaboration.

The J.D. Power and Associates Electric Utility Residential Customer Satisfaction Study is our primary metric for measuring success. In the 2013 study, APS scored 669 for overall satisfaction, seven points above our goal and placing our company fifth in the nation among large investor-owned utilities. APS achieved particularly strong customer satisfaction scores in the areas of power quality and reliability, customer service and corporate citizenship. More than a look at past performance, these results help us align our business initiatives with our customer wants and needs. The scores also help us in setting appropriate continuous improvement goals and targets.

In 2013, APS also earned the prestigious Chartwell’s Gold Customer Service Award for the company’s business and community relations program. This effort has increased key account customer satisfaction, advocacy and enhanced familiarity with APS relationship managers among key account customers.

With one of the newest of APS billing options, an increase in enrollment has led to increased satisfaction. Pick a Due Date gained momentum in 2013 with nearly 9,000 customers enrolled in the program. According to the J.D. Power study, customers using Pick a Due Date have the highest satisfaction scores in the billing and payment index of the survey.
F Y I : A P S E X P A N D S P R E N C E I N S O C I A L M E D I A I N 2 0 1 3

APS looks for ways to engage with customers where they are, and increasingly where they are is on social media. Recognizing the opportunity to connect with and serve these customers, APS launched its official Facebook page in January 2013 (facebook.com/apsFYI) and consolidated two existing Twitter accounts into one unified presence (@apsFYI). These channels not only help the company extend customer service to a new medium, they also allow APS to communicate quickly about outages, highlight its commitment to the community and use photography to put a human face on the company.


The APS Employee Ambassador program was developed to foster employee engagement and advocacy at APS. Launched in 2013, the program provides a unique opportunity for employees who want to become more involved in the business and better prepared to respond to stakeholder questions about APS. The program includes an annual certification process as well as targeted employee education on key topics.


In 2013, APS launched a new and improved version of its consumer website, aps.com. Although the previous aps.com continued to win awards and receive top scores for customer satisfaction, its last major redesign was completed in 2000. Since that time, there have been a number of advances in Web navigation and technology. The new aps.com’s design improved functionality and streamlined navigation to make it easier to do business with the company.

With the ability to choose the level of detail displayed, the more customer-friendly design makes it faster and easier for customers to access the information they need and quickly dig deeper when they want to learn more about a topic. Feedback has been positive, and enrollment in paperless billing has increased 75 percent since the launch.
OUR COMMUNITY INVOLVEMENT IS KEY TO A SUSTAINABLE FUTURE

At Pinnacle West and APS, supporting the community is the right thing to do—and it’s also smart business and an investment in our sustainable future. The APS Foundation and APS Corporate Giving programs allow APS to make a significant impact in the communities where our families, neighbors and customers live and work. Our employee volunteer program, renamed Community Connectors, regularly ranks at or near the top of the Phoenix Business Journal’s list of corporate volunteer programs. APS and our employees engage with the community in a variety of ways, some examples of which are highlighted below.

APS PARTNERS WITH GOODWILL TO RECYCLE OLD APS CLOTHING

In the past, disposing of worn out or outdated APS-logoed clothing presented a dilemma. Donating the clothing to a charity or throwing it away is prohibited as it would pose the risk that the clothing could be used by criminals to impersonate APS employees. Yet shredding the clothing or cutting out the logo and throwing the clothing away seemed wasteful.

That dilemma was solved in 2013 when APS partnered with Goodwill of Central Arizona to collect and securely recycle APS-logoed apparel. APS collected old logoed clothing from employees across the company, then Goodwill removed all branding and recycled the fabric into other textile products. Proceeds from the recycling paid for job skills training at Goodwill.

“This partnership made a tremendous impact on our community, both environmentally and economically. Goodwill was able to provide a secure way to recycle APS’ old uniforms while preventing 2,500 pounds of material from going directly into Arizona landfills. These donations enabled eight people to receive the training and skills they need to find employment and achieve self-sufficiency.”

