



Pinnacle West Capital Corporation  
Corporate Responsibility Report 2010

**PEOPLE | PLANET | PERFORMANCE**

# SUSTAINABLE ACTIVITIES LEAD TO CONTINUOUS IMPROVEMENT AND SHAREHOLDER VALUE

The title of this report, P<sup>3</sup>, is a direct reference to our 2010 Pinnacle West Annual Report: “People, Planet, Performance”—the foundation for a sustainable future.

At Pinnacle West, we appreciate being recognized for our sustainable practices. However, the real test of sustainability lies in the measurement of our performance and being committed to continuous improvement. Effectively quantifying our advances and the areas needing improvement allows us to continually build our enterprise and create opportunities for shareholder value.

To thrive and grow as an energy leader and partner with the communities we serve, we focus on our strategic framework, which helps drive sustainability through our business model. Following a sustainable business strategy allows us to provide our customers with affordable, reliable electricity produced from clean and diverse

sources, while increasing value to our shareholders.

Our results over this past year showed improvement across the spectrum of sustainability issues. From safety to customer satisfaction to electric reliability and the environment, 2010 was a strong year for our company in the areas tied to our vision for a sustainable energy future and our company values. Our company made significant strides in many areas of our operation, which you will see throughout our report.

A few examples include:

- Our company’s commitment to safety resulted in fewer recordable injuries for the third straight year, and made 2010 the company’s safest year on record.

- The most recent J.D. Power and Associates Residential Customer Satisfaction Study ranked APS third among 55 large investor-owned utilities nationally.
- In 2010, APS exceeded targets for measuring system reliability in such categories as outage frequency and average outage duration. APS remains a consistent top-quartile industry performer relative to outages per customer.
- In 2010, APS announced a landmark agreement to purchase Southern California Edison’s ownership in Units 4 and 5 of the Four Corners Power Plant located on Navajo land in Farmington, New Mexico. If the agreement earns the required regulatory approvals and conditions are met, APS

will close the plant's older, less efficient Units 1, 2 and 3 and install additional emission controls on the remaining units. APS ownership of Units 4 and 5, combined with closing the older units, will provide the power needed by APS customers, reduce the site's environmental footprint, including carbon emissions, and protect quality jobs for the Navajo Nation.

We know that to attain our vision of a sustainable future, we must become cleaner, smarter and faster. In 2010, APS signed contracts for the first 83 megawatts of utility-owned solar power under its AZ Sun program. APS plans to invest up to \$500 million for the construction of 100 megawatts of solar photovoltaic power facilities across Arizona. The company also broke ground on the 250-megawatt Solana concentrating solar plant. Once in operation, Solana will be one of the the largest solar plants in the world.

Over the next five years, our company plans to invest nearly \$800 million on programs to help our customers use energy more efficiently. This investment, part of our resource plan, is expected to reduce our energy demand by about 2.7 million megawatt-hours—the equivalent electricity needed to power 200,000 Arizona homes for a year.

We believe a sustainable company is involved in the communities it serves. At APS, a significant part of our supply chain process includes spending locally. APS spent about \$500 million with Arizona firms in 2010. Of that number, the company spent \$64 million with 195 minority and women-owned business enterprises, a seven percent increase over the previous year. Employee engagement and volunteer numbers are up almost 10 percent over last year as well, with company employees volunteering more than 165,000 hours in the community and donating more than \$4 million to non-profit organizations.

We accomplished these sustainability milestones, while serving our customers more efficiently, caring for the environment and supporting our communities. We are proud of the accomplishments of 2010, and are committed to continuous improvement.

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



A handwritten signature in black ink, appearing to read 'D. Brandt'.

Donald E. Brandt  
Chairman, President & CEO,  
Pinnacle West  
Chairman & CEO, APS



A handwritten signature in black ink, appearing to read 'D. Robinson'.

Donald G. Robinson  
President & COO, APS



A handwritten signature in black ink, appearing to read 'E. Fox'.

Edward Z. Fox  
Vice President and Chief  
Sustainability Officer, APS

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## Online Archives

### About This Report

The 2010 Pinnacle West Corporate Responsibility Report was created as a navigable PDF file, which allows readers to move around the report by clicking on the links found in this table of contents.

We've embedded links to additional information, such as video and other Pinnacle West reports, throughout the document.

The report also can be viewed and printed as a traditional PDF.

# COMPANY OVERVIEW

Headquartered in Phoenix, Arizona and serving the Southwest since 1886, Pinnacle West Capital Corporation and its subsidiaries have earned a reputation for customer satisfaction, shareholder value, operational excellence and business integrity. Pinnacle West derives substantially all of our revenue from our wholly-owned subsidiary, Arizona Public Service Company (APS).

## Profile

APS is Arizona's largest electric company, providing retail and wholesale electric service to most of the state, with the major exceptions being about half of the Phoenix metropolitan area, the Tucson metropolitan area and Mohave County in northwestern Arizona.

At Pinnacle West and APS, we are proud of our heritage and past performance, but continue to focus on creating a sustainable energy future for our customers and our state.

APS kicked off its 125th year of service by introducing a new logo (below), reflecting the innovative and dynamic nature of our company and our industry.



We believe embracing a more tech-savvy, modern identity also will help APS in its efforts to recruit the next generation of workers, who are growing up on social media.

### Our 2010 Report

Our company has published this report each year since 1994 with the intention of providing comprehensive and transparent information to our stakeholders

### Pinnacle West:

- Is in Standard and Poor's 500 index and is traded on the New York Stock Exchange under the symbol: PNW
- Has consolidated assets of about \$12.4 billion and 6,700 employees in Arizona and New Mexico
- APS has approximately 1.1 million customers, in 11 of Arizona's 15 counties, and by 2030 APS expects to add 750,000 new customers — a more than 65 percent increase
- APS operates the second-largest generation fleet in the western United States. We own or lease more than 6,290 megawatts of generation capacity and we hold a mix of both long-term and short-term purchased power agreements for additional capacity, including a variety of agreements for the purchase of renewable energy
- Pinnacle West was named to the 2010 Dow Jones Sustainability Index for the sixth year in a row, to the 2010 Corporate Knights Global 100 Most Sustainable Companies for the sixth year in a row, and was recently ranked number 15 on the *Corporate Responsibility Magazine's* 12th annual list of "100 Best Corporate Citizens"



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and the public on our sustainability strategies, practices and performance. In its 2009 Utilities, Gas and Electric Industry Report, The Roberts Environmental Center at Claremont McKenna College ranked Pinnacle West first among utilities in the United States for sustainability reporting.

As is our standard, this report was prepared in accordance with international reporting guidelines from the Global Reporting Initiatives' (GRI) G3 Guidelines and Electric Utilities Supplement. This report focuses on APS, our primary subsidiary.

### Approach to Report Assurance

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 Responsible Economies (Ceres). The Ceres stakeholder review process allows Pinnacle West to interact with a number of stakeholders from across the nation, including environmental organizations, investment companies, other businesses and Ceres professionals, to obtain input into the content and organization of our report. Each year we receive detailed comments and recommendations from the Ceres review on our draft report, which allows us to continue to improve our reporting and meet evolving stakeholder expectations.

This year, we have taken another important step in our continuous improvement process by adding a third-party limited assurance of our report conducted by Trinity Consultants. Please see their letter at the end of this report.

“Our customers have always relied on APS to provide safe, reliable and affordable electric service. In the future, we will also be helping our customers benefit even more from roof-top solar panels, plug-in electric vehicles and other emerging energy technologies.”

APS President  
Don Robinson



## Governance

Good corporate governance is an essential component of a sustainable company, allowing 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. (see links below).

### LINKS

- [Pinnacle West 2011 Proxy Statement](#)
- [Doing the Right Thing \(Ethics Policy\)](#)
- [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 2010 Annual Report](#)

The following is a summary of some key governance issues often asked by sustainability evaluators:

### Board of Directors

As of December 31, 2010, the board of directors consisted of 12 directors, 11 of whom have been determined to be independent. Three women and one minority serve on the company's 12-member board of directors.

### Public Affairs

Electricity is critical to our economy. We believe that the electricity dialogue is a key policy issue, and that shaping an effective public policy is crucial to building a reliable energy future. Each year it becomes even more important for the company to communicate with our community leaders and officials about the importance of electricity to our state's and country's overall health.

Our ethics policy describes how our employees and our company interact with public officials.



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## Corporate Responsibility Report Contact

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Additional contacts for Shareholder Services, Investor Relations, Human Resources and other company areas are listed at Contact Us.

Pinnacle West has a Public Affairs Department which takes the lead on Pinnacle West's interactions with state and federal officials. In addition, Pinnacle West has a formal Political Action Committee (PAC) for company employees who elect to contribute to the PAC. Pinnacle West maintains 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 do not have any direct business involvement/revenues in these product areas.

### Military Contracts and Percentage of Total Revenue

Pinnacle West does 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 and Forced Labor

Pinnacle West complies with all related laws and regulations regarding child labor or forced labor in the workplace. Our internal staffing policy states that all external candidates who are selected for a regular position must be 18 years of age.

## Code of Ethics and Business Conduct

Pinnacle West has specific policies in place to ensure a high level of corporate conduct and ethics. These Pinnacle West Ethics Policies and Standards of Business Practices are summarized in a publication called *Doing the Right Thing*, which is also available to the public on our website. The Code builds on the corporate values of safety, accountability, integrity, and trust and respect.

All employees have access to the most up-to-date version of the Code on the company's website and the internal Ethics website. All company officers, board members and employees (including full-time, part-time, supplemental and interns) are required to take periodic training based on the Code, and to pass an online test on that training. The most recent version of this training is also available for the public to review at the link below.

### LINK

[Doing the Right Thing  
Publication](#)



Pinnacle West also has related ethics requirements for all of our contractors, which are summarized in a pamphlet called *Doing the Right Thing – Contractors*. The pamphlet is distributed to key contractors in partnership with the company's contract labor vendors. Again, this is available for viewing by the public on our corporate website.

APS employees are encouraged to report any questions or concerns related to our Code of Ethics and Business Conduct – or any other issue regarding potential illegal or unethical conduct – to our Ethics Department or the company's HelpLine or HelpLine Web. The HelpLine (a toll-free number) and HelpLine Web (a secure intranet site) are administered by an outside third party that is set up to receive employee concerns and allegations, and are available 24-hours-a-day, seven-days-a-week. Employees can report questions and concerns anonymously if desired.

The Better Business Bureau awarded APS its 2008 Business Ethics Award in recognition of APS's ethical business practices, including our "Doing the Right Thing" philosophy.

### Code of Ethics for Financial Executives

Pinnacle West also has a Code of Ethics for Financial Executives which can be viewed on our Pinnacle West website.

## Economic Performance

### 2010 Pinnacle West Results

A regulatory settlement approved by the Arizona Corporation Commissions in December, 2009



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provided APS with financial stability, while also setting the table for an energy future that is cleaner, greener, more efficient and more reliable. The settlement allows APS to invest in renewable energy sources and efficiency programs, and includes rate protection for customers on limited incomes.

Disciplined cost management and strong operational performance benefited our 2010 bottom line. Pinnacle West's total return to shareholders in 2010 was 19.5 percent, which compared favorably with a 4.4 percent return for the industry and a 15 percent return for the broader S&P 500 index.

To review our 2010 financial results please see our Pinnacle West 2010 Annual Report:

**LINK**

[Pinnacle West 2010 Annual Report](#)



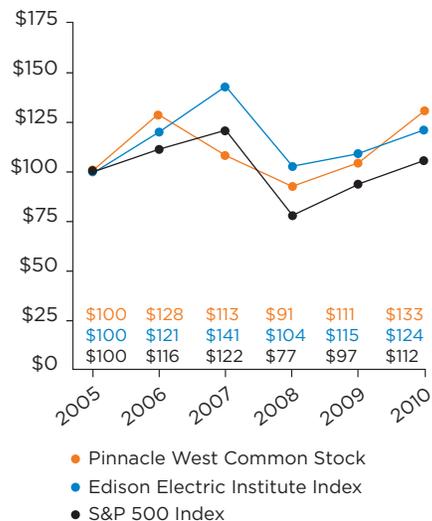
**Economic Impact to Our Community**

Pinnacle West and APS have a significant economic impact on the communities we serve. In addition to our volunteer efforts, charitable giving and other community programs (discussed in the Community section), the following are some examples of our economic impact on our communities.

- APS paid more than \$400 million in taxes in 2010, and provides 6,700 professional jobs.
- The Palo Verde Nuclear Generating Station contributes \$1.8 billion to Arizona's economy each year.
- APS spent about \$500 million with Arizona firms in 2010.
- APS is one of the largest construction companies in Arizona, investing more than \$1 billion each year in the construction of new substations, distribution and transmission lines, power plants and other infrastructure necessary to maintain and expand our system to meet the needs of a growing customer base.

**Stock Performance Comparison**

Value of \$100 invested as of 12/31/05, with dividends reinvested



- \* APS's energy efficiency and renewable energy programs are creating jobs in Arizona and providing savings to Arizona businesses and customers.
- In 2010, APS spent \$64 million with 195 minority- and women-owned business enterprises.
- Efforts by APS customers to become more energy efficient result in millions of dollars of savings on their electric bills over the life of the actions taken. These short-term and long-term bill savings by customers are typically re-spent in their local communities, providing a further stimulus to the Arizona economy.

Over the next four years, we plan to invest up to \$500 million to develop and own 100 megawatts of photovoltaic solar projects in Arizona under our AZ Sun program. Investing in solar will likely provide an economic boost for our state in addition to the environmental benefits renewable energy offers. Our investment

**Key sections of the *Doing the Right Thing* publication include:**

- |   |                                     |
|---|-------------------------------------|
| Corporate Ethics Policy   | Environmental Protection            |
| Supplier/Contractor Relationships                                     | Dealings with Public Officials      |
| Giving & Accepting Gifts  | Political Participation             |
| Conflict of Interest  | Antitrust                           |
| Reporting Violations of the Ethics Policy                             | Sarbanes-Oxley Act of 2002          |
| Employment  | ACC Code of Conduct                 |
| Labor Management Relations/right to organize and collectively bargain | FERC Codes and Standards of Conduct |
| Health and Safety   | Compliance                          |



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in renewable generation should hedge the costs of potential climate legislation and increasingly stringent environmental regulation of fossil-fueled generation.

APS's Resource Plan could require a total investment of \$18 billion over the next two decades to develop new APS generation and transmission infrastructure. APS may fund these investments directly, or allow other entities to construct plants and then sell power to the company.

**Commitment to Cost Management**

In 2010, we continued our corporate-wide emphasis on efficiency and cost management. We achieved more than \$30 million in cost savings, reduced the size of our workforce by three percent, and kept operations and maintenance spending essentially flat for the second year in a row.

**APS Supports Economic Development**

Municipalities around the country are making some tough budget decisions

and many are turning to their economic development programs to find ways to cut the budget.

Over the years, we have helped Arizona communities boost their local economies by taking a leadership role, with our partners, to help create a healthy economic development policy statewide. Our company is dedicated to supporting



economic development efforts throughout the state. Two of APS's economic development programs are Building Bridges to Business (B3) and APS's Focused Future program. Through these economic development programs, we help many Arizona communities retain

successful hometown companies and encourage them to create more jobs.

APS hosts annual procurement events in an effort to bring business opportunities to diverse businesses. Recent "Buy Pinal" and "Buy Yuma" procurement events paired local businesses with procurement representatives from local public and private sector organizations and corporations.

Robert Esquivel, APS manager, Supplier Diversity and Development, who also served on the Coordinating Committee, stated that regional sourcing events like "Buy Pinal" are an important part of our Supplier Diversity strategy. This event, as well as similar events in Yuma and Flagstaff, serves to showcase the economic versatility present in the diverse business communities throughout APS's service territory.

**APS B3: Building Bridges to Business**

We believe some of a community's greatest assets are the businesses that call it home. Economic development studies show that at

**Working with our partners, APS's economic development efforts led to the following results in our service territory in 2010:\***

\*Results estimated

**\$160,000,000**  
Gained in capital investments

**653**  
New jobs created

**1,080,000**  
Square feet of new building space created

**\$9,800,000**  
New revenue for APS



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least 76 percent of new jobs and capital investment come from a community's existing companies. That is why APS's Building Bridges to Business program, or B3, is investing in the businesses that call our communities home.

APS's B3 program goes beyond traditional business development to provide an innovative retention and expansion tool that addresses the needs of existing businesses and the cities and towns in which they reside. The B3 program helps economic development organizations define and analyze company and community specific information, and creates an environment for establishing relationships between businesses and their communities.

With the B3 program, community leaders and economic development organizations gain a better understanding of individual business needs and insights into their local economy and each company's role in the community's economic future. The B3 program utilizes an Internet-based business assessment software program called Synchronist, and uses a face-to-face interview/survey to find and track a wide range of useful company- and community-specific information.

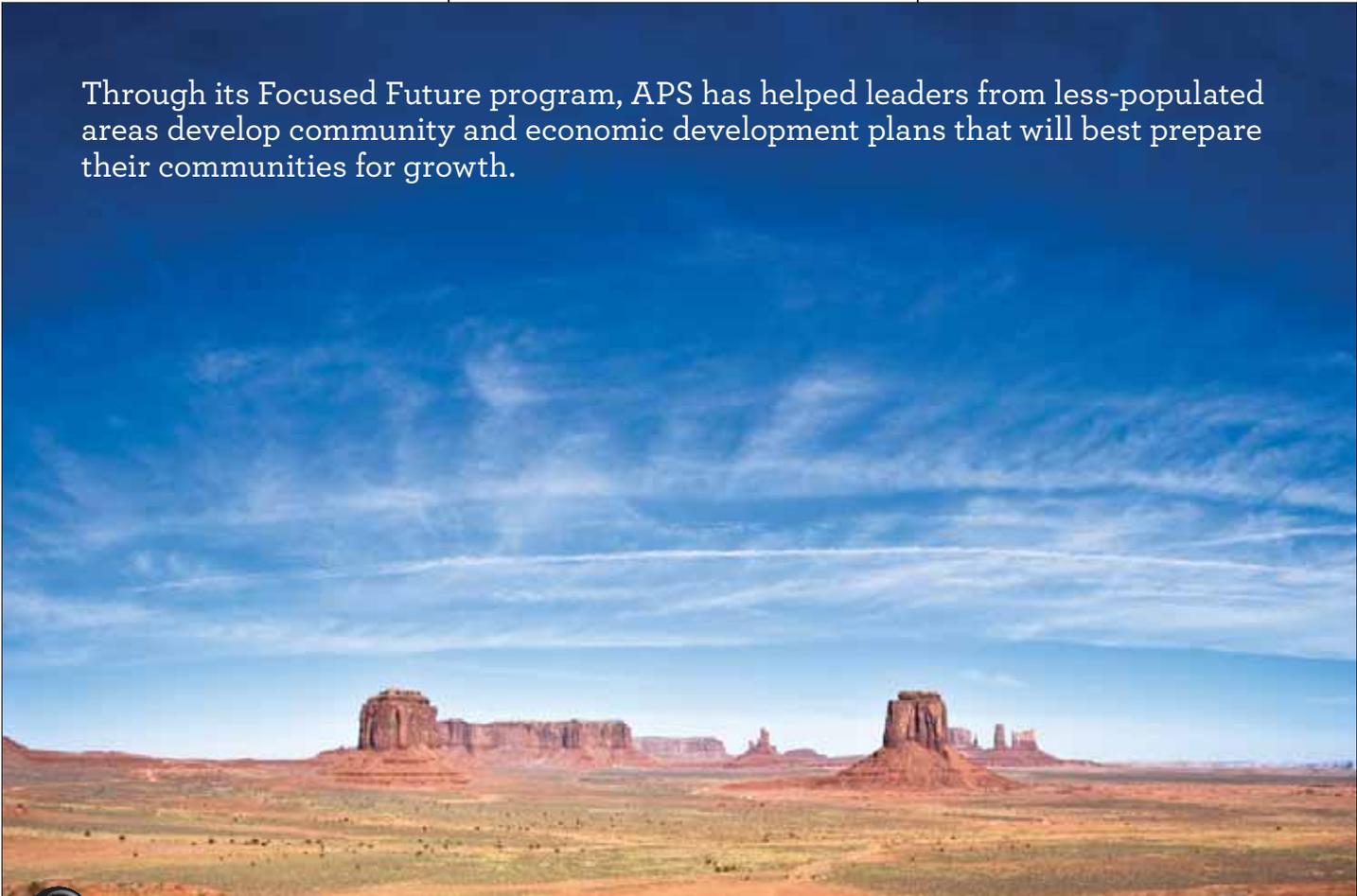
APS's economic development partners include the Arizona Department of Commerce, the Greater Phoenix Economic Council, as well as the economic development departments in our Arizona communities.

### **APS Focused Future Program**

Through its Focused Future program, established in 1991, APS has helped leaders from less-populated areas develop community and economic development plans that will best prepare their communities for growth.

Focused Future is a step-by-step process designed to empower rural communities with the ability to determine their own futures. Pinnacle West also provides economic development and business assistance to numerous small businesses through our Supplier Diversity programs (discussed in the Community section of this report).

Through its Focused Future program, APS has helped leaders from less-populated areas develop community and economic development plans that will best prepare their communities for growth.



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## Selected Awards and Recognitions

Pinnacle West Capital Corp. ranked 15th overall in *Corporate Responsibility Magazine's* 2011 annual list of "100 Best Corporate Citizens." Recognized by *PR Week* as one of America's top three most prestigious rankings for public companies, the "100 Best Corporate Citizens" list is based on an analysis of 320 areas of corporate disclosure, including environment, climate change, employee relations, human rights, governance, finance and philanthropy.

Pinnacle West was listed in the 2010 Dow Jones North America Sustainability Index for the sixth year in a row.

For the sixth year in a row, Pinnacle West was named one of the Global 100 Most Sustainable Corporations in the World by *Corporate Knights* at the 2010 World Economic Forum in Davos, Switzerland.

In 2010, and again in 2011, APS was awarded the EPA's ENERGY STAR Award for Sustained Excellence, its highest ENERGY STAR honor, for its continued leadership in energy efficiency.

The United States Energy Association selected APS as the recipient of its 2010 Utility Partnership Volunteer Award.

APS was named EPA/DOE 2009 ENERGY STAR Partner of the Year from the U.S. Environmental Protection Agency for the APS ENERGY STAR Homes program. This was the third year in a row that APS has won the EPA ENERGY STAR Partner of the Year. In 2008, APS was EPA ENERGY STAR Partner of the year for its energy efficient homes program, and in 2007 it won for its Residential Lighting Program.

APS won the 2010 Solar Electric Power Associate Utility Innovation in Solar Program Design award for our Flagstaff Community Power Project, and the Community Outreach award for "The Renewables" education program. The Renewables program also won the 2010 E-Source Utility Print Ad award.

For the 14th straight year, APS received the Tree Line USA Award from the Arizona Community Tree Council in recognition of its leadership in urban forestry and environmental stewardship.

Pinnacle West earned the "best in class" status from Storebrand Socially Responsible Investment for its leading environmental and social performance.

Pinnacle West earned first place in the Utility Communicators International's 2010 Better Communications Competition for our 2009 Pinnacle West Annual Report, titled "*Powerful Relationships*."

The Phoenix Suns Charities presented APS with a 2010 "Commitment to the Community" award. Suns Charities highlighted the company's support for vital area non-profits, our work to help boost local economies and our efforts to assist limited income customers pay their bills. They recognized our sustainability efforts and the positive impact they have on the economy, environment and community.

In 2010, APS Energy Services was awarded the National Safety Council's "Recognition of Significant Improvement Award" for the reduction in injuries and illnesses that involved days away from work.

APS was named to the *Top Ten Utility Solar Integration Rankings* by the Solar Electric Power Association at the first annual Utility Solar Conference held in San Diego.

The United States Energy Association (USEA) announced its selection of APS as the recipient of its 2010 Utility Partnership Volunteer Award. In its announcement of the company's selection, USEA noted: "Since 2001, APS has been involved in multiple USEA International Energy Partnership Programs, which are funded by the U.S. Agency for International Development. They began with a utility partnership with BSES Orissa, a utility company in Eastern India. Since April 2009, APS has an ongoing transmission partnership with the National Electric Power Company of Jordan."



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# SUSTAINABILITY AT PINNACLE WEST

“We view sustainability as a business strategy. Our job is to provide customers with affordable, reliable electricity produced from clean, diverse sources. The only way to do that successfully is to engage with our stakeholders, build a talented workforce and act for the long-term. Our success is tied to the prosperity of the communities we serve.”

Don Brandt, Pinnacle West Chairman, President and CEO

This overarching business philosophy is why we develop business approaches, investment strategies and resource plans that consider the long-term impacts on the environment, our community, stakeholders and Arizona’s economy. Our corporate Strategic Framework defines the company’s vision, mission, areas of focus and values and illustrates how they work together to create our sustainable future.

## APS Strategic Framework



The chart at right illustrates our sustainability governance structure. A policy group consisting of company officers provides executive-level oversight for our sustainability efforts. The policy group and chief sustainability officer work with our board of directors on issues pertaining to sustainability.

Another key component of our efforts is the company's Sustainability Working Group (SWG). This cross-departmental team of key managers and leaders works in tandem with the Eco-Efficiency and Technology Innovation Department to improve coordination among the company's various departments. This team tracks and evaluates new issues and opportunities in sustainable business practices and helps ingrain those practices and philosophies throughout the company. This team also

## APS Sustainability Governance

### Sustainability Policy Committee

Executive Officers Provide Strategy/ Standards Feedback and Oversight

### Sustainability Working Group

Managers from APS Business Units

#### Initiative Teams

Develop Implementation Plans/ Sustainability Metrics

#### Eco-Efficiency & Technology Innovation (EETI)

Leadership/ Coordination/ Tracking of Company Sustainability Efforts

helps develop and track sustainability performance, including appropriate metrics. The SWG forms initiative teams from employees across the company, as needed, to work on specific sustainability projects.



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Sustainability initiatives are then driven through the organization through incorporation into departmental business plans and employees' performance plans.

### Anchoring a Sustainable Workforce

With a goal of achieving the highest level of sustainable business practices possible, we incorporate sustainability concepts into our daily operations and drive home the ownership of sustainability to every employee. This includes ongoing communications through our daily employee newsletter, and our sustainability website and blog.

Our efforts are enhanced through special activities such as Pinnacle West's "Sustainability Week" during which we have focused interactions with our employees about key sustainability issues. We also develop employee work plans which allow for continuous improvement and innovation. Our goal is to get our workforce to adopt sustainable practices as a normal course of business.

### Key Issues

The electric utility of the future will look much different than that of today. A critical component of our sustainability program is to identify emerging trends and key issues and implement effective business practices to meet those issues. As discussed in this report's Executive Message, we believe our achievements and continuous improvement across a broad range of sustainability issues will lead to long-term success.

Key Sustainability Issues	2010 Performance
<b>Shareholder Value</b>	Total shareholder return of 19.5 percent for 2010, outperforming the S&P 500 Index and the S&P 1500 Electric Utilities Index.  Pinnacle West's total return exceeds industry and market averages for the last one-, two-, three- and five-year periods.
<b>Electric System Reliability</b>	Top quartile of investor-owned utilities nationwide for key system reliability indicators (SAIFI, SAIDI).  The company exceeded its goals in all principal measures of reliability, highlighted by continued strong performance in the number of outages per customer (less than one per year on average) and in the average outage duration (84 minutes).
<b>Employee Safety</b>	Top 15 percent of our industry in 2010 based on Edison Electric Institute rankings of recordable injuries.  APS had a 33 percent improvement in our recordable injuries over last year, making 2010 our best safety year on record.
<b>Environmental Stewardship</b>	No significant Notice of Violations (NOV) in 2010.  Significant reductions in air emissions with sulfur-dioxide emissions in APS-owned generation reduced by more than 45 percent over the past two years, and nitrous oxide emissions reduced by more than 11 percent over the same time period.
<b>Customer Satisfaction</b>	APS ranked third in the nation among large investor-owned electric utilities in the 2010 J.D. Power and Associates Customer Satisfaction Survey.
<b>Climate Change</b>	APS achieved voluntary-reduction metric by reducing carbon-dioxide emission intensity (pounds of carbon-dioxide per megawatt hour production) by more than 10 percent from baseline year 2000 to 2010.  We achieved our voluntary carbon-dioxide emission-reductions metrics for improving vehicle miles per gallon in our mobile fleet and for reducing electricity use in our metered facilities.
<b>Renewable Energy</b>	APS had 826,534 megawatt hours of total renewable generation in 2010, enough to meet the needs of about 74,000 homes. By the end of 2015, we expect renewable energy to supply about 15 percent of our retail customers' electricity needs.  Construction started on Solana Generating Station near Gila Bend, Arizona in 2010. APS will purchase all of Solana's 250 megawatts of solar energy.
<b>Energy Efficiency</b>	2010 energy efficiency programs achieved 319,507 megawatt hours of savings, equivalent to 1 percent of annual retail sales.
<b>Operational Performance</b>	APS was in the top quartile in the electric industry for fossil-fueled power plant capacity factor, a common metric of generation output.  The Palo Verde Nuclear Generating Station ranked first in the nation for power production in 2010, while avoiding over 31 million metric tons of carbon-dioxide emissions when compared to equivalent generation from a coal-fired power plant.  In 2010, APS began testing smart grid technology that reduces the duration and magnitude of electric outages.



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Our future is a shared one with our customers, shareholders, employees and the communities in which we live and do business.

The chart on the preceding page illustrates several key areas integral to our ongoing success. Performance results in these areas are directly tied to internal targets forming the results of incentive pay for our employees in our 2010 APS Incentive Plan. Of particular note is the increased role that energy efficiency and renewable energy play in meeting our vision of a sustainable energy future in Arizona.

An integral part of our resource plan, our energy efficiency programs are designed to reduce energy demand and further reduce the need to build new power plants.

We believe the cleanest, cheapest kilowatt-hour of electricity is the one that's never used. To us, energy efficiency is not just a program — it's a viable resource — as much as coal or natural gas. It means smarter appliances, smarter homes and businesses, and a smarter grid — working together to use less power.

Renewable power, including solar, wind, geothermal and biogas, is the major component for future new generation in our resource plan. APS expects to add more than 1,600 megawatts of new renewable resources, or enough energy to serve an additional 400,000 homes in the next 15 years.



Emerging key issues are identified through our Enterprise Risk Management system, which identifies and evaluates a variety of emerging issues and risks across the company. Departments across the company participate in the risk management process to help identify key emerging issues and risks.

### Stakeholder Engagement

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 — it is the way we do business and a way we improve our business.

#### Creating Powerful Partnerships: Arizona Business Advancing Sustainability

APS has taken a leadership role in helping Arizona companies adopt sustainable practices through its role in Arizona Business Advancing Sustainability (AzBAS). AzBAS is helping create a better community for residents and businesses alike by providing a forum where businesses can measure their sustainability goals and share ideas and information on how to make choices that are good for each individual business, the economy and the community. Currently, AzBAS is represented by more than 30 member companies statewide. [Read more](#) about AzBAS.



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## Working With Our Customers

Our company interacts with customers in a variety of ways; through newsletters, our 24-hour call center, customer surveys, focus groups, office visits, our websites and through our active community outreach and volunteer programs. The company also conducts semi-annual customer satisfaction surveys. APS also offers customers outage information via Twitter and recently established a presence on Facebook.

APS is using these popular digital communication channels to engage customers in new ways and open lines of dialogue. On Twitter, the APS Outage Center (@APSOutageCenter) keeps customers aware of the status of large outages, mainly during Arizona's summer monsoon season. In addition, it 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](http://aps.com) in order to communicate with the more than 32,000 customers who have indicated a preference for Spanish-language communications. In 2010, APS launched a Spanish-language bill for those customers who requested 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. From these customer interactions, we are able to better 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's annual companywide 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 also 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 can provide feedback, anonymously if desired.

These processes are discussed in further detail in other sections of this report, including Workplace Performance and Corporate Governance.

### Customers weigh in on how to meet future energy needs at the Energy Forum

Instead of holiday shopping or watching college football, 190 APS customers spent a Saturday in December learning about the different ways APS can generate electricity and the trade-offs associated with each technology. Randomly selected, customers took part in a special Energy Forum produced by ASU's Morrison Institute for Public Policy and funded by APS.



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Pinnacle West also offers employees an online Sustainability Discussion Board to promote employee dialogue about sustainability topics and ideas. To date, more than 1,000 employees have visited the site.

### 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 rapid 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 and 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 decoupling, 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 that is an important part of our community outreach efforts. This effort is extensive and partners Pinnacle West with communities across our service territory. Likewise, our small business development program, minority- and women-owned business development program, statewide economic development program and other business and community outreach programs all provide formal and ongoing outreach to our communities.

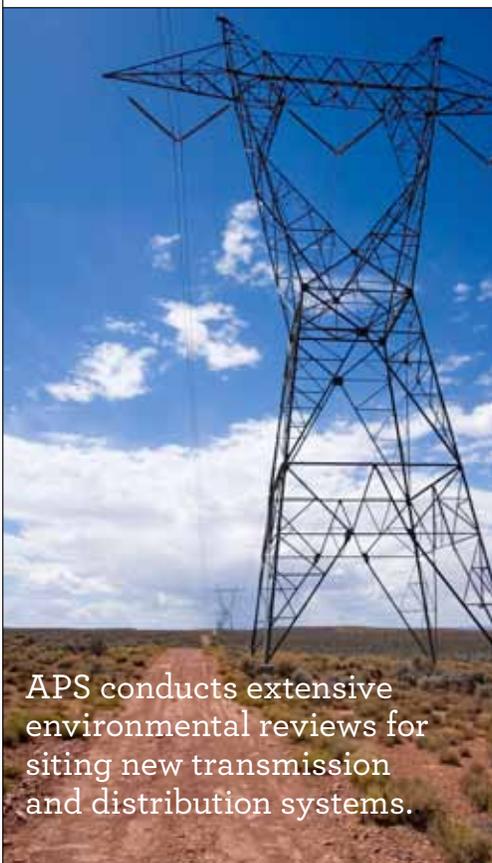
### TRANSMISSION AND DISTRIBUTION LINE SITING

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 which consists 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 that are less than 115kV and are not required to follow the process. This voluntary process is much like the CEC process through which numerous environmental factors are evaluated and the public participation process seeks to communicate transmission line siting information to local citizenry to obtain their input. This allows APS to site transmission lines in the most sustainable manner that meets project requirements.



APS conducts extensive environmental reviews for siting new transmission and distribution systems.



### VIDEO

[Morgan to Pinnacle Peak Line Siting Project: Building a reliable electric grid.](#)



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## Enterprise Risk Management

We recognize in order to achieve our objectives and ultimately our corporate vision and mission; we must have a consistent, sustainable process for managing risk and seizing opportunity. It is just another way we create long-term value for our customers, shareholders, employees and the communities we serve.

Managing risk is inherent in everything we do, and is part of every employee's responsibility. Whether the risk is identified as keeping our employees and customers safe; ensuring adequate liquidity to meet financial obligations or planning for a sustainable energy future for Arizona, we believe the process of identifying, assessing and responding to risk is of utmost importance.

We emphasize the need to be proactive in thinking about risk. By taking time to proactively identify, assess and respond to potential events, we can increase the likelihood we will achieve our objectives.

We established an internal working group to identify and effectively manage factors deemed key in shaping the utility of the future and more importantly, Arizona's energy future. Climate change, social and economic trends, as well as technological advancements, all will play an important role in the future.

To ensure accountability for the risk management process, we have charged our Enterprise Risk Management (ERM) department with the mission of supporting business leaders by assisting

them in identifying, assessing and responding to risk. Through this direct interaction, we better prepare our employees to succeed in carrying out our vision and mission.

## Affiliations and Memberships

We believe working with our peers is critical. APS actively participates in a large number of industry, professional and governmental organizations. By sharing knowledge and information regarding the issues and risks facing the electric industry, we can develop innovative approaches and technologies to meet those challenges. It also allows us to more effectively monitor and respond to key sustainability issues such as climate change. Our employees often take leadership roles in these organizations.

These are some of the organizations in which we participate.

### GOVERNMENT AND NGO PARTNERSHIPS AND ORGANIZATIONS

#### Coalition of Environmentally Responsible Economies (CERES)

Ceres is a national network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change.

#### PowerTree Carbon Company

PowerTree Carbon Company LLC is an initiative sponsored by 25 U.S. power companies to plant trees in critical habitats in the Lower Mississippi River Valley in order to manage carbon dioxide levels. The projects will restore bottomland and

hardwoods on marginal agricultural lands, create habitats for birds and other wildlife, and provide other environmental benefits including improved water and soil quality.

#### The National Wild Turkey Foundation (NWTF) Energy for Wildlife

The NWTF is a grassroots, non-profit organization with 545,000 members in 50 states, Canada, Mexico and 14 other foreign countries. It supports scientific wildlife management on public, private and corporate lands.

#### The Nature Conservancy

The Nature Conservancy is the leading conservation organization working to protect the most ecologically important lands and waters around the world for nature and people. The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

#### EPA Coal Combustion Products Partnership (C2P2)

The Coal Combustion Products Partnership (C2P2) program is a cooperative effort between the U.S. Environmental Protection Agency, American Coal Ash Association, Utility Solid Waste Activities Group, U.S. Department of Energy, and U.S. Federal Highway Administration to help promote the beneficial use of Coal Combustion Products (CCPs) and the environmental benefits that result from their use.



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## **EPA Climate Leaders**

Climate Leaders is an Environmental Protection Agency (EPA) industry-government partnership that works with companies to develop long-term comprehensive climate change strategies. Partners set a corporate-wide greenhouse gas (GHG) reduction goal and inventory their emissions to measure progress. By reporting inventory data to the EPA, partners create a lasting record of their accomplishments. Partners also identify themselves as corporate environmental leaders and strategically position themselves as climate-change policy continues to unfold.

## **EPA SF6 Emission Reduction Partnership**

The SF6 Emission Reduction Partnership for Electric Power Systems is a collaborative effort between the EPA and the electric power industry to identify and implement cost-effective solutions to reduce sulfur hexafluoride (SF6) emissions.

## **EPA WasteWise**

WasteWise is a voluntary EPA program through which organizations eliminate costly municipal solid waste and select industrial wastes, beneficially effecting their bottom line and the environment. WasteWise is a flexible program that allows partners to design their own waste-reduction programs tailored to their needs.

## **EPA/DOA Energy Star Program**

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping consumers

save money and protecting the environment through energy-efficient products and practices.

## **INDUSTRY GROUPS AND ASSOCIATIONS**

### **Arizona Businesses Advancing Sustainability**

Founded by APS and Intel, AzBAS is a business association dedicated to improving economic, environmental and social business practices in Arizona.

The American Council on Renewable Energy (ACORE) is focused on accelerating the adoption of renewable energy technologies into the mainstream of American society. ACORE promotes all renewable energy options for the production of electricity, hydrogen, fuels and end-use energy including, solar, wind, geothermal, hydro/ocean, waste energy and fuels, biomass and biofuels.

### **American Wind Energy Association (AWEA)**

The AWEA is a national trade association that represents wind power plant developers, wind turbine manufacturers, utilities, consultants, insurers, financiers, researchers and others involved in the industry. AWEA provides up-to-date, accurate information about the domestic and international wind energy industry.

### **Arizona Solar Energy Association (ASEA)**

The ASEA's mission is to educate the people of Arizona about solar energy, its applications and the benefits of utilizing solar technologies.

## **CEA Technologies Inc. (CEATI)**

CEATI brings electrical utility industry professionals together, through focused interest groups and collaborative projects, to identify and address technical issues that are critical to their organizations.