Jackie Hallen,
Goodwill Vice President of Retail Operations

APS RESPONDS TO YARNELL HILL TRAGEDY

After the tragic loss of 19 members of the Granite Mountain Hotshots during the Yarnell Hill fire, APS employees showed their dedication and generosity by rallying around the Yarnell community. Their boots were on the ground in Yarnell and surrounding areas shortly after the tragedy to aid those who were impacted. In addition to assisting with restoration efforts in Yarnell, APS purchased food and supplies for the Red Cross and helped set up shelters in Wickenburg and Prescott to assist customers affected by the fire. APS made several donations, including a scholarship fund to benefit the children of the fallen firefighters and contributions to the Prescott Firefighters Charities and the 100 Club Survivor’s Fund. APS employees donated more than $30,000 to the 100 Club and nearly $23,000 to the Red Cross. APS matched these donations, dollar for dollar.
Habitat for Humanity Central Arizona (HFHCAZ) helps families of low and moderate incomes become homeowners by partnering in the creation of affordable housing. Habitat builds homes with no-interest-mortgages through volunteer labor and contributions. Recipient families work with volunteers to put in 100 hours of "sweat equity" to build homes for other families, as well as 300 hours on their own home.

APS believes in Habitat’s mission of affordable housing and has forged a strong partnership with the organization. Since 1990, APS has contributed nearly $225,000 in donations and has provided in-kind support through donations of CFL bulbs and shade trees.

Over the past two years, approximately 275 APS volunteers spent nearly 2,000 hours working alongside two homeowners in Glendale to build their homes. The volunteer hours provided an additional $36,000 of value to the partnership. Construction is already underway on another home.

This year the Arizona Center for Science, Technology, Engineering, Math (STEM) Teachers (ACST), in conjunction with the APS Foundation, offered its sixth annual Summer Institute at Biosphere 2. The ACST Summer Institute has been designed to merge a teacher’s practice with the world of STEM by invigorating a passion for education with hands-on, minds-on inquiry.

This summer, the ACST will offer this intensive workshop at no cost for selected Arizona classroom elementary teachers who teach 1st, 2nd, 3rd, 4th or 5th grades. Throughout the two-week workshop, teachers will enhance and build their understanding of STEM as they improve their teaching craft through research, activities, conversations and reflection.

The institute is designed to inspire and support a teacher’s classroom practice, no matter the level of expertise. From beginning to veteran educators, the passion for teaching and the experience at Biosphere 2 will provide opportunities to learn and investigate STEM, and teachers will leave with a new identity as a STEM teacher and as a researcher.
$9.6 million in corporate and foundation contributions, an increase from $8.3 million in 2012.

By focusing APS Foundation giving on advancing STEM programs, we are strengthening our commitment to support teachers and students. STEM education is critical to create a more robust economy and develop a stronger, more educated workforce. The APS Corporate Giving program supports arts and culture, human services, the environment, non-STEM education and civic organizations.

2013 APS Total Giving: $9,606,185.72

2013 APS Foundation Total: $3,023,685

2013 APS Corporate Giving Total: $6,582,500.72

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Customers attending a variety of arts and cultural options throughout the state are likely to see the APS name featured as a sponsor. From the “Women Who Rock” exhibit at the Musical Instrument Museum, to theater performances in Peoria and the Pops Series performed by the Phoenix Symphony, APS believes in supporting nonprofit organizations that elevate and educate the community.

Last year, APS donated more than half a million dollars to arts programs in Arizona, primarily for education. Because of our support, hundreds of students are being exposed to performing and visual arts, which is even more important as schools have limited funding resources in this area. Studies show that children exposed to the arts are more confident, engaged and successful in school.

In addition, the arts have a positive economic impact on our state. A recent study reported that in 2012, more than $581 million was generated by arts and culture organizations and their audiences, delivering critical revenue to Arizona cities and towns.
APS supports the arts because it’s an investment in our children and our state’s future.

The philosophy of the APS volunteer program, Community Connectors, is to encourage and facilitate employees’ efforts to support the company’s values of serving our customers and improving the quality of life in our communities.