## **Common Ground Alliance (CGA)**

The Common Ground Alliance (CGA) is a member-driven association dedicated to ensuring public safety, environmental protection, and the integrity of services by promoting effective damage prevention practices.

## **Edison Electric Institute (EEI)**

EEI is a trade association for U.S. shareholder-owned electric companies. EEI advocates equitable policies in legislative and regulatory arenas and provides advocacy, authoritative analysis and critical industry data to its members, Congress, government agencies, the financial community and other opinion-leader audiences. It provides forums for member company representatives to discuss issues and strategies to advance the industry and to ensure a competitive position in a changing marketplace.

## **Electric Power Research Institute (EPRI)**

EPRI manages a broad public/private collaborative research program covering generation, environmental protection, power delivery, retail use and power markets on behalf of the electric utility industry, the industry's customers and society at large.



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### **Institute of Nuclear Power Operations (INPO)**

The nuclear electric utility industry created the Institute of Nuclear Power Operations (INPO) in 1979. INPO's mission is to promote the highest levels of safety and reliability — to promote excellence — in the operation of nuclear electric generating plants.

### **U.S. Green Building Council (USGBC)**

The USGBC is the nation's foremost coalition of leaders from across the building industry working to promote buildings that are environmentally responsible, profitable and healthy places to live and work.

### **Utility Solid Waste Activities Group (USWAG)**

USWAG is responsible for addressing solid and hazardous waste regulatory issues on behalf of the utility industry and supports a balanced and reasonable approach to waste management that helps ensure cost-effective protection to the environment. Scott Davis, APS EHS Director, is the current Chairman for USWAG.

### **Utility Water Activities Group (UWAG)**

The UWAG deals with water-related regulatory issues of importance to electric utilities and supports a balanced and reasonable approach to water quality management that helps ensure cost-effective protection of the environment.

### **Utility Air Regulatory Group (UARG)**

The Utility Air Regulatory Group is a nonprofit, unincorporated

organization of individual electric utilities and national trade associations.

### **Valley Forward**

Valley Forward Association brings business and civic leaders together to convene thoughtful public dialogue on regional issues and to promote cooperative efforts to improve the environment and livability of Phoenix area communities.

### **Water Reuse Association, Arizona Chapter**

The mission of the Water Reuse Association is to advance the beneficial and efficient use of water resources through education, sound science, and technology using reclamation, recycling, reuse, and desalination for the benefit of members, the public, and the environment.

### **WEST Associates**

WEST Associates is a group of 17 public and private electric utility companies that serve 15 million consumers in the rapidly growing 11 Western states and North Dakota. WEST Associates has played a constructive role on energy and environmental issues in the West since 1964. C.V. Mathai, APS Manager for Environmental Policy, is the current President of WEST Associates.

### **Western Business Roundtable (WBRT)**

The WBRT is a non-profit business trade association comprised of CEOs and senior executives of organizations doing business in the Western United States. WBRT advocates economic development, environmental protection, regulatory

reform, energy policy, public lands use, waste management and air and water quality.

### **AMR Sustainability Peer Forum**

The Sustainability Peer Forum brings together environmental and sustainability leaders from across industries to share and discuss best practices, lessons learned, and how to create industry-leading companies with innovative products and service.

### **The Product Development and Management Association (PDMA)**

PDMA is global advocate for product development and management professionals. PDMA's mission is to improve the effectiveness of individuals and organizations in product development and management. This is accomplished by providing resources for professional development, information, collaboration and promotion of new product development and management.



For the sixth year in a row, Pinnacle West was named one of the Global 100 Most Sustainable Corporations in the World by *Corporate Knights* at the 2010 World Economic Forum in Davos, Switzerland.



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# OUR BUSINESS

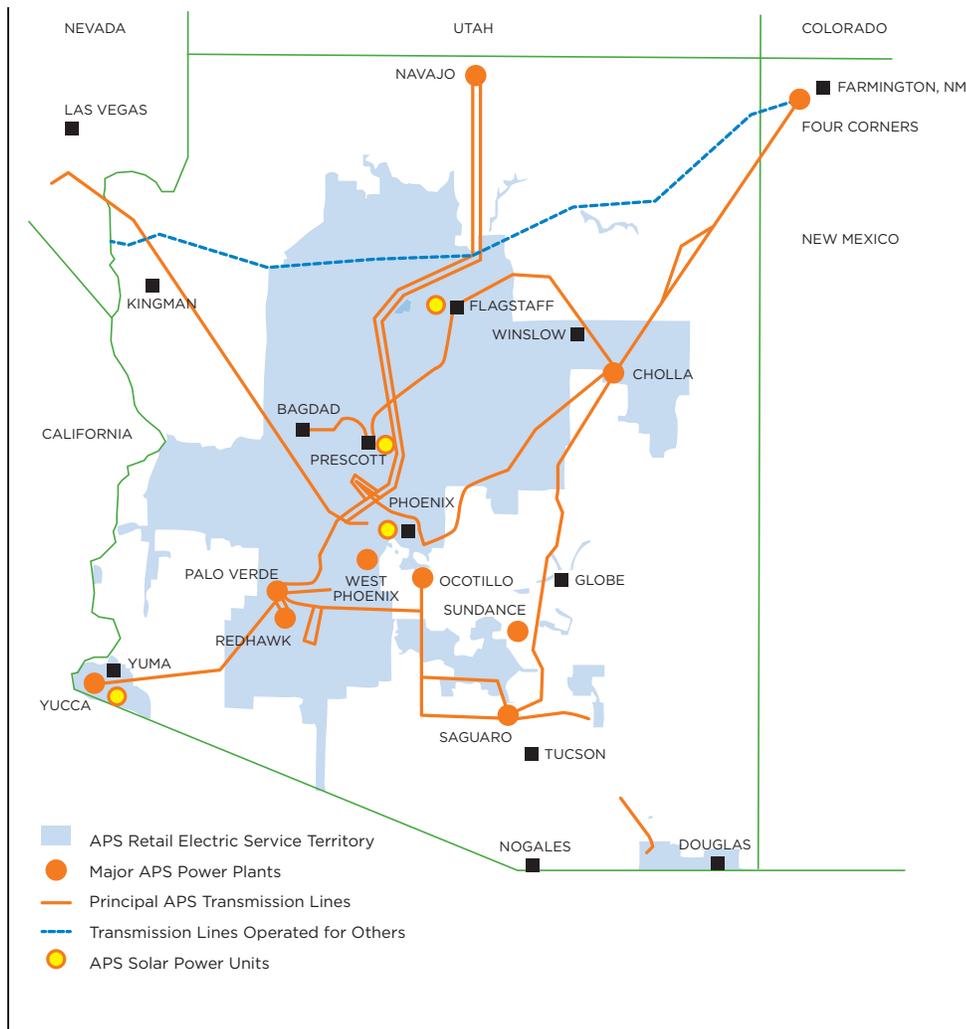
At Pinnacle West and APS we generate safe, affordable and reliable electricity to more than 1.1 million retail and residential customers. But at our core, we are more than that. For the past 125 years, we have become a partner with the communities we serve and are fully invested in the health and vitality of our state. At the heart of our business model is our mission to help create a viable and sustainable energy future for Arizona.

## APS's Electric System

In order for a modern society to thrive, it needs an integrated, instantaneous electric system at the core of its infrastructure.

Without plentiful and affordable electric power, our economy simply would not function. Unlike the need for a new road or public park, the demand for electricity cannot be deferred nor should its importance be underestimated.

APS's electric system includes power plants which generate electricity, transmission lines which carry it from our power plants to substations where it is regulated and transferred to the distribution system which in turn carries it to more than 1.1 million residential, commercial and industrial customers.



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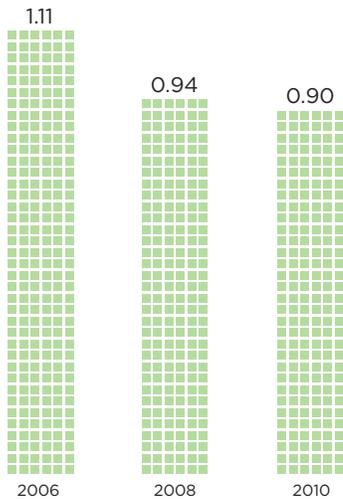
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**SYSTEM RELIABILITY**

For APS, system reliability and customer satisfaction go hand-in-hand. Put frankly, our customers expect their electricity to be there when they flip the switch, 24 hours a day, seven days a week. We're proud that in 2009, APS recorded its best-ever results in system reliability and we continued to build on that performance in 2010.

**APS Electric Reliability**

Average Electric Outages per APS Customer



According to the All Weather System Average Interruption Frequency Index (SAIFI) metrics, APS customers saw an average of 0.90 outages per customer, a 37 percent improvement since 2000.

This reliability performance is the result of a concerted effort to improve the health of the electric grid over the last decade. In addition, the System Average Interruption Duration Index (SAIDI) reached an all-time low in 2010 of 75 minutes, an improvement of 29 percent over 2000, which placed APS's system availability at better than 99.99 percent for the second year in a row.

This is the third consecutive year APS has set a new company record for reliable energy. Our 2010 SAIFI and SAIDI results are expected to be in the top quartile of investor-owned utilities nationwide.

**SMART GRID: TRANSFORMING CUSTOMER RELATIONSHIPS**

The fundamentals of the instantaneous, integrated electric system have not changed much since it was envisioned over a century ago. Construction and management of transmission and distribution lines, substations and components has become more efficient over the years, but the general workings of the system remain the same. But that too is changing. New "smart grid" technologies are transforming the nature of our relationships with customers and the communities we serve.

The smart grid is the effort to bring the electric grid into the 21st Century and to enable the system to function more efficiently and intelligently — less like a machine

950,000

APS plans to have 950,000 customer smart meters installed by 2012 and the remaining 200,000 installed by 2014.

and more like a computer. The scale of technological change will be similar to the transformation of the telephone system from dial phones to digital high-speed internet and wireless communications.

The smart grid is not a single technology or component; rather, it is an integrated portfolio of innovative technologies that work together. These have a governing communications infrastructure that facilitates communications and control among all the interacting components and systems. Devices such as "smart meters" on homes, sensors and

**Grid Today**

- Electromechanical analog
- Minimal communications (if any)
- Centralized generation
- Radial topography
- Few sensors
- "Blind"
- Manual restoration
- Failures and outages
- Manual equipment checking
- Emergency decisions made by committee/phone
- Limited control over power flows
- Limited price information
- No consumer influence/involvement

Source: Gridwise Alliance

**Smart Grid**

- Digital
- Ubiquitous two-way communications
- Distributed generation
- Network topography
- Ubiquitous monitors and sensors
- Self-monitoring
- Semi-automated restoration; self-healing
- Adaptive protection and "islanding"
- Remote equipment checking
- Decision support systems, predictive reliability
- Persuasive control systems
- Full price information
- Consumer influence/involvement



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automated switches on power lines and powerful computer algorithms all work together to assess and communicate real-time conditions of utility lines and equipment and help customers manage their energy usage.



#### VIDEO

As part of a suite of “smart grid” technologies, new smart meters will change the way customers communicate with APS, and will allow them to take better control of their energy use.

Changes from a “smarter” grid will enable consumers to become engaged in making intelligent choices about their energy use based on their priorities. We anticipate that smart grid technology will give customers more choices about the amount and type of power they use and when they use energy resources. The technology transformation on the grid also will usher in changes in homes and businesses ranging from demand response devices to new appliances to electric vehicles. The local-area networks many have become accustomed to with the Internet may become local-energy networks with devices interacting to save energy and money.

Smart grid is in the early stages at APS. The company has chosen to test and prove new technology concepts before implementing them on a wide scale. Currently, APS has proposed or is engaged in a number of these pilot programs including:

The Community Power Project in Flagstaff is the nation’s most comprehensive distributed energy project. Smart grid technologies will help manage the flow of distributed energy behind the scenes.



#### VIDEO

The Community Power Project in Flagstaff is harnessing the power of the sun and the power of community in an exciting distributed energy solar project.



#### Community Power Project—Flagstaff Pilot

The Community Power Project is the nation’s most comprehensive distributed energy project. In 2009, APS and its partners received a \$3.3 million grant from the U.S. Department of Energy 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. One-third will come from solar panels on 175 residential rooftops, one-third from a solar panel installation at a school, and one-third from banks of solar panels and small wind turbines at a utility-scale energy park. Smart grid technologies

will help manage the flow of distributed energy behind the scenes. APS will also test the dispatch of stored solar energy from a mobile 500-kilowatt battery storage system at times when clouds pass over.

#### Self-healing Grid 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 for those who are affected. Already, the pilot has saved customers more than 300,000 total outage minutes.



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### Home Energy Information Pilot

APS will begin a two-year test of home energy usage with 2,800 customers in the summer of 2011.

The objective will be to test the customer conservation effects of smart thermostats that display real-time energy use, mobile phone applications, voluntary demand response programs and pre-paid energy programs.

### ev-READY Pilot

APS has proposed a comprehensive program to support customers purchasing electric vehicles (EVs). APS will test models for vehicle charger ownership, offer charger-friendly rates and test battery storage capabilities from the next generation of EVs. A decision from the Arizona Corporation Commission is expected in summer 2011.

Overall, smart grid technologies present a significant opportunity to improve system reliability and enable the company to better manage customer demand, reducing the need for additional generation capacity. Smart grid technologies carry positive environmental and societal impacts as well — from fewer service vehicles on the road to a reduction in productive time lost by our customers due to outages.

### Distribution Operations Management System (DOMS): Powering Reliability

APS prides itself on innovation and service, employing new technologies wherever possible. Two cutting-edge technologies that will benefit customers and APS are smart meters and the company's Distribution Operations Management

System (DOMS). The company designed the DOMS software system to replace wall maps and to track outage information in near real time. Like many utilities across the country, APS has relied primarily on paper wall maps marked with color-coded pins to understand the big picture of its electrical grid. In 2009, APS completed the first phase of implementation of DOMS systemwide and will continue to monitor its performance. While APS's traditional methods of managing electrical loads and outages work well; the company recognizes the need for new technology to address the expected growth of its service territory. We anticipate the DOMS system will allow the company to improve outage communications and reliability reporting, and further reduce the duration of customer outages.

2009

APS completed the first-phase implementation of the DOMS system, which tracks outage information in near real time.

This outage management system will allow APS to consolidate its operating centers, covering about 35,000 square miles including the Phoenix metro area and four state divisions. This system is also the foundation for improving the way APS manages distribution operations, maintenance, data

quality and customer service. DOMS provides a platform for APS to explore suggested switching and fault-finding tools in the future. It also allows the company to leverage its investment in the Geographical Information System (GIS) by providing GIS operators a network view of distribution facilities.



### VIDEO

[APS is using technology like its DOMS system to reduce outage restoration times.](#)

### Transformer Oil Analysis and Notification (TOAN) System

APS's TOAN system changes the way electric utilities maintain critical infrastructure. This Edison Award-winning preventive tool aims to make catastrophic transformer failures a thing of the past — not only for APS, but for the entire electric industry. Transformers are large, expensive pieces of electrical equipment located in substations across the APS service territory. They are used to regulate the amount of electricity coming out of the substations and into homes and businesses.

Through TOAN, APS monitors transformers oil samples — which indicate the health of a transformer — every four hours. Through the use of artificial intelligence, TOAN is able to notify maintenance personnel of transformer problems by recognizing patterns of dissolved gases in the transformer's insulating oil, similar to a doctor recognizing patterns in a human's blood test.



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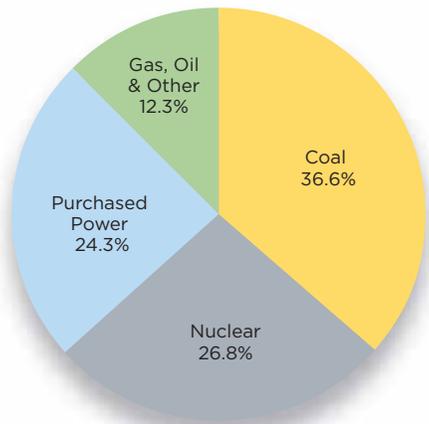
## TOAN Potential Benefits

- Saves customers millions of dollars from unplanned repairs
- Prevents catastrophic failures and provides the company time to replace failing components
- Improves reliability
- Improves safety

## APS Generation

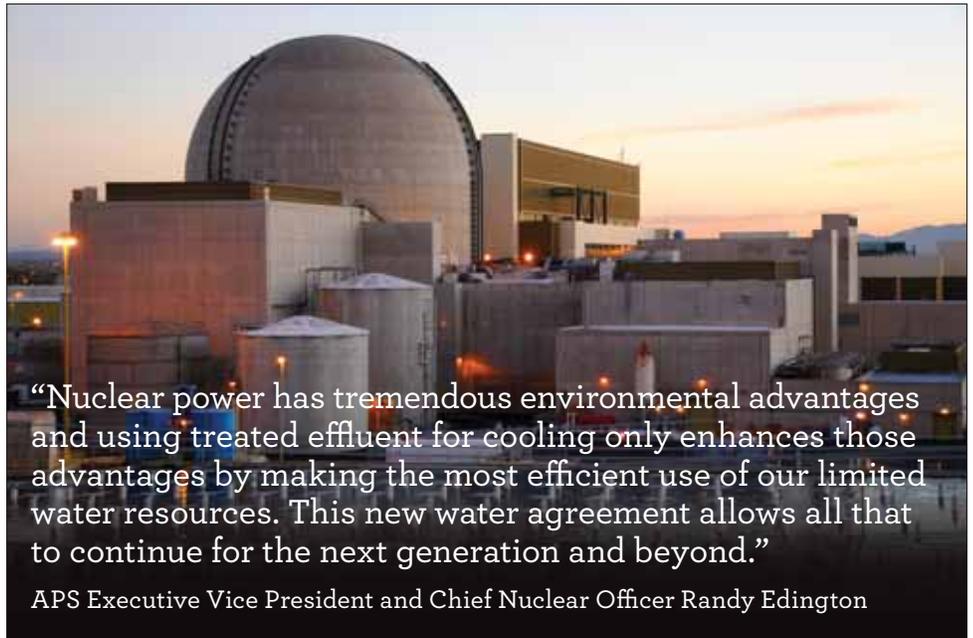
Electrical generation is at the heart of our business. We obtain our energy from APS-owned generating sources and from power purchased from merchant power producers (mostly natural gas plants). Most of our renewable power is also currently purchased under long-term power-purchase contracts, although the company is building more APS-owned renewable power under the

APS Generation Mix



Renewable energy is included in the Purchased Power and Gas, Oil & Other segments. Please see the Renewable Energy section of this report for details.

APS's coal plants achieved a combined capacity factor of 81 percent in 2010—outperforming the latest industry average of 65 percent. Our five-year average (2006-2010) net capacity factor is 84 percent as compared to the most recent five-year (2005-2009) industry average of 72 percent.



“Nuclear power has tremendous environmental advantages and using treated effluent for cooling only enhances those advantages by making the most efficient use of our limited water resources. This new water agreement allows all that to continue for the next generation and beyond.”

APS Executive Vice President and Chief Nuclear Officer Randy Edington

AZ Sun program, discussed in the Renewables section of this report.

APS maintains a diversified fuel mix including coal, natural gas, oil and nuclear energy as well as renewable energy sources.

This fuel mix is part of our company's overall enterprise risk-management efforts and resource plan. A diverse fuel mix allows us to better manage fuel-price volatility and permits us to enter into long-term fuel-purchasing agreements with our suppliers, reducing our costs and providing stable fuel sources into the future. In addition, it gives us the operational flexibility to respond to changing markets and current events. Our fuel mix has been a significant factor in our ability to decrease our air-emissions intensity while continuing to add generation resources to meet customer growth. Renewable energy and energy efficiency programs are increasingly important components of our fuel mix as well, as discussed later in this report.

## Generating Energy From Nuclear Power: Palo Verde Nuclear Generating Station

Nuclear energy is an important part of our generation mix, and will be into the foreseeable future. Nuclear energy provides economic and environmental benefits, including significant air emissions avoidance. APS's nuclear generation is from the Palo Verde Nuclear Generating Station, located about 50 miles west of Phoenix, Arizona. Palo Verde is the largest nuclear generation facility in the United States and its three units produce about 30,000 gigawatt hours of energy annually.

APS operates the plant and owns 29.1 percent of Palo Verde's Units 1 and 3 and about 17 percent of Unit 2. APS also leases 12.1 percent of Unit 2, resulting in a 29.1 percent combined interest in that Unit. Nuclear power is a critical aspect of our climate change response, generating large amounts of electricity with essentially no carbon emissions. Each year the



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electricity generated at Palo Verde helps avoid over 31 million metric tons of carbon dioxide emissions when compared to equivalent generation from a coal-fired power plant. That's equal to about two times our current total greenhouse gas emissions.

Recent major equipment-replacement projects completed at all three Palo Verde units resulted in the rating of the three units increasing from 3,810 megawatts to 4,008 megawatts, an increase of 198 megawatts in net generating capacity. This increased the efficiency of the nuclear plant and the carbon reduction benefits of the plant in our overall generation mix.

At Palo Verde Nuclear Generating Station, we reached agreement in

2010 with five cities in the Phoenix metropolitan area to secure the cooling water essential to power production for the next 40 years, and completed the installation of new reactor vessel heads for Units 1 and 3.

### **Fukushima Daiichi Accident**

Our thoughts and prayers go out to the Fukushima Daiichi plant personnel, their families, and the people of Japan as they work through this difficult time. Palo Verde plans to apply every applicable lesson learned from this incident to continuously improve safety and reliability. A safe design coupled with the knowledge and training of dedicated nuclear professionals makes Palo Verde well positioned

to safely and efficiently generate electricity for the long term.

### **Nuclear Waste**

Nuclear power plant operators are required to enter into spent-fuel-disposal contracts with the Department of Energy (DOE), and the DOE is required to accept and dispose of all spent nuclear fuel and other high-level radioactive wastes generated by domestic power reactors. Although the Nuclear Waste Policy Act required the DOE to develop a permanent repository for the storage and disposal of spent nuclear fuel by 1998, the DOE has announced that the repository cannot be completed before at least 2017.

### **Palo Verde Facts**

- Palo Verde is built to withstand the unlikely event of a powerful earthquake. Palo Verde was intentionally sited in an area of low seismic risk. Even if the unexpected were to occur, the design, engineering and robust construction allows Palo Verde to withstand more than the maximum credible earthquake for the area.
- The plant is not susceptible to tsunamis. Located west of Phoenix, Palo Verde sits hundreds of miles from the nearest ocean, ensuring it is not in danger from the destructive power of tsunamis.
- Palo Verde is fully prepared to safely shut down if necessary. If an earthquake or any other natural disaster occurs, Palo Verde's redundant safety systems, continuous equipment testing and ongoing personnel training has been implemented to ensure the plant can be shut down safely. Our first and most important responsibility: to protect the health and safety of the public.
- America's most modern nuclear power plant, Palo Verde is one of our country's newest nuclear generating facilities. Palo Verde incorporates highly trained professionals, margins of safety, redundant layers of safety-related equipment and pressurized water reactors (the Fukushima plant uses boiling water reactors). As opposed to a boiling water reactor, a pressurized water reactor maintains the radioactive water within the containment structure.
- Palo Verde is dedicated to continuous improvement. The operators of Palo Verde, and the entire U.S. nuclear power industry, will carefully and conscientiously study the lessons learned from the events at Japan's Fukushima Daiichi nuclear power plant. Wherever applicable, the information will be used to ensure continued improvement in the safety and reliability of Palo Verde and other nuclear plants in the U.S.

In the long-term, the U.S. nuclear energy enterprise is built on a strong foundation:

- Reactor designs and operating practices that incorporate a defense-in-depth approach and multiple levels of redundant systems
- A strong, independent regulatory infrastructure
- Transparent regulatory process that provides for public participation in licensing decisions, and
- Continuing and systematic processes to identify lessons learned from operating experience and to incorporate those lessons as an industry.

For more information about the Palo Verde Nuclear Generating Station please visit the link below:

**L I N K**

[Palo Verde Information Sheets](#)



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Palo Verde and other nuclear power plants produce two forms of radioactive waste: high-level waste and low-level waste. High-level waste consists primarily of spent nuclear fuel. This spent fuel is highly radioactive for many years, but can be safely stored in spent fuel storage pools or specially designed and licensed spent-fuel storage casks. We manage existing spent fuel-storage pools at Palo Verde and are using a facility for on-site dry cask storage of spent fuel while we are awaiting the completion of a DOE Nuclear Waste Storage facility. With the existing storage pools and the addition of the on-site, dry-cask storage facility, we believe spent fuel-storage methods will be available for use by Palo Verde on-site to allow continued safe operation through the term of the operating license for each of Palo Verde's three units.

On average, Palo Verde replaces about 200 fuel assemblies annually. Some low-level waste has been stored on-site in a low-level waste facility; however APS is currently shipping low-level waste to off-site disposal facilities which are permitted to accept these types of wastes. Examples of low-level waste include used protective clothing, resins and filters.

**Low-Level Radioactive Wastes**

Year	Cubic Meters
2010	675
2009	768
2008	1,474
2007	1,094
2006	358
2005	656
2004	232

**Emergency Planning**

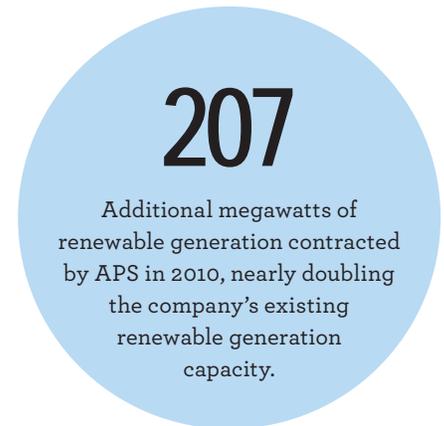
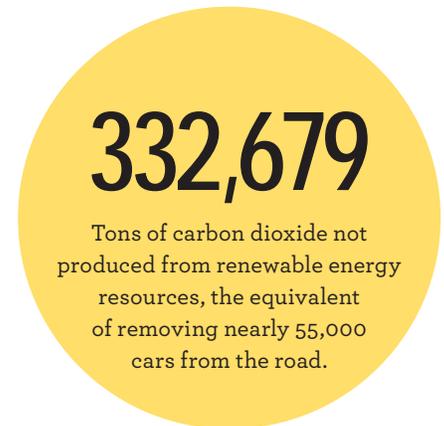
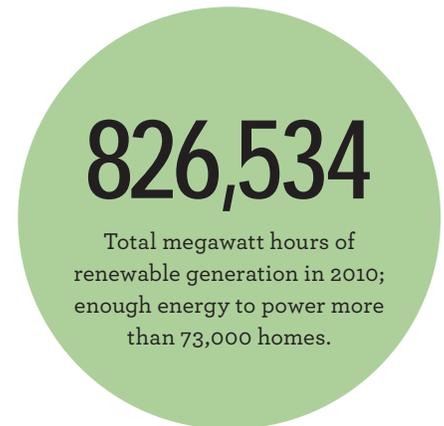
Emergency planning for Palo Verde is a cooperative effort involving Pinnacle West, APS (operating manager for Palo Verde), the State of Arizona, Maricopa County and the Town of Buckeye.

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.

**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 2010, despite continued difficult economic conditions throughout Arizona, APS saw unprecedented growth in utility-scale renewable generation production and the largest-ever expansion of residential customer participation in program history.

At APS, we increased the amount of renewable energy we provide our customers from less than one megawatt in 2001 to more than 275 megawatts by the end of 2010. By the end of



2015, we expect renewable energy to supply about 10 percent of our retail customers' electricity needs.

Renewable energy is a critical component of our long-range resource plan. APS projects that in 2025 the energy needs of our



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customers will be 50 percent higher than it is today. Accelerating the development of renewable energy is a linchpin in meeting this growth. APS expects to add more than 1,600 megawatts of new renewable resources, or enough energy to serve an additional 400,000 homes in the next 15 years.

By the end of 2010, APS's renewable generation and distributed energy portfolio was comprised of the following technologies and capacities:

Solar  
65 MW



Wind  
190 MW



Biomass  
20 MW



Geothermal  
10 MW



Biogas  
3 MW



### Perrin Ranch Wind Project

In 2010, APS contracted with PR Wind LLC to develop the 99MW Perrin Ranch Wind Energy Center in Northern Arizona. This plant will contain 62 wind turbine generators. Upon completion, expected by year end 2011, it will be the largest wind project in Arizona with

When fully operational, Solana will be one of the largest solar energy facilities in the world, with an anticipated yearly output of 903,000 megawatt hours.



an anticipated yearly output of 282,000 megawatt hours, enough energy for 25,000 homes.

### HELPING ARIZONA BECOME THE SOLAR CAPITAL OF THE WORLD

We have set an aggressive goal: **to help Arizona become the solar capital of the world.**

While wind, biomass, biogas and geothermal resources are important components of our renewable portfolio, Arizona's 300 sunny days a year make solar energy a smart, clean choice for renewable energy.

### Solana Generating Station

In December 2010, Arizona Solar One, LLC achieved financial close on the future 250-MW Solana solar-trough station with thermal energy storage. Construction began in November 2010 and the project is

expected to be in service in 2013, with an anticipated yearly output of 903,000 megawatt hours. When fully operational, Solana will be one of the largest solar energy facilities in the world. For more information visit the Solana website:

### LINK

[Solana Generating Station](#)

### AZ Sun Program

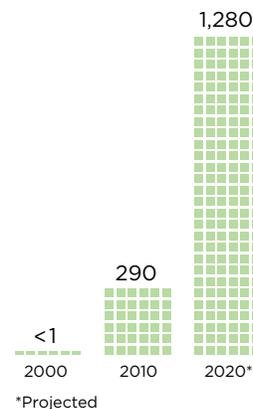
Over the next four years, APS plans to invest up to \$500 million to develop and own 100 megawatts of photovoltaic solar projects in Arizona under the AZ Sun program. This is enough clean energy to power 25,000 Arizona homes.

Projects already announced under the AZ Sun program include:

**Luke Air Force Base:** APS hired SunPower Corp. to design and construct a new 15-megawatt photovoltaic power plant to be built at Luke Air Force Base in Glendale. When operational, the plant will be one of the largest solar installations on U.S. government property. The plant will use 52,000 high-efficiency solar panels and will provide enough power to meet 50 percent of the base's energy needs.

### APS Renewable Energy Growth

Megawatts of Renewable Energy Capacity



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**Hyder:** Construction on the Hyder, Arizona 17-megawatt solar plant is expected to begin in June 2011, with an in-service date expected in the fourth quarter of 2011. This facility will also use polycrystalline photovoltaic panels mounted on single-axis tracking systems.

**Chino Valley:** Construction on the 20-megawatt Chino Valley, Arizona solar project is expected to begin in early 2012, with completion expected later in the year. This facility will use polycrystalline photovoltaic panels mounted on single-axis tracking systems.

**Gila Bend:** APS recently announced plans for a new 18-megawatt solar plant to be located in Gila Bend, Arizona. The plant will be owned by APS and sited in the town's new Solar Overlay Zone. The municipality has designated a geographic area as a fast-track permitting district for new solar photovoltaic projects. Permitting in this area will take less than three months, instead of the typical one to two years. By locating the new project within the boundaries of the Solar Zone, construction can begin in early 2011 with a completion date in November 2011.

The plant's 75,000 solar panels will be arranged in 1,566 rows connected to 108 single-axis trackers.



#### LINK

[APS Renewable Map](#)

This design enables the solar panels to follow the sun across the sky, making the plant more efficient than static-mounted panels typically seen on rooftops. On sunny days, the project is expected to produce enough energy to meet the needs of 4,500 residential customers.



#### VIDEO

[See the latest Renewables adventure.](#)

## APS COMMUNITY POWER PROJECT *Flagstaff*

### Creating a SMART Solar Grid

APS is harnessing the power of the sun like never before as demonstrated in an innovative pilot project called the Community Power Project<sup>SM</sup>, currently being conducted in the Doney Park area of Flagstaff, Arizona.

APS will own, maintain and receive the energy generated by solar panels installed on customer rooftops. Customers participating in the APS Community Power Project will be able to help create solar power with no upfront or maintenance costs and they will save on their electric bills over time. Results from the project will help APS make renewable solar energy a viable part of our energy future.



APS won the 2010 Solar Electric Power Associate Utility Innovation in Solar Program Design award for our Flagstaff Community Power project, and the Community Outreach award for "The Renewables" education program. The Renewables program also won the 2010 E-Source Utility Print Ad award.



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Through this project, APS will test the effects of a high concentration of distributed energy on a single feeder. The company also plans to deploy new smart-grid technologies to fully understand and efficiently manage generation and demand issues that may arise from the project. APS is one of the first electric utilities in the country to apply smart grid technologies to a solar project. Smart grid testing has been underway in Flagstaff since 2009. APS has installed smart meters throughout 95 percent of Flagstaff and portions of nearby Coconino County.

**L I N K**

[APS Community Power Project](#)

**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.

**Incentive Program Key Facts**

- Started in 2002 with photovoltaic solar electric systems and then added solar water heaters in 2003.
- Additional incentives were added in 2008 for wind, biogas/biomass and geothermal.

- 9,680 APS customers have participated in the program since its inception.
- All told, program participants have the capacity to generate 41 megawatts of “green” electricity, almost double from last year.
- Since the program’s inception in 2002, APS has provided \$105 million to customers to install their own renewable energy systems.
- APS customers who have taken advantage of the solar water heater and other thermal technology incentives are expected to displace 32,900 megawatt hours of energy.

**Thanks to Partnership, Fans Have it Made in the Shade**

The Arizona Diamondbacks’ Chase Field has a new feature this season — a stylish structure that will generate 75 kilowatts of solar power and provide Arizona Diamondbacks fans with extra summer shade.

A product of a partnership between the D-backs, Maricopa County Stadium District (MCSD) and APS, the structure will cover 17,280 square feet above the plaza area near the ballpark’s western entrances and ticket booths.

“The solar structure will not only further distinguish the D-backs’ green initiatives among professional sports teams, but it will also provide needed shading near the ballpark to enhance our fan experience during the hot summer months,” said D-backs President and CEO Derrick Hall. “This innovative project will be on display when baseball fans from around the world visit downtown Phoenix in July to attend the All-Star Game at Chase Field.”

APS plans to use the solar facility, which will have a 20-year life span, as a technical demonstration project. It will include



**VIDEO** Chase Field has a new feature this season — a stylish structure that will generate 75 kilowatts of solar power and provide Arizona Diamondbacks fans with extra summer shade.

electric vehicle charging stations and test a battery storage system.

“We are pleased to develop this project as part of our existing partnership with the D-backs and MCSD,” said Don Robinson, APS President and COO. “Behind the scenes, this will be a working laboratory. We will study what’s possible with urban solar arrays and how we can power electric vehicles directly from the sun.”

The project will also feature educational exhibits showcasing elements of sustainable

living such as renewable energy, energy efficiency, electric vehicles and recycling.

“This new structure represents the Maricopa County’s ongoing commitment to green practices and sustainability though a unique public-private partnership dedicated to enhancing the quality of life for the citizens of the county and Chase Field,” said Andrew Kunasek, Chairman of the Maricopa County Board of Supervisors, which also serves as the Stadium District’s governing board.



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### Green Choice Rate Program

APS offers three Green Choice rates approved by the Arizona Corporation Commission (ACC). Green Choice 1 is a fixed level of “green” power that customers can subscribe to each month. Green Choice 2 varies month to month per customer and is based on a percentage of a customer’s monthly usage. Green Choice 3 is a single block of “green” power that can be used for special events.

At the close of 2010, 3,277 customers subscribed to the family of Green Choice rates. Sales for the year were approximately 122,000 megawatt hours and the revenue for the program was more than \$485,000. The revenue associated with the Green Choice rates supplements the overall Renewable Energy Standard revenue collections, ultimately facilitating the development of additional renewable resources.

### Green-e Certification

Green-e is a national certification and verification program for renewable energy developed offered by the Center for Resource Solutions (CRS), a national nonprofit organization. This certification indicates that the renewable energy meets 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’s Green Choice renewable energy was sold under this certification program.

### Renewable Energy Standard & Distributed Energy

In 2006, the Arizona Corporate Commission (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 is 2.5 percent of retail electric sales in 2010 and increases annually until it reaches 15 percent in 2025. In APS’s 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 five percent for that year. APS exceeded the overall 2010 RES requirement, achieving 102 percent of the RES compliance target.

**13 million efficient, compact fluorescent light bulbs have been sold since 2005 through an APS discount program.**



A component of the original RES is focused on stimulating development of distributed energy systems (generally speaking, small scale renewable technologies located on customers’ properties). Accordingly, under the original RES, an increasing percentage of that requirement must be supplied from distributed energy resources. This distributed energy requirement is 20 percent of the overall RES requirement of 2.5 percent in 2010 and increases to 30 percent of the applicable RES requirement in 2012 and subsequent years. Further discussion of the RES and APS’s performance and future direction can be found in the Pinnacle West 2010 RES Compliance Report.

#### LINK

[Pinnacle West 2010 RES Compliance Report](#)

Customer participation in the APS Renewable Energy Incentive Program reached its highest level in program history in 2010. A total of 5,089 new distributed energy systems were installed in 2010, representing more than 36 megawatts of new capacity, for a total distributed energy program capacity of over 58 megawatts. The number of installations was more than twice the amount from 2009. The installed capacity in 2010 represents a 170 percent increase over the total installed capacity of the program’s cumulative history. Residential customers generated 70,969 MWh from distributed energy resources in 2010, compared with 31,227 MWh in 2009, a 127 percent increase. This production level allowed APS to exceed the target for residential distributed



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## Projected Pounds of Air Emissions Avoided APS Energy Efficiency Programs

Reporting Period	SOx	NOx	CO <sub>2</sub> *	PM10
YTD: January 2010 - December 2010	15,642	297,193	3,160	86,820
PTD: January 2005 - December 2010	48,642	924,193	9,827	269,989

\*CO<sub>2</sub> listed in millions of pounds

Over the next five years, APS plans to spend \$800 million on programs to help our customers use electricity more efficiently. This investment is expected to reduce the company's energy demand by about 2.7 million megawatt hours — the equivalent energy needed to power 200,000 Arizona homes for a full year.

energy for the first time in program history, achieving 102 percent of the annual RES compliance target.

Non-residential customer distributed energy (DE) installations also surged in 2010, with a total production of 60,444 MWh. When combined with wholesale distributed energy, APS reached 87 percent of the 2010 target for non-residential DE production. An additional 30 MW of projects were funded in 2010, although development schedules resulted in actual installations in early 2011.

Adding these projects together with those installed in 2010, APS's total nonresidential distributed energy production was well over the year-end 2010 target. In total, APS residential and non-residential programs achieved 95 percent of the company's 2010 DE target, compared to 58 percent in 2009.

Please see our APS 2010 RES Compliance Report for more information on our renewable energy programs.

### LINK

[APS 2010 RES Compliance Report](#)

## Energy Efficiency

Helping our customers use electricity more efficiently is a

critical component of our company's sustainability efforts. It's also important to our customers, our communities and our environment. By taking steps to conserve energy, customers can reduce their costs and also provide significant benefits to the environment. In 2010, the Arizona Corporation Commission established one of the most aggressive energy efficiency programs in the nation. The policy requires APS to achieve savings equivalent to 22 percent of retail sales by 2020, and provides performance-based incentives when we achieve those savings.

APS's 2010 goal under this standard was to meet 1 percent of retail sales with energy efficiency. APS's performance in 2010 was 105 percent of that goal, achieving 319,507 MWh of savings compared to a 303,151 MWh goal.

Conserving energy means less power needs to be generated to meet customer needs, which results in fewer emissions impacting the environment and fewer resources being consumed to produce that energy. Looking to the future, energy efficiency also allows APS to defer the construction of new generation to meet the demand for electricity.