Through Community Connectors, we help provide our employees with the organizational and financial support they need to ensure the success of their community service efforts and activities.

Community Connectors is active in the more than 200 cities and towns in Arizona served by APS, as well as in northwestern New Mexico, where APS is a major employer. All it takes for a community, school or other nonprofit organization to benefit from Community Connectors is the presence of a single employee or retiree who wants to contribute his or her time and talents to help others.

The Community Connectors volunteer program sponsors and supports efforts ranging from nonprofit organizations supported by small, loosely organized teams, to projects involving hundreds of employees, retirees and their families in dozens of communities.

Volunteer projects may be initiated by employees anywhere in the company, regardless of their job classification, work location or time with the company. APS also has a full-time volunteer program coordinator whose job includes identifying and organizing volunteer projects and partnerships.

APS volunteer activities range from helping at clothing and food drives and the Special Olympics, to mentoring in schools, coaching amateur athletics, serving on boards of directors and as members and docents for hospitals and museums. APS also sponsors major one-time projects such as trail building in local and state parks, neighborhood cleanups and community fund-raisers.

Sponsored activities must meet APS’ general standards for social responsibility, wise use of resources and positive impact on APS customers or employees. Optimally, APS prefers to direct its resources to service efforts and organizations in health and human services, youth and education, arts and culture, the environment and community development.

In 2013

- More than 300 APS employees served on nonprofit and community boards
- 130,000 APS employee hours volunteered, valued at $2.8 million
- More than 3,500 employees and retirees participated in the APS 2013 Community Service Fund campaign, donating nearly $2.8 million in pledges. APS matches employee contributions at fifty cents on the dollar.

APS Matching Gifts

The APS Financial Matching Gifts program recognizes the generosity of contributions made by APS employees, retirees and company board members to nonprofit organizations by providing a
grant to any qualifying 501(c)(3) nonprofit organization. APS will match employee and retiree donations to approved charitable organizations, $0.50 for every dollar contributed with a minimum donation of $50 up to $1,000.

**APS Dollars for Doers**

The Dollar for Doers program recognizes the time APS employees and retirees volunteer to nonprofit organizations dedicated to enhancing our quality of life. APS provides a grant to area nonprofits where employees and retirees volunteer based on the number of hours served. If an employee donates 25 to 50 hours, the agency receives $125; 51 and 100 donated hours earns $250; and if the employee volunteers more than 101 hours, APS awards a grant of $500 per year per employee.

**APS Community Partner Academy**

The APS Community Partner Academy provides community leaders with an illuminating overview of the electric utility business while building an understanding of how decisions and investments made today will impact Arizona’s economy, environment and communities for decades to come. This unique opportunity offers selected community leaders to enjoy a behind-the-scenes look at Arizona’s largest electric utility during a two-day program. Attendees participate in:

- In-depth discussions with APS leaders on Arizona energy operations and policy
- Tours of key APS facilities
- Up-close observations of how APS manages energy resources and minimizes electric outages

**Economic Development**

Some of a community’s greatest assets are the businesses that call it home.

Over the years, we’ve helped communities boost their local economies by taking a leadership role in creating a robust statewide economic development environment. This includes establishing economic development programs that help Arizona communities attract and retain successful companies and encourage job creation.

We worked with economic partners across the state to support the creation of 4,648 new jobs, more than $167 million of new capital investment and 20.2 MW of new APS energy load in 2013.

Tools that the APS Economic Development program uses include:

- ArizonaProspector.com
- Industry trade shows
- Tools for Business Success
- Focused Future series
- Support of the Arizona Business Incubator network
28 percent of our workforce participates in an APS employee network group.
We believe diversity is good business, and are actively building a corporate culture that respects and leverages different backgrounds, experiences and viewpoints. This diversity helps us capture the opportunities of our changing industry and reflect the communities we serve.

**WORKFORCE:**
We endeavor to attract and develop a diverse workforce and leadership team to foster innovation, inclusion and high performance.

**MARKETPLACE:**
We engage in the community, select diverse suppliers and work to meet the changing needs of the customers we serve.

We follow core strategies to ensure our workforce has the skills, knowledge and commitment to meet Arizona’s energy needs, now and in the future by:

- Strengthening leadership
- Creating a high-performing culture
- Attracting and retaining strong talent
- Building operational excellence

**STRENGTHENING LEADERSHIP**
We offer a variety of leadership development programs to support emerging and established APS leaders.

Human Resources and members of the APS officer team partnered to launch *Leadership Fundamentals* in 2013, a training course for...
Employment Law Boot Camp is a half-day session covering topics such as sexual harassment, wage-and-hour issues and discrimination.

APS brings together leaders from across the company for learning and collaboration at Leadership Forums, occurring at least twice a year. In 2013, topics included leaders’ role in engaging employees in the business plan, an introduction to APS’ new advertising campaign for senior management, and an overview of key business issues and leaders’ role in issues management.

Creating a High-Performing Culture

We’re committed to being a high-performing company, and we continue to take steps to embed performance in our culture.

Performance Management

Our annual performance-management process helps ensure employees are aligned with and support our business goals, objectives and values. It forges the link between pay and performance, and encourages candid conversations between employees and leaders about performance against documented goals and professional
development plans. Our key sustainability goals are built into our business goals and planning process, which ties them to our performance management and incentive process.

**Employee Network Groups**
Approximately 1,800 employees—28 percent of our workforce—participate in one of the APS employee networks. These groups provide an opportunity for employees with similar views, experiences or other interests to enjoy professional development, networking, community outreach and to learn more about APS and our industry.

In 2013, employee networks included:

- Hispanic Organization for Leadership and Advancement (HOLA)
- Network for Urban Engagement (NUE)
- Next Generation at APS: Professionals New to the Utility Industry
- Palo Verde Young Generation in Nuclear: Palo Verde Nuclear Generating Station Employees Age 35 and Younger
- Palo Verde Women in Nuclear
- Veteran Engagement, Transition & Retention Network (VETRN)
- Women in Search of Excellence (WISE)

In addition, employees applied in 2013 to form two new Employee Network Groups for launch in 2014. The APS Executive Diversity Council approved the Native American Networking Organization and the LGBT Alliance, bringing the total number of network groups to nine.

**Equal Employment Opportunity**

Decisions about employment, training, compensation and promotion are based on job-related qualifications. We prohibit discrimination based on race, color, national origin, religion, veteran’s status, marital status, sex, pregnancy, sexual orientation, gender identity, age, disability and any other legally protected basis. We explicitly prohibit sexual harassment, and any other harassment, in the workplace. Our Affirmative Action/Equal Employment Opportunity programs focus on workforce analysis, compliance, affirmative action, a harassment-free workplace, training and education.

**Training**
Approximately 70 percent of our employees work in highly specialized craft, operations, technical,
engineering and customer-service positions. These positions have job-specific training requirements that range from 16 to 400 hours annually. Our innovative programs are designed to train, develop and engage talented women and men.

**ELECTRIC UTILITY TECHNOLOGY PROGRAM**
APS partners with Chandler-Gilbert Community College on this two-year program that provides students with a foundation in lineman training. Participants who complete the program—the first of its kind in Arizona—earn an associate’s degree in electric utility technology.

**FOSSIL JOINT APPRENTICESHIPS**
Developed with the International Brotherhood of Electrical Workers, Local 387, this apprenticeship program trains qualified employees for our fossil-fueled power plants. It provides on-the-job training for maintenance technicians, automotive/heavy equipment mechanics, maintenance technician-machinists and electrical and instrumentation technicians. It also provides classes through San Juan College in Farmington, N.M., Northland Pioneer College in northern Arizona and Education Direct, an online learning program.