APS offers a wide variety of demand side management (DSM) and energy efficiency programs to our residential and business customers. These include rebates and other incentives, training and energy information services to help customers improve energy efficiency and reduce demand.

APS has a comprehensive portfolio of DSM and energy-efficiency programs. Please review the links below for a detailed description of this portfolio which offers a wide range of energy efficiency programs to residential, business and educational customers.

### LINKS

[2011 DSM Implementation Plan](#)

[2010 DSM Progress Report](#)

### 2010 Energy Efficiency (Demand Side Management) Results

APS's 2010 DSM programs resulted in annual customer electricity savings of 319,507 MWh and a net peak capacity savings of 46 MW. APS's DSM programs also achieved more than \$3 in new societal benefits for each \$1 spent in 2010.

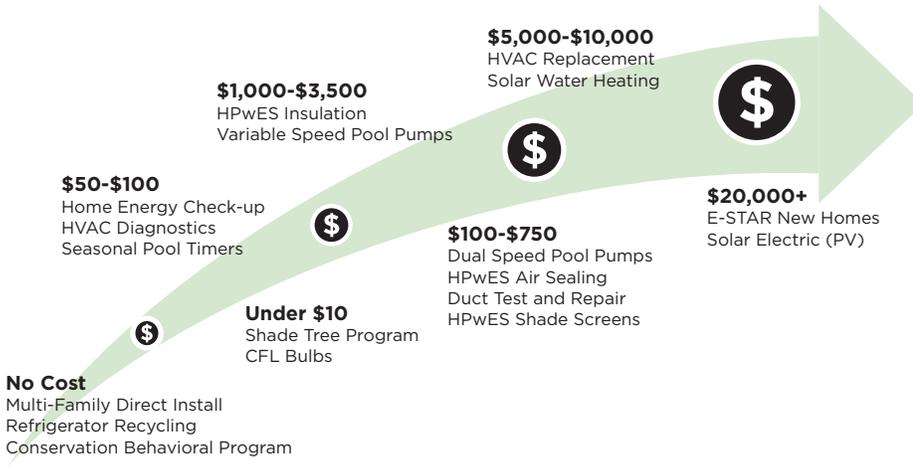
One of the major benefits of energy-efficiency programs beyond cost saving is the impact on emissions



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## More Price Points, More Opportunities to Participate



avoided (see table on preceding page). APS’s DSM programs had an estimated emissions avoided of 3.16 billion pounds (1.4 million metric tons) of CO<sub>2</sub> in 2010.

### U.S. Environmental Protection Agency Recognizes APS with Highest Honor for Energy Efficiency

For the second consecutive year, Arizona Public Service has earned the U.S. Environmental Protection Agency’s highest honor — The ENERGY STAR Sustained Excellence Award — for continued leadership in protecting the environment through energy efficiency. The award recognizes the APS ENERGY STAR Homes Program and the APS Home Performance with ENERGY STAR Program for promoting energy efficiency and reducing greenhouse gas emissions.

The ENERGY STAR awards are presented to a select group of organizations that exhibit outstanding leadership year after year. Award winners are selected from more than 17,000 organizations

across the country that participate in the ENERGY STAR program.

“To be honored by the EPA for our leadership is high praise indeed. It validates the effort we are making to create a sustainable energy future for Arizona,” said Terry Orlick, APS Director of Marketing. “The real significance of our commitment to energy efficiency is what it means to our customers — our programs empower them to use energy in the most efficient and affordable manner possible.”

“APS’s long-term leadership and commitment to energy efficiency demonstrates the types of accomplishments that we can all achieve in reducing greenhouse gas emissions and protecting our global environment,” said Elizabeth Craig, Acting Director of EPA’s Office of Atmospheric Programs. “We look forward to their continued partnership and leadership.”

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

#### LINKS

- [APS Energy Star Homes](#)
- [Home Performance with Energy Star](#)
- [APS CFL Lighting Program](#)

## What is Demand Side Management (DSM)?

**Energy Efficiency (EE):  
Reduce Energy Usage**  
High-Efficiency Equipment  
Behavior or Operational Changes  
New Construction  
Efficiency Standards

**Load Shifting:  
Shift Energy Usage  
to Off-Peak Times**  
Time of Use Rates

**Demand Response (DR):  
Reduce Peak Demand**  
Direct Load Control  
Critical Peak Pricing  
Standby Generation  
Thermal Storage



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## Cumulative Results

APS's DSM efforts from January 2005 to December 2010 have resulted in a net customer lifetime electricity savings of 10,930,730 MWh of electricity and a net peak capacity savings of 159.9MW. The cumulative impact of APS' DSM efforts on carbon reduction is significant, with an associated avoided emission of over 9.8 billion pounds (almost 4.5 million metric tons) of CO<sub>2</sub>.

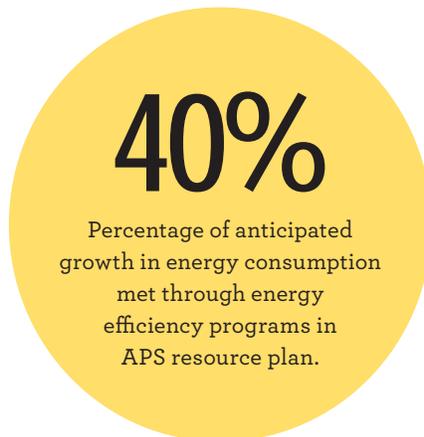
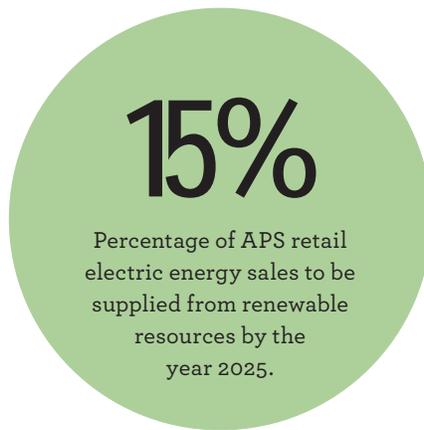
For more information on our DSM results, please view the APS 2010 DSM Progress Report, available at the link below. To learn more about our energy efficiency programs, including customer incentives, visit [aps.com](http://aps.com).

## LINKS

[DSM Progress Report](#)  
[aps.com](http://aps.com)

## Integrating Energy Efficiency with Resource Planning

DSM is an increasingly important resource in the ability to meet customer demand for electricity in the next 15 years. DSM is closely integrated into the APS Resource Plan Report (RPR), which evaluates the effectiveness of future DSM programs on APS's costs and energy generation. Energy efficiency is a major component of APS's plan. Under this plan, customers will have increased opportunities to use electricity more efficiently. The APS resource plan projects that 40 percent of the growth in energy sources from 2010 to 2025 will be met through energy efficiency programs, which could yield a reduction of almost 600 MW of demand from the grid, or roughly enough energy to power more than 110,000 homes.



## Decoupling

The Arizona Corporation Commission (ACC) approved a decoupling policy statement in late 2010 that acknowledges the utility company need for a decoupling mechanism in order to aggressively pursue the energy efficiency standard recently approved for the state of Arizona. In the policy statement, the ACC outlined one approach for constructing a decoupling mechanism, but urged the utilities to file their own decoupling mechanism in their next rate case. APS plans to include a revenue-per-customer decoupling mechanism in our 2011 rate case with the ACC.

Decoupling is a necessary tool to remove the current disincentive for utilities to lower their sales through energy efficiency and distributed energy programs.

## APS Home Energy Information Pilot

APS has begun a new Home Energy Information Pilot which will involve up to 2,800 eligible customers. The program will be completely voluntary and is designed to help provide customers with tools and options to help them manage their energy costs, while providing APS a cost-effective and environmentally friendly peaking capacity resource. During the pilot, customers will test the latest technology devices to manage energy use, including in-home displays, web interfaces, smart thermostats and smart phones. The pilot program consists of five separate test categories:

- Of which two categories will utilize smart thermostats
- Two more include the use of real-time energy usage information
- One will include a pre-pay energy option with multiple feedback mechanisms

Through the pilot, APS will identify which technologies and offerings provide the greatest value and customer acceptance, and then develop a full scale program.

## Residential Conservation Behavior Pilot Program

APS believes that changing behaviors is an important part of a sustainable future. With a growing customer base and an increase in the amount of



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power being used by our customers, educating the public about energy efficiency has many long-term and far-reaching benefits, including those felt by the company. In 2011, APS will start a new program called the Residential Conservation Behavior Pilot Program, which will provide participating residential customers with bi-monthly reports containing information designed to motivate them to change their energy usage behavior to save energy. Derived from best practices in behavioral science research, this program approach uses the powers of normative messaging to engage and motivate conservation actions across a very high percentage of participants. Normative messaging on energy use, combined with highly targeted recommendations on how to improve, is the basis of the concept for the Conservation Behavior program.

**Residential Shade Tree Pilot Program**

APS is proposing to conduct a Shade Tree Pilot Program in 2011. Utilizing a local non-profit agency, APS will host workshops to educate customers on the energy saving potential of desert adapted trees and provide training in proper planting and maintenance techniques. Participating customers will receive custom information on optimal planting locations, and ways to maximize the lifespan of the trees. APS will provide participating customers with up to three trees at no cost. Under the APS Residential Shade Tree Pilot Program, trees will be planted on the south, west and east sides of the home within 15 feet of exposed

exterior walls and windows. The goal is to continue the company’s commitment to protect and enhance urban forests, while further growing awareness and delivery of energy efficiency within its community.

Please see the link below for more information on this program.

**L I N K**  
[Residential Shade Tree Pilot Program](#)

**APS Energy Wise Low Income Assistance Program**

APS’s 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’s service territory.

**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

APS Procurement professionals consider a supplier’s capabilities and track record during the supplier selection and contract award process.

energy future. To help identify suppliers who share our goals, our sourcing events for goods and services include questions related to sustainability and environmental performance. Supplier responses are evaluated during the selection process.

**Electric Utility Industry Sustainable Supply Chain Alliance**

In 2008, APS joined the Electric Utility Industry Sustainable Supply Chain Alliance, a group of U.S. investor-owned electric companies that was formed to improve the environmental performance in the electric utility industry supply chains, including the development of voluntary consensus standards for evaluating the following:

- The environmental attributes of key materials and services provide to the electric utility industry;
- Environmental performance of suppliers to the electric utility industry; and
- Environmental performance of the Alliance Member’s supply chain operations.

Our suppliers’ ongoing performance and improvements on sustainability matters are discussed during regularly held supplier performance review meetings.



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We believe participation in the Alliance will provide significant benefits to our company's supply chain sustainability efforts. Alliance accomplishments for 2010 include:

- Established a new initiative to reduce energy consumption and greenhouse gas (GHG) emissions in the electric utility industry supply chain through an energy consumption reduction goal of 10 percent in aggregate by year 2015, using 2008 as a baseline, in the supply chain operations of our members.
- Committed to having a majority of participating member suppliers, from the Alliance Annual Survey, establish a voluntary greenhouse gas emission reduction goal by end of 2012.
- Developed a 2011 Operating Plan outlining 10 initiatives to assist the Alliance in meeting its strategic objectives.
- Conducted a second Annual Supplier Survey, the results of which were provided to the Alliance for strategic planning, measuring progress and identifying relevant trends.
- The Wood Poles Working Team published their final recommendations, which included life cycle analysis and supplier assessments.

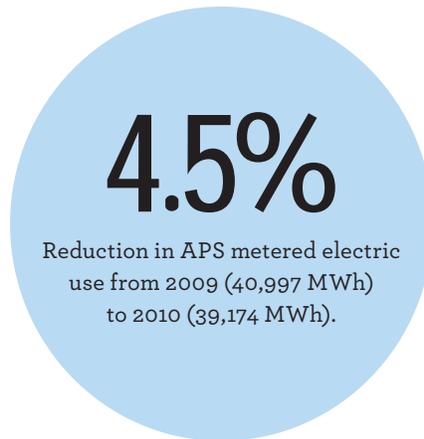
Further information on the Alliance can be found at the Alliance website: ([www.euissca.org](http://www.euissca.org))

LINK



### **Environmentally Preferred Products and Services**

Our 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 in order to minimize adverse environmental impacts and future liability.

All hazardous materials used by the company are required to be reviewed by a Chemical Review Team prior to purchase in order to help 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 been able to reduce the number of chemical products used across our system and to also reduce the potential risk of the chemical products we use by substituting products with a lower potential for health or environmental impacts.

### **MSDS**

All chemical products used at APS are included in an electronic Material Safety Data Sheet (MSDS) system which is 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 since it allows us to quickly identify the specific chemical ingredients contained in the products at our facilities, while highlighting the risk profile of specific products.

### **Contractor Safety**

Pinnacle West also has a Supplier Safety Policy which communicates the minimal requirements we expect of our contractors in terms of environmental compliance and employee safety. Contractors are expected to follow the same safety and environmental performance as APS employees. 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.



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## Investment Recovery

APS also has a successful Investment Recovery program that manages surplus materials and acts as a steward to our environment. The first objective is to re-deploy useful material within the company. For materials that can not be re-deployed, Investment Recovery may sell, recycle or donate materials. Disposal is the last option. In 2010, Investment Recovery recorded \$3.8 million in asset recovery, as well as almost \$362,764 of avoided landfill costs on recycled materials. In 2010, almost 11 million pounds of materials were also recycled.

## Supplier Diversity Program

APS's 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.

The Supply Chain Transformation focused on creating value-added partnerships with our business units with the shared goal of maximizing the value of all dollars spent while creating process efficiencies across the enterprise.

## 2010 Supplier Diversity and Development Targets and Results

APS's 2010 Supplier Diversity goals once again set the bar high for the

business units and Supply Chain Management. For 2010, our target was set at \$62 million and we exceeded that goal with \$64 million spent. In the past five years, APS's direct spend with diverse businesses has exceeded \$303 million.

## Taking AAAME at Small Business

The APS Academy for the Advancement of Small, Minority and Women-Owned Enterprises (AAAME) is a two-year business mentoring program designed, sponsored and administered by APS.

AAAME CEOs meet twice a month as a group, once a month with their assigned advisors and once a month with the AAAME director. Since 1997, 159 small businesses in the Phoenix-metro area have attended business training classes, built networks, developed resources and met with individual advisors all geared toward assisting them in reaching their next level of business success.

This focused and integrated mentoring has resulted in 122 AAAME graduates, with about 28 companies currently in some phase

of the AAAME process. All of these businesses have gained knowledge, support, insight, resources and skills that have allowed them to succeed and thrive in their chosen business. Many of the AAAME companies have increased their revenues and net profits, increased their workforce, strengthened their market position and increased their business space which benefits our local economy. Several AAAME companies have been recognized for their achievements through various award programs.

## LINKS

[Supplier Diversity at APS](#)

## APS Facilities & Fleet

### APS Facility Energy Management

As Arizona's largest energy provider, we believe that one of the most important things we can promote is energy efficiency; and our company has long been a leader in energy efficiency and energy conservation. Part of that leadership is participation in our own APS Power Partners program, which helps save energy on the hottest days of the year when demand is greatest and the system is most burdened. APS has established a voluntary internal energy use metric



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that measures our annual electric use at all metered facilities across our organization and sets a goal of a one- to three-percent annual reduction in energy use each year between 2009 and 2013. This metric will allow us to monitor the effects of our various energy efficiency efforts at facilities across our company.

Significant fluctuations in weather, particularly summer heat in the valley and winter temperatures in the northern regions, have an effect on energy consumption. Constant changes in the number, size and occupancy of our facilities directly impact energy consumption, and can make a difficult metric to accurately measure and verify. We are currently working towards implementing the ENERGY STAR rating system at all of our metered facilities which will standardize the methodology in which the variables are normalized to provide consistent feedback on how efficiently our facilities are operated. APS corporate headquarters has earned the ENERGY STAR designation for the past two years. In addition to managing our energy usage at existing facilities we have also committed to design, construct and

operate our new and remodeled facilities to the ENERGY STAR and LEED Silver standards.

More than 97 percent of our facility space is equipped with energy-efficient fixtures. We estimate energy savings of more than 13 million kilowatt-hours (kWh) per year from the use of energy-efficient products. In 2003, our corporate headquarters in downtown Phoenix was converted to the Northwind Cooling system which uses an industrial grade, ice-based chiller that manufactures three million pounds of ice each night when utility loads and rates are lowest. The conversion to Northwind eliminated the on-site 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 four LEED-certified facilities. Our APS Learning Center and Wickenburg and Flagstaff Service Centers are certified Silver LEED buildings. 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 has a fleet of about 2,400 vehicles used to deliver service to customers across Arizona. These include heavy-duty trucks which run on diesel and biodiesel, and light-duty trucks (such as line trucks) and passenger cars that run primarily on unleaded gasoline.

In 2008, we established two metrics with associated goals for our mobile fleet which measure our efforts to improve fuel efficiency in order to reduce fuel use and carbon dioxide



APS's Overhead Reliability Survey Vehicle (ORSV) sits outside the Morgan Substation. The vehicle contains a roof-mounted array of infrared, corona and video cameras to look for issues like arcing, partial discharges and hotspots that could indicate a piece of equipment could potentially fail. The ORSV can perform an infrared scan of a 230-kilovolt power line safely at 40 to 50 miles per hour (when speed limits allow.) It is an example of the company's use of technology to help deliver safe, reliable electricity to its customers.



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emissions, as well as reducing operating costs. We were successful in meeting our internal goals in 2010, with the following fleet-wide average year-end results:

- 1.85 pounds carbon dioxide/mile (an 8.5 percent reduction from 2008 results of 2.03 pounds CO<sub>2</sub>/mile)
- 11.1 miles per gallon (a 9.0 percent improvement from 2008 results of 10.2 miles per gallon)

**APS Mobile Fleet (MPG)**

2006:	9.2
2007:	9.5
2008:	10.2
2009:	10.6
2010:	11.1

Smaller hybrid vehicles are joining our fleet in increasing numbers as they replace gas-fueled cars. The company took delivery of its second hybrid line truck in September 2009. We plan to add more hybrid trucks to our fleet. Hybrid trucks such as these have been shown to decrease fuel consumption by up to 50 percent, due primarily to reduced idling time while the truck is working. The company also has been working with a vehicle builder to create our own hybrid trouble truck. The Class 5 truck offers a “hybrid lite” concept. It employs an electric powered hydraulic system to operate a boom equipped with a small bucket when the engine is not running. This is now our standard for the new “Troubleman” single bucket trucks assigned in the Metro area. To date, we have built and deployed four units, with plans to continue to expand the program.



**VIDEO**  
APS's refrigerator-recycling program with a twist!

Since 1999, the company's diesel vehicles have been fueled by B20 biodiesel pumped at on-site fuel locations across the state. B20 biodiesel is a blend of diesel and 20 percent oils such as soybean oil and waste vegetable oil. Its primary benefit is reducing the nation's dependence on foreign oil by substituting locally available sources. Biodiesel accounts for about 60 percent of the company's total diesel fuel usage of about 1.2 million gallons annually.

APS also has voluntarily added a new Combustion Catalyst System to 67 bucket trucks. This system reduced fuel usage by 10.6 percent (about 393 gallons of diesel fuel) and reduced carbon dioxide emissions by 8,725 lbs. per year, per vehicle. APS will likely continue to add this system to appropriate trucks in the future.

**Engaging Employees to Act Sustainably**

Perhaps the greatest fuel-saving device on company vehicles is the ignition switch. Employees are

encouraged to reduce the idling of vehicles whenever possible. Whether it's a car or truck, fuel is saved whenever a vehicle is turned off. While it is beyond our capabilities to estimate or measure the impact of this, improved driver behavior has surely played a large role in our improved fleet mileage since 2008.

**Fleet Recycling Efforts and Efficiency**

About 90 percent of the antifreeze used by technicians is recycled. Drained antifreeze is processed for reuse. Metal oil filters are crushed and given to a steel recycler that uses them to produce rebar.