**ENERGY DELIVERY AND CUSTOMER SERVICE APPRENTICESHIPS**
Launched in 1948, this program trains men and women for a career in electric utilities. Apprentices gain statewide on-the-job and trade-related classroom training. Apprentices who successfully complete the apprenticeship can become journeymen linemen, electricians, poly-phase meter readers and mechanics. APS also offers a utility tree worker apprenticeship.
LEARNING ENVIRONMENTS

The APS Learning Center is our corporate employee and leadership development center. We also have several dedicated training facilities including:

- A plant-specific nuclear control room training simulator
- Other power plant operations simulators
- Maintenance, electrical, instrumentation, chemistry, customer service, line worker and other technical training laboratories and equipment mock-ups

Employees may access on-demand or schedule Web-based training through the Enterprise Learning Management system (ELM). The system allows each business unit to assign mandatory training to applicable leaders and employees so they stay current on their learning requirements and track compliance. Employees may self-register for assigned and elected courses in the ELM system. APS added eight new courses for employee development available through self-enrollment with leader approval.

PALO VERDE APPRENTICESHIP AND TRAINING PROGRAMS

Palo Verde Nuclear Generating Station offers apprenticeships and training programs to engineers, maintenance personnel, auxiliary operators and radiation protection personnel, and college internships across a variety of functions. In 2013, Palo Verde’s licensed operator classes outperformed the industry average of 67 percent completion rates at 93 percent.

Palo Verde has a long-standing relationship with Estrella Mountain Community College to develop curriculum and provide hands-on training to build a skilled nuclear energy workforce. Graduates of the maintenance apprenticeship program gain journeyman certification, while a two-year program of radiation protection technical training prepares students to work in the radiation protection field.

QUEST FOR EXCELLENCE

This Palo Verde-sponsored partnership with West Valley and Phoenix-area high schools enables students to participate in a seven-week program of advanced math, including algebra and physics. Upon completion, graduating seniors are eligible for our summer intern program.

OTHER ACCREDITED AND CERTIFIED TRAINING PROGRAMS

Eleven nuclear training programs are accredited by the Institute of Nuclear Power Operations. Six craft apprenticeship programs meet state certification requirements. Environmental, health and safety training programs meet and exceed requirements of the U.S. Occupational, Safety and Health Administration, U.S. Environmental Protection Agency, U.S. Department of Transportation and Nuclear Regulatory Commission.
The Palo Verde Energy Education Center was designed and constructed as an offsite Emergency Operations Facility (EOF) and Joint Information Center (JIC). Opened in 2011, the facility is LEED Gold certified and includes four training rooms for employee development and industry conferences.

**ATTRACTING AND RETAINING STRONG TALENT**

In 2013, we filled 916 positions with a combination of internal and external talent.

**VETERANS**

In 2011, we were one of five utility companies to pilot the Troops to Energy Jobs program, focused on helping military veterans transition to careers in the energy industry. We hired 62 veterans in 2013 and *G.I. Jobs* magazine recognized APS as one of America’s Top 100 Military Friendly Employers.

**ARIZONA ENERGY WORKFORCE CONSORTIUM**

We are an industry partner in the Arizona Sun Corridor – Get Into Energy Consortium, and actively involved in implementing a $13.5 million grant awarded in 2012 by the U.S. Department of Labor. The consortium includes five community colleges across our state building an industry-recognized common curriculum. It includes stackable credentials and utilizes a statewide industry supply-and-demand model to produce the right students with the right skills at the right time and at the right place.

**GRADUATE RECRUITING**

We target new employees from diverse sources, including students attending community colleges, universities or vocational programs tailored for the energy industry. We work with Arizona State University, University of Arizona, Northern Arizona University, local community colleges, area high schools and local organizations to offer scholarships and career information. Our affiliation with the National Association of Colleges and Employers helps us benchmark graduation rates, new-graduate compensation and other information that allows us to compete successfully for talent.

**INTERNSHIP PROGRAM**

Our internship program offers students real-world experience and can result in full-time job offers. The program and its scholarships introduce students to virtually every part of our business, from engineering and human resources to trades and information systems. We target students who attend community colleges or universities or are enrolled in vocational programs tailored to the utility industry. Some internships are year-round, but most are summer-long in order to accommodate students’
academic schedules. We welcomed 30 summer interns in 2013, 53 percent were ethnically diverse. In addition, 12 engineering interns experienced rotational assignments, gaining exposure to multiple career paths and job opportunities available to engineers in the utility industry.

In addition to area universities and community colleges, we work with area high schools and local organizations on scholarship opportunities and career expos to help develop and hire the local workforce. The Pinnacle West Law department also has an internship program with Arizona State University, University of Arizona and Arizona Summit Law School (formerly Phoenix School of Law).

**COMPENSATION**

We continuously work to ensure that our pay policies and processes reflect best practices for our market and industry and reward strong performance. Our annual incentive plan calls for an employee's incentive award to be based on achieving goals for company performance, business unit results and the individual's own performance.

**CHAIRMAN’S AWARD**

As part of building a high-performing company, we recognize our top performers each year through our highest recognition, the APS Chairman's Award. In 2013, we honored seven individuals and seven teams for their outstanding contributions.

**BENEFITS AND HEALTH SERVICES**

Our employees’ health and safety is a top priority. We provide Health Services clinics at corporate headquarters and at our Deer Valley, Four Corners, Cholla and Palo Verde facilities. We also have a network of health-care providers throughout Arizona and New Mexico to serve employees who incur work-related injuries. As always, our goal is zero injuries.

**OFFERING COMPETITIVE TOTAL REWARDS**

Our employee Total Rewards package offers market-competitive pay and benefits to help attract, retain and reward top talent.
In 2013, Pinnacle West was a finalist for Risk & Insurance magazine’s Theodore Roosevelt Workers’ Compensation and Disability Management Award. APS’s work safety practices have helped the company reduce its Occupational Safety and Health Administration recordable injuries by 57 percent since 2008. The magazine cited “an engineering-type culture of attentiveness and problem solving” as a major factor for the improvements, and also applauded the company’s efforts to control medical costs, engage employees in proactive health management and wellness, and ensure quality care for workers by self-insuring workers’ compensation and integrating absence management and return-to-work programs that focus on employee capabilities.

HEALTH MATTERS WELLNESS PROGRAM

HEALTH SCREENINGS & ASSESSMENTS
Each year, at no cost to employees, we offer voluntary on-site health screenings to help employees proactively monitor their health and wellness. We also encourage employees to obtain a biometric screening as part of their annual preventive physical covered under the medical plan. Using data from the screening or annual physical, employees can complete an online health assessment to understand how to implement a healthier lifestyle, access related tools and programs, and create a personalized plan that meets their goals.

In 2013, employee participation in the Health Matters Health Screening and Assessment program grew. More than 31 percent of employees participated in the first step, the health screening, which was conveniently offered at APS locations. Almost 22 percent more employees completed the second step, the online health assessment, in 2013 compared to 2012, with 31.7 percent of employees participating.

A key focus of APS’ healthcare cost management is identifying and modifying risk. Aggregate reports showed favorable movement in this area. In addition to health screenings and assessments, other wellness programs contributed to this, including flu shots and a tobacco cessation resource.

FLU SHOTS
We continued offering free flu shots to employees in 2013 to help keep our workforce healthy and productive.

QUIT FOR LIFE®
We offered the Quit for Life® program, a proven tobacco cessation method that treats tobacco use as an addiction instead of simply a bad habit.

EMPLOYEE ASSISTANCE PROGRAM
Our employee assistance program helps employees cope with personal issues, such as stress from caring for a seriously ill family member. Offered through the United Healthcare/Optum Health Network, services include short-term counseling services, family support, financial and legal advice and referrals for extended care.

ERGONOMICS
Our ergonomics program provides information and skills to encourage safe employee behaviors and minimize ergonomic-related injuries and illnesses.
Almost 1,500 union members represented by the IBEW work primarily in Fossil Generation, Transmission & Distribution Operations, Facility Maintenance and Warehousing. We enjoy a healthy, mutual respect with the IBEW, and have partnered to offer a multi-skill training program, a process to hire supplemental workers, a drug-free workplace program, an apprenticeship program, a driver qualification program and numerous safety projects.