The company is looking at technologies to improve the fleet's fuel efficiency. These include automated fuel-management systems and GPS systems that can record and retrieve critical data for a vehicle, such as idling statistics and Power Take Off (PTO) time, which measures power used to drive an auxiliary hydraulic pump for boom operation. This would allow the company to identify vehicles with high idle or fuel-usage performance.



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# ENVIRONMENTAL PERFORMANCE

Environmental stewardship is a Critical Area of Focus in our corporate Strategic Framework. This is not a new philosophy at APS. We adopted our first environmental policy in 1973, and over the past 38 years, compliance with environmental regulations and environmental stewardship have been core values for the company. We strive to incorporate environmental stewardship principles into our everyday business decisions, at all levels of the company.

## Policy & Organization

In 1994, APS joined Ceres, a national network of investors, environmental organizations and other public interest groups working with companies and investors to address sustainability challenges such as global climate change. We adopted the Ceres principals 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.

### APS's Environmental Organization

Our environmental governance structure is illustrated at right.

APS has an Environmental Management System (EMS) modeled after the ISO 14000 EMS standard. None of our facilities are

ISO 14000 certified, however we are currently working towards ISO 14000 certification for our fossil generation facilities.

#### LINK

[APS Environmental Policy](#)

### PNW/APS Environmental Health and Safety Governance Structure



## EHS Training

We believe proper training is essential for leading environmental and safety performance. APS conducts employee training in 321 different EHS compliance-required topics, and 14 non-required topics areas. Topics included training required by agencies including OSHA, the U.S. Department of Transportation (DOT), the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC) and the Mine Safety and Health Administration (MSHA).

Through a detailed profiling process, employees are assigned required topics based on the type of work they do. This helps to ensure a safe and healthy work environment, while allowing the company to remain compliant. EHS training is tracked via a dedicated computer tracking system to ensure



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APS conducts employee training in 321 different EHS compliance-required topics and 14 non-required topics.

employees are assigned and receive the necessary training during the year.

**EHS Excellence Awards**

In addition to normal employee merit and incentive recognition, outstanding individual environmental, health and safety performances and initiatives are recognized through the APS Environmental, Health and Safety Excellence Awards program. The EHS Excellence Awards Program’s goal is to encourage employees to recognize individuals and teams for embracing our company values through EHS excellence.

**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 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.

In order to ensure every effort is made to maintain compliance in our company’s complex and diverse operations, the following four-tier process has been established as part of our Compliance Assurance Program.

**Tier 1: Ongoing Self-Assessments**

The Tier 1 process involves routine checks of EHS programs to ensure the program elements and standards are being accomplished.

Each business unit or facility creates and maintains a plan describing how its Tier 1 process is implemented.

**Tier 2: Focused Self-Assessments**

Company EHS professionals conduct more formal and focused self-assessments annually in each business unit or department. Tier 2 assessments are structured, comprehensive reviews of EHS program performance across the facility and/or the business unit. EHS personnel within the business units and at facilities develop the Tier 2 assessment plans at the beginning of each year. The safety results are summarized and provided to the Health and Safety department leader. In 2010, APS facilities completed 47 Compliance Assurance Tier 2 Focused Self-Assessments.

**Tier 3: Audit Program**

Our EHS audit program is managed by a dedicated corporate EHS Audit Team, which reports to Pinnacle West’s director of Audit Services, while maintaining lines of communication to our vice president and chief sustainability officer. The Audit Services director reports to the chairman of the Audit Committee of the board of directors and administratively to the company’s CFO.

Audit Services utilizes a risk-based approach to determine the audit schedule of EHS programs and facilities. The Audit Services risk-assessment process includes interviews with key executives throughout the company. In addition, this risk-based approach

includes a review of external analysis of the company, leveraging the Executive Risk Committee's Top Tier and Emerging Risks as part of this process, gaining an understanding of the company's overall business strategy, and facilitated sessions with the Audit Services team.

On occasion, the EHS Audit Team will use guest auditors to assist with compliance audits of the facilities and EHS programs where appropriate. These guest auditors include technical and operational experts from areas across the company. Our audits incorporate applicable environmental, health and safety and Department of Transportation regulatory requirements; as well as company policies, procedures and management practices. The Tier 3 process also verifies that Tier 1 plans are in place and that a Tier 2 corrective action process is in place according to the company's EHS Best Management Practice.

The EHS Audit Group conducted 21 formal Tier 3 audits at APS in 2010.

#### **Tier 4: Periodic Compliance Reviews**

The company periodically conducts a detailed review of the compliance status of EHS programs. These reviews are used to establish the baseline of compliance within the EHS programs and to benchmark the Corporate EHS Compliance Audit Program. The reviews are completed either by an independent third party, by internal teams of EHS professionals or by a combination of internal and external professionals. Such reviews may also be done at the direction of the Pinnacle



In 2006, the Environmental Protection Agency honored APS with its Climate Protection Award, which recognized the many efforts the company has made over the past decade in response to climate change.

West Law Department, utilizing an independent third party or an internal team of EHS professionals.

#### **Notice of Violations (NOVs)**

The company did not receive any NOVs resulting in fines or penalties in environmental or safety areas in 2010.

### **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

Our continuing commitment to addressing the issue of climate change is reflected in APS's Resource Plan Report in which the company articulates a preferred plan that would allow APS to satisfy an increase of more than 50 percent in customer energy consumption with effectively no increase in carbon dioxide emissions in 2025 over the baseline year of 2009.

**LINK**  
[APS Resource Plan Report](#)

has responded to the challenges presented by climate change when the company accepted the U. S. Department of Energy's Climate Challenge and committed to limiting emissions to 1990 levels by 2000. We met that goal. In 2006, the Environmental Protection Agency honored APS with its Climate Protection Award, which recognized the many efforts the company has made over the past decade in response to climate change.

#### **Our Position on Climate Change**

APS has a climate change public policy statement which is publically available to all of our stakeholders. This policy statement can be viewed at the link below.

#### **LINKS**

[APS Statement on Climate Change Policy](#)  
[APS Climate Change Management Plan](#)

APS has also 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,



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**As discussed in our plan, APS's 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's 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 Arizona Corporation Commission 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 greenhouse gas (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 generating 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, as well as innovative technologies 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, includes building all new facilities in accordance with LEED standards.

greenhouse gas (GHG) emissions inventory, APS technology innovation and GHG reduction efforts and our company's strategic approach to climate change management. This Climate Change Management Plan was submitted to the Arizona Corporation Commission.

**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 incorporation into business operations, establishment of GHG

reduction targets, and development and implementation of business strategies to reduce GHG emissions and to minimize exposure to regulatory, operational and other risks from climate change.

**APS's Voluntary Climate Change Goal**

The company has had a voluntary carbon dioxide intensity reduction goal in our business plan since 2005. That goal was to reduce carbon intensity in APS-owned power plant emissions by 10 percent in target year 2010, from a baseline year 2000. This goal includes purchased renewable power. As of 2010, our carbon intensity was reduced from 1,324 lbs/megawatt hour in 2000 to 1,187 lbs/megawatt hour in 2010, a 10.3 percent

reduction. We are currently setting a new climate change goal for the 2011-2025 time period which will be consistent with our resource planning.

APS also set voluntary carbon reduction goals to reduce electricity use in APS facilities, and to increase mileage in APS's fleet. These are discussed further in the Supply Chain section of this report (see Our Business section link below).

**APS GHG Emissions Inventory**

APS has conducted a thorough analysis of our GHG emissions. Based on our inventory, our primary GHG emissions are from our fossil-fueled power plants, accounting for about 99 percent of our total direct GHG emissions. Our next two largest



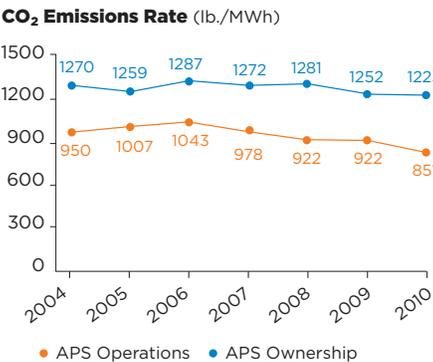
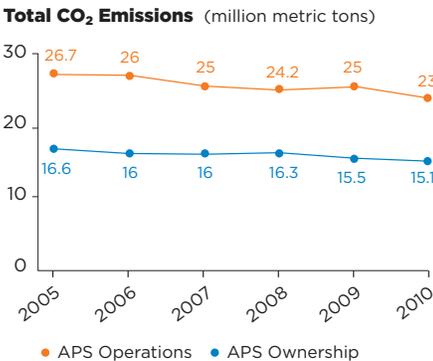
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APS 2010 GHG Inventory							
Scope 1: Direct Emission Sources	2008 Metric Tons CO <sub>2</sub>	2009 Metric Tons CO <sub>2</sub>	2010 Metric Tons CO <sub>2</sub>	Scope 2: Indirect Emissions	2008 Metric Tons CO <sub>2</sub>	2009 Metric Tons CO <sub>2</sub>	2010 Metric Tons CO <sub>2</sub>
APS Owned Generation	16,290,019	15,547,932	15,165,000	Electricity Use (metered) MWh	39,148 (MWh)	40,997 (MWh)	39,174 (MWh)
SF6 Fugitive Emissions (CO <sub>2</sub> e)	63,451	61,230	59,831	Electricity Use (proj. CO <sub>2</sub> emissions)	22,267	23,319	22,282
Mobile Fleet	25,888	21,972	20,552				

sources are emissions from our mobile fleet and SF6 fugitive emissions, which account for just over one-half of one percent of total emissions. Miscellaneous small sources such as emergency generators and small equipment account for the remainder of total direct emissions (under one-half percent).

Our major indirect emissions come from electricity consumption in our various offices and buildings. Below are charts showing our six-year history of total carbon dioxide emissions and emission intensity from our owned and operated generation.



**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 EPA and the electric power industry to identify and implement cost effective solutions to reduce sulfur hexafluoride (SF6) emissions. SF6 is a highly potent greenhouse gas used for insulation and current interruption in electric transmission and distribution equipment.

As part of this partnership, APS is taking voluntary efforts to significantly reduce SF6 emissions. APS has reduced our equipment-leak rate from 18.38 percent in the base year of 2001, down to 3.5 percent by the end of 2010, resulting in reduced emissions of 22,911 pounds of SF6 compared to base year.

SF6 has a very high global warming potential (GWP) – 23,900 times the warming effect of carbon dioxide per ton emitted. Reducing SF6 emissions by 22,911 pounds is equivalent to reducing emissions of over 248,000 metric tons of carbon dioxide per year.

**Ash Reuse**

APS is reusing its fly ash to help reduce greenhouse gases while

adding to its bottom line. APS sells much of its fly ash for use in concrete production. This allows concrete manufacturers to use the coal ash as a base product in cement production, eliminating the need to produce this material themselves and significantly reducing their energy consumption for cement production. In 2010, APS recycled 444,883 tons of ash for concrete production, with an estimated emission reduction of 271,378 metric tons of carbon dioxide.

**Powertree Carbon Company**

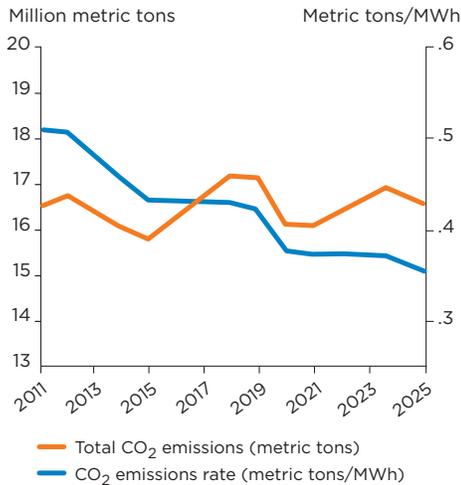
To achieve additional carbon dioxide reductions, APS joined 24 other electric utilities in a project with the PowerTree Carbon Company, which plants trees in ecologically sensitive areas of the lower Mississippi Valley, in cooperation with local and national, governmental and conservation organizations. Planting began in 2003 and more than two million tons of carbon dioxide are expected to be sequestered over the 100-year life of the project.

**Projected Future Emissions**

APS expects to add 750,000 new customers by 2030. We anticipate meeting the majority of these new customers' power needs with renewable generation and expanded energy efficiency. This would allow us to meet

approximately double our current energy requirements with no increase in carbon emissions in 2025 from the baseline year of 2010. Renewable energy and energy efficiency are major components of our future resource planning that will allow us to achieve this goal. This chart includes carbon dioxide emissions from APS-owned generation and purchased power.

#### Annual CO<sub>2</sub> Emissions & CO<sub>2</sub> Rate



#### Potential Climate Change Legislative Impacts

In the past several years, the U.S. Congress has considered bills that would regulate domestic greenhouse gas 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 much 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 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 15 of our 2010 10K report. Also, the potential cost of carbon and impacts of GHG emissions are considered in our resource planning, which can be reviewed at [www.aps.com/resources](http://www.aps.com/resources).

#### LINK

[APS 2010 10K Report](#)

#### Assisting our Customers: APS Carbon Calculator

To assist our customers in evaluating their carbon footprint, including the impact of their electricity use, APS provides an online carbon calculator. This free calculator provides a personalized analysis of each customer's carbon footprint and is one way that APS is working with our stakeholders to create a sustainable energy future.

#### LINK

[APS Carbon Calculator](#)

#### Carbon Disclosure Project

Pinnacle West has participated in the Carbon Disclosure Project since 2006 and our detailed responses are available for public review on the Carbon Disclosure Project website.

#### LINK

[Carbon Disclosure Project](#)

#### Air Emissions

The air emission charts on the next page show our primary pollutants from power plant electricity generation over the past six years. These charts show a downward trend in the emissions intensity for the priority pollutants.

To view charts listing our air emissions for the period 2004-2010, click on the link below. Our carbon emissions are discussed in greater detail in the Climate Change section of this report.

#### LINK

[Air Emissions 2004-2010](#)

#### APS SO<sub>x</sub> and NO<sub>x</sub> Emissions Show Sharp Decreases

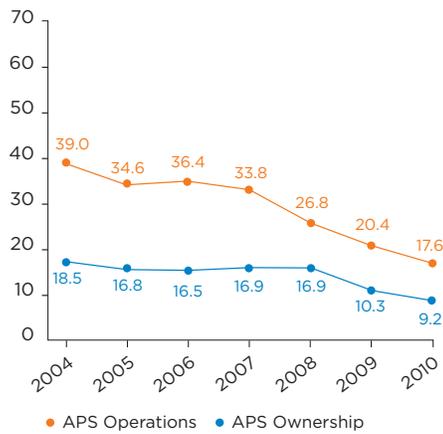
Air emissions of sulfur dioxide (SO<sub>x</sub>) and nitrous oxide (NO<sub>x</sub>) have shown a sharp decrease over the past two years as a result of the voluntary installation of additional pollution controls at our Cholla and Four Corners coal-fired power plants. SO<sub>x</sub> emissions from APS-owned generation have decreased more than 45 percent over the past two years, while NO<sub>x</sub> emissions have been reduced by more than 11 percent over the same time period. We anticipate continued reduction in air emissions intensity based on APS's Resource Plan Report, which emphasizes non- or low-emitting



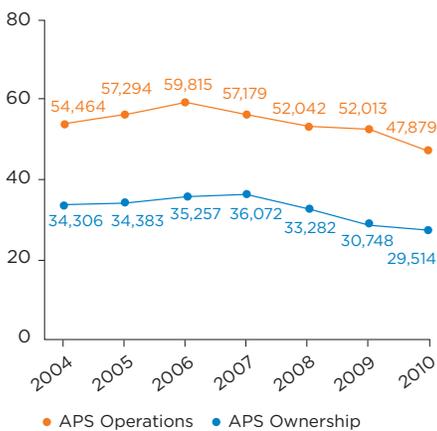
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**SOx Emissions** (thousands of tons)



**NOx Emissions** (thousands of tons)



future resources and has no future coal plants planned.

### APS Announces Landmark Accord for Four Corners Power Plant

APS entered into an agreement to purchase Southern California Edison’s ownership in Units 4 and 5 of the Four Corners Power Plant near Farmington, N.M. If the transaction gains approval from state and federal regulators and other closing conditions are met, APS will close the plant’s older, less efficient Units 1, 2 and 3 and install additional emission controls on the remaining units.

Closing the three smaller, less-efficient units and fitting the

cleaner, more-efficient Units 4 and 5 with new controls would dramatically reduce the carbon footprint in the region and enable the plant to remain compliant with state and federal environmental standards. Capacity at the coal-fired station, one of the nation’s largest, will be reduced by 560 megawatts from 2,100 MW to 1,540 MW.

Emissions of NOx would decline by 86 percent, mercury by 61 percent, particulates by 43 percent, CO<sub>2</sub> by 30 percent and SO<sub>2</sub> by 24 percent.

Closing the Four Corners 1, 2 and 3 units would eliminate emissions of more than 5 million tons of CO<sub>2</sub> per year.

Continued operation of Units 4 and 5 is expected to provide more than \$6.3 billion in economic value to the region over the next 30 years, at least 70 percent of which will benefit the Navajo Nation and its citizens. There will be no layoffs at the plant, which employs 549 workers (74 percent of whom are Navajo). The plant and the supporting mining operations have a \$225 million annual impact on the Farmington and Navajo economies and pay more than \$100 million per year in taxes, fees and royalties to the Navajo Nation and state, local and federal entities.

### 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 Cholla and Four Corners Power Plants.

A detailed discussion of this issue can be found starting on page 18 of our 2010 10K report, as can a discussion of mercury and other hazardous air pollutants.

### LINK

[APS 2010 10K Report](#)

## Water

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, economic 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. Finding an appropriate balance is critical to the interests of our customers and the communities we serve.

In the Ceres February, 2010 benchmarking report, *Murky Waters? Corporate Reporting on Water Risk*, Pinnacle West was identified as the top ranked utility in the United States in water governance and disclosure.



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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 re-thinking what water means to our operations. Water must be managed as a critical resource that enables efficient generation for the long term. By treating water as a critical resource, it is possible to use the Supply Chain Management approach to provide the tools to meet established goals.

Water resources must be managed over longer terms 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 protects 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.

**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



Water resources must be managed over longer terms than are traditionally considered in the power industry, and in the context of other competitive water uses.

generation in the United States and 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. In 2010, more than 63 percent of water used by APS owned/operated power plants was treated effluent.

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 (this is called “blowdown water”) to control the salinity and maintain proper chemistry of the water used in the power plant processes.

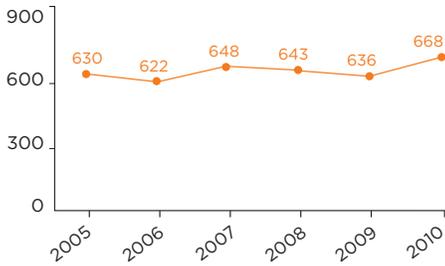
**Cooperation and Leadership**

In addition to ongoing operational commitments and strategic goals, APS also regularly participates in water community activities; locally, regionally and internationally. Interactions with the water and power community allow APS to remain aware of developments, participate in key decisions, and to share expertise.

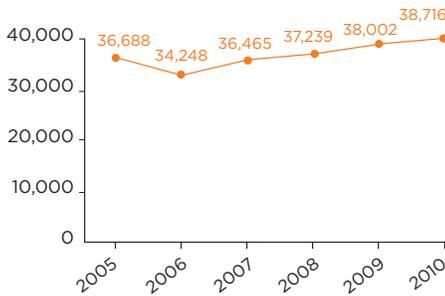
In 2010, APS participated in local water resource planning through involvement in the Governor’s Blue Ribbon Panel on Water Resources, the Water Resource Development Commission (WRDC) and the Central Arizona Project Add-Water Process; as well as numerous

## 2010 Water Use

**Normalized Water Use** (gallons per MWh)



**Total Water Use** (millions of gallons, all plants)



smaller and more focused working groups. These various working groups are helping to shape Arizona's energy and water future by improving the overall resource management and working to develop new water supplies.