In late 2012, security officers at the Palo Verde Nuclear Generating Station petitioned in support of an election regarding their union representation. On January 16, 2013, they voted in a National Labor Relations Board certified election to change their representative union from the Security Police Fire Professionals of America to the USPA. Approximately 235 security officers are covered by this bargaining unit. All provisions of the existing labor agreement remain status quo until a new agreement is reached between Palo Verde and the USPA. Negotiations began in 2013 and are progressing as the parties attempt to reach their initial agreement.

**BUILDING OPERATIONAL EXCELLENCE**

We ensure employee issues are addressed promptly, fairly and consistently. Our internal policies and strong code of business conduct protect our rights and those of our employees. *HelpLine* allows employees to anonymously report any suspected wrongdoing. Every report is investigated.

**LABOR PRACTICES**

Approximately 27 percent of our employees are represented by the International Brotherhood of Electrical Workers (IBEW) or the United Security Professionals of America (USPA). A negotiated labor agreement establishes the working rules and other terms and conditions of these union members’ employment. We work cooperatively with unions where they are in effect and honor the agreements made in our negotiations. We respect the rights of our union employees to bargain collectively, and strive to maintain positive labor relations and resolve issues quickly, with a positive outcome for employee and company.
Our business plan includes a safety goal: to create a “zero incidents” culture and operating model through event-free and injury-free work. The performance metric for this goal is to achieve top quartile of investor-owned utilities nationwide in Occupational Safety and Health Administration (OSHA) recordable injuries. We have continued to improve our safety performance, and 2013 was once again a record best safety year for APS. We achieved our safety goal in 2013 with 35 recordable injuries compared to 47 in 2012. Our 2013 recordable injury rate places APS in the top 10 percent of utilities for safety performance industry based on Edison Electric Institute (EEI) rankings.

The 177 employee injuries recorded in 2007 marked a turning point for our safety program. Since then, our emphasis on safety has steadily reduced the number of accidents each year, resulting in an 80 percent reduction in
recordable accidents from 2007 to 2013. We plan on continuing that improvement toward our goal of achieving a zero accident workplace.

**TOTAL COMPANY RECORDABLE INCIDENTS 2009 THROUGH 2013**

![Graph showing recordable incidents from 2009 to 2013]

**SAFETY IMPROVEMENTS TEMPERED BY LOSS**
While APS improved its overall safety performance in 2013, the company experienced an on-the-job fatality, losing a co-worker and friend in a traffic accident. The APS family is deeply saddened by this tragic event and is determined to continue our efforts in working to create and anchor an accident-free culture. While traffic safety and defensive driving have been an important part of our safety training and culture, we have re-doubled our efforts to reinforce driving safety in our workforce.

**INCIDENT AND CLOSE CALL TRACKING**
Safety-related incidents are reported through an electronic event notification and tracking system, and managers are strongly encouraged to report close calls. By evaluating close calls and making corrections when appropriate, we can better identify potential problem areas before they result in an accident.

**SAFETY IMPROVEMENTS TEMPERED BY LOSS**

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OPERATING PROFILE

- Customers: 1.2 million
- 2013 Peak Demand: 6,927 megawatts (MW)
- Service Territory:
  - 34,646 square miles
  - 11 of the 15 Arizona counties
- Generation Capacity: 6,394 MW
- Additional Contracted Generation: 3,008 MW
- Transmission & Distribution: 35,114 miles
  - Transmission: 5,957 miles
  - Distribution: 29,157 miles

FINANCIAL PROFILE

- Pinnacle West Enterprise Value: $9 billion
- Pinnacle West Equity Market Capitalization: $6 billion
- APS Credit Ratings (Moody’s/S&P): A3/A-
- APS Credit Rating Outlook (Moody’s/S&P): Stable

For the full report of APS and Pinnacle West’s 2013 sustainability performance, please visit pinnaclewest.com/CR. Our detailed data report is prepared using guidance from the Global Reporting Initiatives’ (GRI) G3 Guidelines and the Electric Utilities Supplement.