Additionally, APS shares its substantial expertise in the fields of water reuse and management by presenting regularly at conferences, seminars and round tables, both locally and regionally. Finally, 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 and China 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, it is our responsibility to act with integrity in the interests of not only our employees and shareholders, but also for the communities we serve. Further, by sharing our experience and expertise with those less exposed to and prepared for the issues of water scarcity and

urban development, we can help improve the quality of life outside our direct area of influence.

### **Other Water Conservation Efforts & Voluntary Water Reduction Metric**

APS has a voluntary internal water reduction goal and metric for our owner-occupied, non-generation facilities to reduce the number of

## Ocotillo power plant has butterflies: Plant's conversion to low-water-use vegetation attracts monarchs.



Butterflies and power plants may not seem to go together, but at the Ocotillo Power Plant they do. The landscaped area outside the plant's administration building isn't just attractive. It also is environmentally friendly. The verbena, fairy dusters and passion vines planted there are low-water-use plants. Those plants also happen to attract butterflies, according to Natalie Starfish, senior engineer, Power Production Ocotillo.

The move to transform the area began when Starfish heard an acquaintance talking about creating a butterfly garden at home.

"It sounded really cool and pretty easy so I set up one at my home," Starfish said. "Then, I approached plant management about creating one at Ocotillo."

With the support and assistance of Jay Buffkin, Senior Facilities Administrator, Facilities Services, the existing higher-water-use vegetation was replaced with the butterfly-attracting plants.

"I don't know how the butterflies knew we added those plants," Starfish said, "but it was like that line from the movie *Field of Dreams*: 'Build it and they will come.' We built it and the butterflies just started showing up."

Ocotillo was certified by the organization Monarch Watch in 2008 as an official Monarch Waystation. It is one of 10 waystations in Arizona and number 2710 out of the almost 4,400 certified locations worldwide. Last year Monarch Watch tagged the butterflies at Ocotillo to help in tracking their migration pattern.

"The butterflies are a big hit with the school kids when they come to tour the plant," Starfish said. "It helps the plant seem a little less industrial and intimidating to them. And, if you can have landscaping that uses less water and also attracts something as attractive as butterflies and humming birds, why not?"



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gallons of water used annually by at least 3 percent per year each year through 2013. We exceeded that goal in 2010, reducing our total metered water use by 10 percent over 2009. The 2009 total annual facilities' usage was 36,973,973 gallons while 2010 was 33,134,686 gallons.

This was achieved through ongoing efforts including:

- Implementing desert/xeriscape landscaping
- Installing efficient water fixtures including waterless urinals at some facilities
- Implementing cooling tower improvements
- Increasing employee awareness of water efficiency opportunities
- Eliminating reverse osmosis filter systems

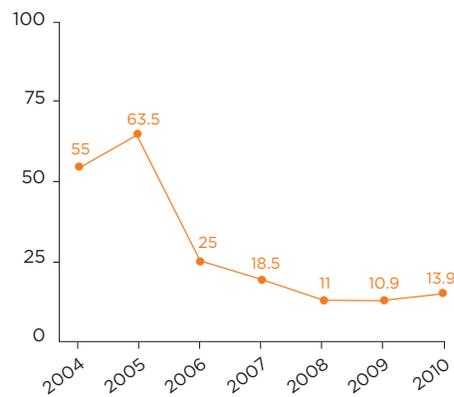
APS also incorporates water conservation and use ideas into facility building and maintenance as part of our voluntary participation in the LEED program, discussed further in the Materials & Supply Chain section of this report.

## Waste

### Hazardous Wastes

We have had a hazardous-waste minimization program in place for a number of years, resulting in significant reductions in the amount of hazardous waste generated at APS facilities, as shown in the chart below. In 2010, hazardous wastes have been reduced from 193 tons per year in 2003 to 13.9

**Hazardous Wastes Generated** (tons)



tons. In earlier years, a number of our facilities were large-quantity generators of hazardous waste, while in 2010 all of our facilities were either small-quantity generators or conditionally exempt small-quantity generators of hazardous waste.

In earlier years, APS had specific hazardous waste-reduction targets in place, which helped measure our progress in waste reduction. Our goal now is to maintain our hazardous wastes at the lowest possible level, recognizing that the majority of our hazardous wastes are episodic in nature and often the result of maintenance or upgrade 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.

In 2010, APS initiated a project to deploy multi-function devices to replace dispersed printers and fax equipment. As a result of this effort, APS reduced paper use by over 110,000 lbs and saved over \$92,000 in paper costs in 2010.

### 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 opportunities to reduce waste. Some of these activities include working with suppliers to reduce packing materials and pallets, substituting products, paper reduction in offices and other strategies to try to reduce wastes. Our second approach is an extensive program to recycle materials. APS's Deer Valley Service Center serves as a central management point for many recycled materials. Our power plants also work with local recycling agencies.

Chips made from tree debris are made available to our customers and others through our free mulch program. This reduces costs and landfill wastes.

Our 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 and we currently recycle about one-third of our vegetative waste. We are looking at alternatives to significantly increase the amount of vegetative waste we can recycle.

As shown on the following charts, APS recycles thousands of tons of materials each year. APS also has a very successful Investment Recovery department that manages surplus materials for reuse.



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## Solid Wastes Sent to Landfill Through APS Investment

### Recovery Services (tons)

2010	2,457
2009	3,058
2008	3,206
2007	3,086

## 2010 Materials Recycled Through APS Investment

### Recovery Services (pounds)

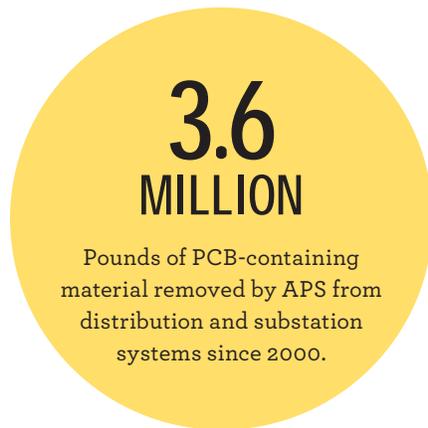
Scrap Metals	7,906,783
Wood	351,970
Paper	365,461
Co-mingled recyclables	578,508
Electronics materials	26,665
Used Oil	376,861 (gallons)

## 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 Cholla and Four Corners, 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 non-hazardous 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.

The other two proposals regulate CCRs as non-hazardous 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.



APS filed comments on the proposed rule during the public comment period, which ended on November 19, 2010. We do not know when the EPA will issue a final rule, including required compliance dates.

APS generated a total of 2,361,869 tons of ash at its coal plants in 2010, of which 455,185 tons (19.3 percent of the total) were recycled, mostly for cement production.

## 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 ensure that our waste materials are being properly managed once they leave our facilities.

The EHS Audit Group performs audits of a select group of vendors who provide waste disposal, and recycling services to the Company. In order to leverage the EHS Audit Team's auditing resources, the Company has joined several vendor audit Consortiums. The consortiums include the Joint Utility Vendor Audit Consortium (JUVAC), CHWMEG

consortium and the Desert Utility Vendor Audit Team (DUVAT).

In 2010, a total of 13 vendor audits were performed. This included audits of 10 treatment, storage and disposal facilities, two audits of recyclers and of one environmental laboratory.

## 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 manufacture 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 2010, APS removed 17,058 pieces of equipment from the distribution and substation systems, resulting in the disposal of over 3.6 million pounds of PCB-containing material.

Year	Number of items removed
2000-2004	3,212
2005	5,192
2006	1,527
2007	5,899
2008	192
2009	910
2010	126

## Spills and Remediation Programs

### 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



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and signed a formal agreement, an Administrative Order of Consent. The 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 that 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 has submitted a Final Remedial Investigation Report to the Environmental Protection Agency.

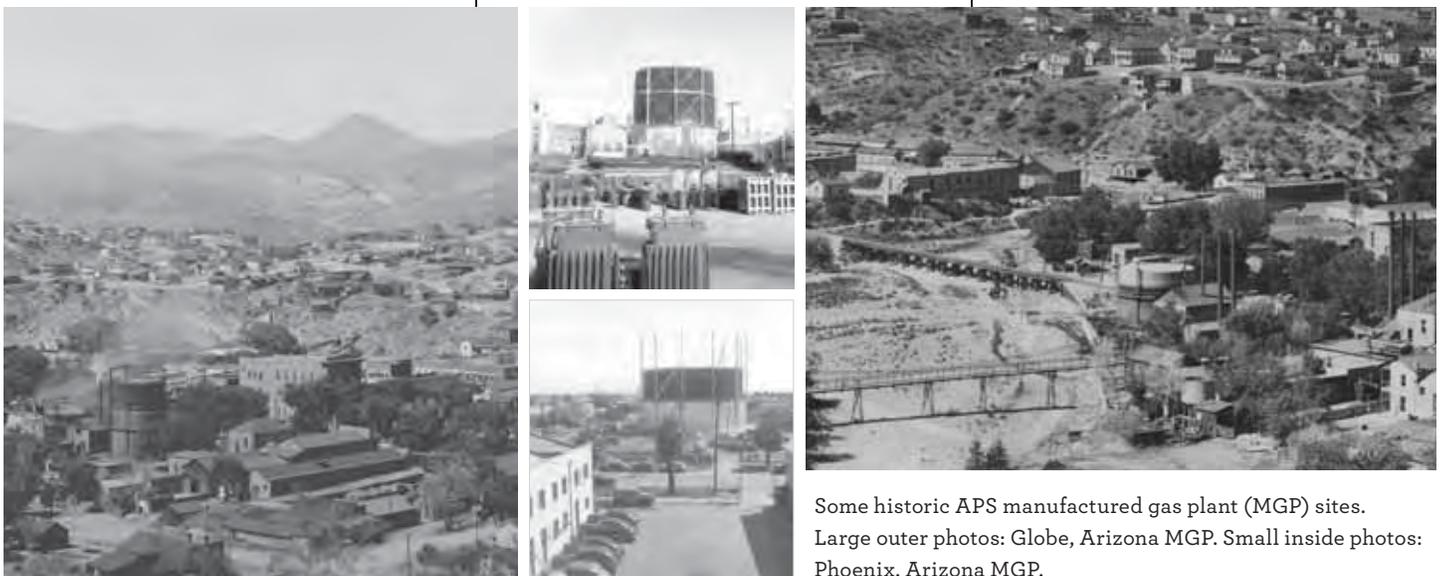
EPA has requested an evaluation of the potential for vapor intrusion which is scheduled for 2011. APS will continue to monitor the groundwater as part of the ongoing work specified in the Administrative Order of Consent.

In addition, in September 2009, APS agreed to voluntarily assist with the funding and management of the site-wide groundwater remedial investigation and feasibility study work plan. As part of the scope of work, seven new groundwater monitoring wells have been drilled adding to the existing 42 wells that comprise the monitoring network. Completion of the Remedial Investigation Report for OU3 groundwater is currently scheduled for 2012.

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. The EPA third, five-year review for this site is scheduled for 2011. APS's 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 that 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 along with the other parties are in the final stages of negotiating a settlement with the EPA.



Some historic APS manufactured gas plant (MGP) sites. Large outer photos: Globe, Arizona MGP. Small inside photos: Phoenix, Arizona MGP.



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## MGP Remediation Program Status

Site Location/Name	Media Impacted	Remedial Option	Status
<b>Prescott</b>	Soils, Groundwater, Surface Water	Excavation	ADEQ Processing Closure Request.
<b>Yuma</b>	Soils	Excavation	ADEQ Issued NFA Determination.
<b>Phoenix/ Washington St</b>	Soils	Excavation	Remediation Complete.
<b>Phoenix/Grant St</b>	Soils	Interim Courtyard Cap Final Excavation	Interim Remedy Completed 2003. Final Remedial Action Plan Scheduled 2014-2019.
<b>Phoenix 505</b>	Soils	Excavation of top 5' Remove Gas Holder	Remedial Action Plan Scheduled 2011-2012. Remedial Action Scheduled 2012 - 2013.
<b>Globe</b>	Soils	Excavation	ADEQ Issued NFA Determination for Soil. ADEQ Processing Closure Request for Groundwater.
<b>Miami</b>	Soils	Excavation	Site Characterization Complete. Remedial Action Plan Scheduled 2014 - 2019.
<b>Douglas</b>	Soils	Excavation	Site Characterization Complete. Remedial Action Plan Scheduled 2014 - 2019.

## Other Remediation Projects

Site Location/Name	Media Impacted	Remedial Option	Status
<b>Buckeye Service Center/ Fueling Island</b>	Soil, Groundwater	Soil Vapor Extraction/ Sparge, Wells/Barrier Wall	Soil: remediation completed; evaluation for closure completed; request for closure pending. Groundwater: ongoing monitoring.
<b>Cholla Power Plant/ Fuel Oil Building</b>	Groundwater	Assisted Monitored Natural Attenuation	Ongoing Monitoring
<b>Cholla Power Plant/ Diesel Fuel Pipeline Release</b>	Soil	Not required	Completed: ADEQ granted no further action determination in 2010.
<b>West Phoenix Power Plant</b>	Soil, Groundwater	Soil: bioventing completed; Groundwater: Under evaluation	Soils: partial closure, additional evaluation ongoing. Groundwater monitoring results indicate no impact at or above AWQS or MCLs. Groundwater: ongoing monitoring.
<b>Cholla Power Plant/ DR2</b>	Groundwater	Under evaluation	ADEQ approved additional Characterization of Groundwater Work Plan in 2010. Ongoing Groundwater monitoring.
<b>Bouse Excess Property/UST</b>	Soil	Under evaluation	Characterization complete.



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## 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 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 operations ceased. APS has voluntarily investigated and characterized our historical MGP sites. We have entered the MGP sites into the Arizona Department of Environmental Quality's Voluntary Remediation Program, which is a program specifically addressing the voluntary investigation and remediation of environmentally impacted sites in Arizona.

The company began evaluating each site in 1993 to address any remaining material that may have been generated by MGP activities. We began remediating the sites in 1996. The table on the preceding page details the current status of our MGP remediation sites. The Prescott and Globe sites are the locations of former MGPs which operated during the first half of the 20th century. APS completed an environmental remediation of the former MGP sites in 2001 and 2008, under guidance of ADEQ.

APS has submitted requests to ADEQ for No Further Action (NFA) determinations for both the Prescott and Globe sites in 2010. ADEQ is currently processing the request for NFA for surface water, groundwater, and soil for the Prescott site and the groundwater for the Globe MGP.

## Other Remediation Projects

The tables on the preceding page describe the current status of APS's non-MGP remediation projects.

### Spills

In 2010, APS had seven reportable spills, none of which caused significant impact to the environment:

- A 35-gallon hydraulic oil spill from a line truck to the soil.
- A small oil weep from a PCB-contaminated transformer.
- Discharge of water with trace amounts of rust at the Four Corners Power Plant.
- An overflow of sewage to a sedimentation basin during a rainstorm at the Palo Verde Sewage Treatment Plant.
- A discharge of sewage into a drain that goes to a waste treatment pond at the Four Corners Power Plant.
- Overflow of sewage from a sewer-lift station to a sedimentation basin at the Cholla Power Plant.
- An unauthorized discharge of less than 5,000 gallons of water to a sedimentation basin at Palo Verde Nuclear Generating Station.

### 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 Power Plant in Farmington, New Mexico, and the Cholla Power Plant in Joseph City, Arizona.

While the TRI quantities reported by our company are fairly large (as is the

case with most utility companies), the majority of these releases are captured by pollution control equipment, or are contained with our waste coal ash (much of which is recycled for beneficial use).

APS's TRI information by facility is available to the public at the TRI Explorer website.

## LINKS

[Cholla TRI Report](#)

[Four Corners TRI Report](#)

## Land Use & Biodiversity

### Wildlife Protection Programs

The APS Forestry and Special Programs department 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 as well as 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, or raptors. Raptors are naturally drawn to power poles because they offer a high place to perch, roost, nest and hunt. The large wing spans



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of raptors, however, make them vulnerable to harm by the electricity being carried on the power lines. The most common raptors affected in APS's service territory include Harris' 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 that serve to reduce potential hazards for raptors and other birds. All new construction is installed in accordance with the APS avian-protection standards. Each year the company also modifies more than 800 existing poles to meet these avian-safe design standards. Likewise, substations are retrofitted with wildlife protection as necessary.

In addition, 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

Because of their large wing spans, raptors such as this Harris' Hawk are vulnerable to injury by contact with live power lines. To help prevent this, APS installs avian-safe devices and coverings.



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 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 will keep the water supply thawed through the winter, making it possible for the staff to utilize video cameras for remote observation and supplying 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 Department.

Please see our Wildlife webpage for more information.

[LINK](#)  
[APS Wildlife Webpage](#)

#### **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 historical 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



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company's existing transmission system. Archeologists conducted these surveys to determine historic properties and archaeological sites, covering approximately 5,000 miles of transmission line corridors. APS documented more than 2,000 archaeological sites that require special considerations during all construction and maintenance operations.

### **APS's 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. The APS Forestry Department maintains more than 20,000 miles of overhead power lines throughout the state.

The Vegetation Management Program follows professional industry arboriculture standards and Best Management Practices approved through the American National Standards Institute (ANSI A300). The high-quality standards of the FS&P's vegetation management efforts have been recognized for the 14th consecutive year with the National Arbor Day Foundation's "Tree Line USA Utility" distinction. 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 related to proper tree care.

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 has launched 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 power lines.

APS has developed a brochure that encourages 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's Forestry Department is also responsible for landscaping maintenance for company substations and service centers. In 2010, seven substations and four service centers were landscaped, 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:

#### **LINK**

[APS Vegetative Programs](#)



Pinnacle West earned the "best in class" status from Storebrand Socially Responsible Investment for its leading environmental and social performance.



The Vegetation Management Program follows professional industry arboriculture standards and Best Management Practices approved through the American National Standards Institute.



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# COMMUNITY & CUSTOMERS

As the principal subsidiary of Pinnacle West, APS has been providing power to Arizona communities for the past 125 years. While our business is about building power plants and distribution lines, it's also about building relationships with our communities and our customers. After all, they are the reason we're in business.

## Customer Service

### Focusing On Creating Positive Customer Experiences

At Pinnacle West and APS, we place a positive customer experience at the forefront of everything we do. Providing quality, reliable electricity and excellent customer service is ingrained in our corporate culture and our daily operations. We strive to strengthen and nurture our relationships with customers by providing products, programs and services that respond to customer needs and expectations.

Our focus on customer service is further demonstrated by how we value and utilize the input our customers provide in surveys and focus groups. We conduct satisfaction studies among both residential and business customers to hone our service and continually improve service transactions made

through the company's call center, business offices and [aps.com](http://aps.com).

Customer input also drives innovation in product and program development. Customer input regarding sources of renewable energy was a key part of the research conducted in 2010.

At the request of the Arizona Corporation Commission, APS conducted a unique study of customer preferences to learn which types of resources customers believe should be developed for a sustainable future. Randomly selected customers were provided with information about the cost of developing the different types of resources and the tradeoffs that would be required. Customers told APS which resource mix best fit their needs and values. Listening to customer opinion is a key component of a sustainable APS.

In 2010, we achieved our highest ranking ever in J.D. Power and Associates Residential Customer Satisfaction Survey. Among the 55 Large Segment Investor Owned Utilities, APS ranked 3rd nationally and 2nd in the West Region. We also maintained high levels of customer satisfaction in our Customer Satisfaction Tracking and Customer Contact Tracking studies.



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Tammy McLeod, APS chief customer officer, was named the 2010 Chief Customer Officer of the Year by the Chief Customer Officer Council (link: <http://www.ccocouncil.org/site/Default.aspx>). Each year the Council recognized the CCO that has made the greatest strides in improving customer relationships and in creating customer-centric cultures.

How we communicate with our customers is extremely important and we test the understandability and overall effectiveness of various message options in the market research we conduct. APS provides a variety of information and support services to help our customers become better informed users of electricity. Much of this information is available to the public at [aps.com](http://aps.com), including the links below.

#### LINKS

- [Steve Nash's Energy Assist](#)
- [APS Green Choice Programs](#)
- [Online Rate Comparison](#)
- [Residential and Business Energy Survey](#)
- [Online Account Management](#)
- [Ways to Save](#)
- [Using Energy Wisely](#)
- [Energy Use History](#)
- [Low Income Assistance](#)
- [Safety Tips](#)
- [aps.com/gosolar](http://aps.com/gosolar)

The health of our company is directly tied to the health of the communities we serve. For this reason, APS and our employees are dedicated to strategically investing their time, energy and resources to strengthen our communities.

We take advantage of every opportunity to reach out to the community, whether it's through excellent customer service, community and economic development or the volunteer efforts of our employees. Customers and communities are a critical area of focus in the strategic framework of our company.

Last year, we invested more than \$6.7 million in community vitality and economic development and education programs with a focus on science, technology, engineering and math. That's more than \$6.7 million for the future health of Arizona. We give contributions and volunteer support in the following categories:

- Education (STEM: Science, Technology, Engineering and Math programs for students and teachers; energy and environmental education; community needs-based education).
- Community Vitality (community-based organizations; arts and culture; sponsorships and events).
- Community and Economic Development (impact-based partnerships; chamber memberships and key projects with cities and towns in the APS service territory).

Here are some other examples of our community support in action:

- In 2010, APS volunteers contributed more than 165,000 hours in Arizona and the Farmington, N.M., area. This translates into \$3.4 million in service

#### Building Powerful Relationships based on:

Value | Trust | Integrity | Synergy



to the community. Our employee's volunteer efforts focus on the environment and health and human services.

- APS employees support the communities the company serves by contributing a portion of their paychecks to the United Way's CSF campaign. APS employees contribute more than \$4 million to the fund annually, which includes matching funds from APS of 50 cents for every dollar donated by each employee and retirees.
- Those employees who contribute at least \$1,000 per year to the fund earn the Leadership Giver distinction. By the end of 2010, APS had 1,635 Leadership Givers, the highest number of any company in the state.
- APS supports the development and success of Minority- and Women-Owned Business Enterprise (MWBE) suppliers. In 2010, APS spent \$64 million with 195 certified firms.
- APS employees provide leadership at the local, statewide and regional levels throughout APS's service territory by serving on more than 350 key boards, commissions and project-specific entities.



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## Community Support

### EDUCATION

#### Character: The Power to Make it Happen

- The Character: The Power to Make it Happen assemblies enable APS to deliver messages of energy conservation and positive character. Since November 2006, APS has completed assemblies to more than 210,000 kindergarten through sixth-grade students, teachers and staff in more than 390 schools statewide.

#### Quest for Excellence - Palo Verde

- The Palo Verde Quest for Excellence Program is designed to prepare today's youth for bright futures in nuclear power and other industries through classroom studies and internships. Students participate in a seven-week program studying advanced math including algebra and physics. After completing the high school program, graduating seniors are eligible for a summer internship with the plant.

#### Power Players

- The APS Power Players program, launched in April 2005, supports the Arizona Character Education Foundation in promoting character education throughout Arizona and New Mexico. Through the APS Power Players program, students have the opportunity to receive professional athletic instruction and learn how to be a person of character using the six pillars of character - trustworthiness, respect, responsibility,

fairness, caring and citizenship. The program also provides development or improvement of select athletic facilities statewide.

#### The PASS Program

- Partners Advancing Student Success® (PASS) is a program designed to bring business and education together to give students the skills they need to succeed in today's business world. APS and Motorola created the program in 2000; and in 2007 collaborated with the Arizona K-12 Center on a public/private/nonprofit partnership.

#### APS/Four Corners Power Plant Navajo Scholarships

- Four Corners, located in northwestern New Mexico, has a scholarship program to prepare selected local Navajo students for careers related to the electric utility industry. The scholarships are available to Navajo students residing in the vicinity of the plant. Eighty-two students have graduated from the program since 1995 with 16 hired full-time.

#### APS/Palo Verde Scholarships

- Each year, Palo Verde awards 26 scholarships in the amount of \$50 to selected local 8th graders. The scholarships are to be used at the local high school bookstores to assist students with some of the expenses they encounter as they enter high school.
- Palo Verde also awards six \$1,000 scholarships for the academic year to local high school seniors. The students must maintain a 3.0 grade point average; they are eligible to maintain the award for four consecutive years.

#### The Readers Today...Leaders Tomorrow Program

- The Palo Verde "Readers Today...Leaders Tomorrow" Program uses incentives to encourage elementary school children to read. Used with the accelerated reader program, K-8 grade students self-test on specially programmed computers that maintain reading comprehension scores for each student. This provides an invaluable tool for each school's staff to assess



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students' progress. Palo Verde provided \$2,000 to each of the local grade schools to use toward incentives for this program. Palo Verde also donated refurbished computers to each of the schools, to further assist with the program's implementation on campus.

**Newspapers In Education (NIE) Wraps**

- APS partners with Newspapers in Education to produce quarterly newspaper wraps for distribution in northern Arizona and the Yuma region. The wraps, which are placed around the Arizona Daily Sun and Yuma Daily Sun, offer students and teachers fun and interactive ways to learn about energy savings, conservation and sustainability.



**POWER PAPER**  
**Electrical Safety**

**Indoor safety**

- Water and electricity don't mix. Keep electrical cords and wires away from the sink, bathtub and toilet.
- In the kitchen, keep electrical appliances such as toasters and blenders away from heat and water. If something is stuck in the toaster, never stick any objects into it such as fingers, a fork or a knife to get something out.
- Never pull an electric cord to unplug them. Always grab the cord by the plug to remove the cord from the electrical outlet, and don't overload power strips with a lot of lights and appliances.
- Never stick anything, including your fingers, in a socket. Watch your younger siblings around outlets too.

**Outdoor safety**

- Kids should never climb utility poles or towers or play on fences around a substation—this equipment carries high voltage electricity.
- Never climb trees that have power lines running through them.
- When flying a kite, choose a place where there are no power lines. If the kite touches a line, you could get hurt.
- If you come across a downed electrical wire, stay far away from it and don't touch anything that the wire is touching. Don't touch anyone who may be touching the wire either. Tell an adult if you see a wire on the ground.

**ELECTRICITY VOCABULARY WORD SCRAMBLE**

UNSCRAMBLE THE LETTERS TO FIND WORDS RELATED TO ENERGY.

**Fill in the Blanks for Electrical Safety**

A \_\_\_\_\_ is the rods electricity takes.

Electricity always seeks the \_\_\_\_\_ paths to \_\_\_\_\_.

Never move \_\_\_\_\_ grips, with a plug in electrical network.

Tell an \_\_\_\_\_ if you see a frayed cord on an appliance.

\_\_\_\_\_ your hands \_\_\_\_\_ when using appliances outdoors.

\_\_\_\_\_ is a good conductor of electricity.

A \_\_\_\_\_ is a material through which electricity can easily \_\_\_\_\_.

A \_\_\_\_\_ closes down or resists the flow of electricity.

**APS's Clown Troupe**

- One of the most creative elements of APS's Volunteer Program is APS's Volunteer Clown Troupe. Last year, the Clowns logged more than 50,000 volunteer hours, participating in parades, entertaining at nursing homes and hospitals, and supporting other nonprofit organizations and events. A prime goal of the Clowns is to increase public interest in the joys of volunteering, but they also have a serious side — "Ben FrankClown" visits schools to spread the word about energy conservation and electrical safety. They have been effective, capturing considerable media and public attention. The Clowns are also recognized for the annual Fiesta of Lights Parade, attracting more than 300,000 spectators annually.

**APS Unveils a New Educational Webpage on aps.com**

APS is committed to educating the future employees, community and business leaders, consumers and environmental stewards of our great state. In late 2010, aps.com launched an education webpage, aimed at giving educators the resources they need to teach students about electricity.

This site compiles, in one convenient place, information on the programs, materials and grants APS offers the communities it serves. Topics include renewable energy, energy conservation, energy efficiency and character education. The website also offers a one-stop shop for information on programs and scholarships offered by APS.

**LINK**  
[APS Education Webpage](#)



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### Get a Ticket to Solarville

APS is the presenting sponsor of Solarville, a gallery on the fourth floor of the Arizona Science Center which includes exhibits on solar energy and a look inside the lives of APS’s resident superheroes, The Renewables.

Introduced in 2009, The Renewables — Solar Man, Wind Woman, Bio, Geo and Tank — are a group of clean energy superheroes that represent five sources of renewable energy: solar, wind, geothermal, hydro and biomass.

Solarville offers visitors a hands-on-look at how renewable energy is created. The Biogas Farm shows how to generate power from cow manure, the DIY Wind Turbine is made from found materials, and the Algae Power exhibit shows how algae can be harvested from energy.

Want to get even more hands-on? Crank up your own energy with

Pedal Power or test your strength against solar power with Muscle Match. Other exhibits give you an up-close look at how solar panels are made and teach you ways to save more energy in your home.

### ECONOMIC DEVELOPMENT EFFORTS

- The APS Academy for the Advancement of Small, Minority and Women Owned Enterprises (AAAME) program admits 12 to 15 businesses to its two-year mentoring program annually. Since 1997, more than 150 companies have participated in the program. AAAME teaches small-business owners the skills necessary for their companies to succeed. These business skills include training in strategic planning, finance, management/operations and marketing.

[LINK](#)  
[AAAME](#)

### 2010 GET IN THE GAME

#### Fall Tour

**True or False:** APS launched a fall energy efficiency tour giving customers a once-in-a-lifetime opportunity to become a Phoenix Suns Game Day VIP.

The answer is true.

Last year, the GET IN THE GAME fall tour featured stops across Arizona promoting energy efficiency. The tour reached out to customers in a variety of venues, including community fairs, home shows, sporting events and local home improvement stores. Events included the Arizona State Fair, Maricopa County Home Show, Festival Telemundo, and the Prescott Valley Creative Energy Fair, as well as special “green” game events for the Suns, ASU football and Arizona Fall League Baseball.

To drive interest, APS offered a contest for residential customers to enter to win a chance to become a Suns VIP. During each tour stop, visitors to our booth were challenged with an interactive energy efficiency IQ quiz. In order to enter to win the Suns VIP Experience customers had to complete the true or false quiz and submit their answer sheet. At the end of the tour one lucky name was drawn to win the Suns VIP Experience.

The campaign was a huge success; the marketing team received more than 4,000 entries and sold more than 750,000 compact fluorescent light bulbs (CFLs), not counting the 5,000 CFLs we gave away.



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- Through our Focused Future program and Leadership Academy training programs, APS partners with communities throughout Arizona to improve the communities' economic sustainability and vitality.
- APS, alongside the Salvation Army, SRP and Southwest Gas, and thousands of Arizona energy consumers, contribute to Project SHARE (Service to Help Arizonans with Relief on Energy). Through corporate and personal contributions, the SHARE fund helps those who are unable to pay their energy bills due to a financial emergency. As of 2010, customers and employees of APS, SRP and Southwest Gas have contributed more than \$15.3 million, helping nearly 106,000 families.
- The APS Energy Wise Low-Income Weatherization Program spent more than \$1.4 million in 2010, weatherizing more than 520 homes and helping more than 750 customers with bill assistance.
- For 2010, the APS Energy Support Program (E-3) provided more than \$10.7 million in discounts for low-income customers.

### **Energize Phoenix**

Last year, the City of Phoenix received a \$25 million federal grant from the U.S. Department of Energy and the American Recovery and Reinvestment Act to launch Energize Phoenix, a project that will be used to transform 10 miles of the Phoenix light rail line into a Green Rail Corridor by utilizing APS energy efficiency programs: primarily Solutions for Business and Home Performance with ENERGY STAR.

Energize Phoenix is a partnership between the City of Phoenix, ASU and APS.

Customers in the designated corridor can take advantage of rebates offered through APS energy efficiency programs — just like every other customer across the state. The only difference in Energize Phoenix is that the City will add additional incentives on top of the rebates provided by APS.

In addition to the added rebates available, APS also installed more than 14,000 smart meters in this corridor. A smart meter is a meter that provides two-way communication of information on energy use between your home and APS. The main benefit is the ability to access detailed information about your energy usage to help you manage your energy costs.

We will continue to empower our customers to become more 'green,' through our energy efficiency programs, renewable programs, and through partnerships such as Energize Phoenix.



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## APS Sponsors Field of Dreams for Children with Special Needs

Every child should have the chance to play baseball.

That simple thought was the impetus behind the Dan Haren Field, built so children with special needs could have a field of dreams of their very own.

Dedicated recently in North Scottsdale, the Dan Haren Field — named after the former Diamondbacks pitcher — was the culmination of a partnership between APS, the Arizona Diamondbacks and The Miracle League of Arizona.

“This is a great partnership the Diamondbacks and APS shares,” said APS President and Chief Operating Officer Don Robinson, who joked, “I’m a little bit chagrined because this is the thirtieth field (built in Arizona as part of the program) and we’ve only been involved in 26 of them.”

Arizona Diamondbacks Managing General Partner, Ken Kendrick lauded APS for helping make the field a reality.



### VIDEO

Every child has the right to play ball!



“The Arizona Diamondbacks are very fortunate to not only have APS as a partner of the team but also as a financial and moral supporter of the Arizona Diamondbacks Foundation. As the presenting partner of the field building program we want to express our sincere appreciation for their contribution.”

Children with disabilities will be able to enjoy the field through The Miracle League of Arizona, whose teams will play on a specially designed, rubberized turf field that accommodates wheelchairs and walkers and is designed to help prevent injuries and promote fun.

The field is located at 11130 E. Cholla Street in Scottsdale on land donated by the Scottsdale Unified School District.

“This is going to be an absolutely fantastic place because it gives kids the opportunity to come play ball while teaching them teamwork and to learn the commitment and dedication that goes along with it,” said Robinson. “We love being a partner with the Diamondbacks because we share how really important it is to be involved and to give back to the community, to the people around us.”



Children with disabilities will be able to enjoy the field through The Miracle League of Arizona, whose teams will play on a specially designed field that accommodates wheelchairs and walkers and is designed to help prevent injuries and promote fun.



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## Community Partner Academy Hosts Leaders

In an effort to educate community leaders on APS's operations and the workings of the electric utility industry, the company hosts the Community Partner Academy (CPA), designed to educate policy makers, community partners and thought leaders about the electric utility business and the complex issues, decisions and hard work needed to power our service territory.

The intensive two-day immersion in all things APS started with a welcome breakfast hosted by Don Brandt, PNW chairman, president and CEO and APS chairman and CEO, who gave an overview of our company, its history and Strategic Framework, which details APS's critical areas of focus and our company values.

At the most recent CPA event, Brandt took the opportunity to talk about APS's highest rating ever in the J.D. Power and Associates Residential Customer Satisfaction Study. "Some utility companies have legacies of bad service," Brandt said. "Not us. Every member of our company takes the trust of our customers very seriously," said Brandt to the participants.

The first day's agenda included presentations on resource planning, renewable energy sources, sustainability and a tour of Power Marketing's trading floor. The group also heard about energy efficiency programs and [aps.com](http://aps.com). They had a firsthand look at the complexity and vital

importance of transmission and power operations during the tour of APS's Energy Control Center.

CPA participants learned about customer offices, community development and economic development.

"We have 22 offices throughout Arizona, in addition to the Customer Care Center and [aps.com](http://aps.com)," said Evelyn Casuga, general manager, Community Development. "We want to give customers every opportunity and channel to interact with us."

Casuga went on to detail our company's efforts in volunteerism (165,000 volunteer hours by performance review and union employees in 2010), corporate giving, economic development and community development.

"We really appreciate APS," said Cottonwood Mayor Diane Joens, one of the attendees. "Especially in a small community, we couldn't have done it without you."

During the discussion about community development, Thea Wilshire, vice mayor of the City of Globe and clinical director for the San Carlos Apache Wellness Center, made a special point to acknowledge the efforts of Judee Jackson, community development consultant, Southeast Division.

The group was treated to a demonstration from APS apprentice linemen on the work that goes into ensuring electricity is safely and reliably delivered to their homes and businesses.

Prior to watching APS apprentice linemen demonstrate how to change out an insulator and simulate a hurt man rescue, attendees were given a safety briefing and learned a bit more about our company's safety practices and partnership with IBEW Local 387. "APS and the Union have a good relationship," said APS's Carl Moore. "If we see at-risk behaviors, the company gives us the ability to fix it."

"The consequences of an accident are so severe, safety is incorporated in everything we do," added APS training advisor Kevin Broderick, training advisor, Energy Delivery Technical and Safety Training. "APS has one of the best apprenticeship programs in the country. There are so many people who want it, we have the luxury of making it really, really hard."

After a brief demonstration of the APS weenie wagon by Moore, CPA participants made the short trip to the Deer Valley Customer Care Center where they got insight into how APS handles roughly five million calls a year — from residential, to business, to [aps.com](http://aps.com), to construction, to renewables, to meter access issues — all while achieving consistently high customer and employee satisfaction scores. After lunch, the group spent the afternoon at the Palo Verde Nuclear Generating Station, learning about the plant and nuclear power in general.

The two-day tour of APS finished with a dinner to share their thoughts with Brandt, Don Robinson, APS president and chief operating officer, and Froetscher.



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## APS Volunteer Program

For the past 23 years, APS's Volunteer Program has been active in every community which APS serves or has operations — that's more than 200 cities and towns in Arizona and northwestern New Mexico. From the newly-hired to executives, we encourage our employees to become a positive part of the greater community.

The philosophy of the APS Volunteer Program 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 the Volunteer Program, we help provide our employees with the organizational and financial support they need to ensure the success of their community service efforts and activities. APS employees volunteer for non-company sponsored opportunities such as youth sports, Scouts, school activities, church functions and community organizations.

APS's Employee Volunteer Program has resulted in thousands of hours dedicated each year to charitable organizations throughout the state. Our collective impact shows we back up our words with actions that make a tangible difference.

Consider these numbers:

- In 2010, APS employees and family members volunteered more than 165,000 hours — the equivalent of \$3.4 million in service to the community. From donating time and supplies to food banks to volunteering



**VIDEO** APS employee volunteers take pride in community service.

at women's shelters, to delivering supplies and holiday cheer to schools for homeless children, APS's volunteer program covers many needs in the community.

- Members of the APS Volunteer Clown Troupe each year log more than 50,000 volunteer hours, participating in parades, entertaining at nursing homes and hospitals and supporting other non-profit organizations and events.
- APS routinely has the largest number of Leadership Givers in Valley of the Sun United Way's annual fundraising campaign. All told, including a company match, APS employees give more than \$6.4 million dollars to worthwhile programs each year.
- More than 350 APS employees represent the company on non-profit boards throughout the state.

- About two dozen APS employees hold some form of public office.
- APS employees are encouraged to volunteer with non-company sponsored organizations in which they have an interest. By donating their time, employees can earn up to \$500 yearly for these organization through the company's volunteer matching gift program.

### **Volunteerism is Part of APS's Business**

We realize community involvement is the right thing to do, but we also realize that strong communities are good for business. We know our success is directly tied to the health and vitality of the communities we serve. So while we feel that volunteering and donating corporate dollars is the right thing to do, we also know there is a positive correlation between stock price and social/environmental performance.



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We think of community involvement and volunteering as an investment. We take an active approach to the long-term welfare of our communities, our economy and the well-being of our residents. We understand that healthy communities and strong local economies are not only good for Arizona, but also good for business.

That's why social performance and volunteerism are key component of APS's Business Plan, with each department in the company developing goals to support our efforts at creating a more sustainable Arizona. At APS, sustainability means meeting our business needs today while implementing the strategies, business practices and policies that support a vibrant economy, healthy environment and strong community. APS recently formed a Sustainability Department in to help

the company track and measure its sustainability goals. One of the key metrics tracked is volunteerism.

APS executives work alongside employees on volunteer projects and serve on organizations and boards addressing key community issues. They don't just "show up" at meetings or volunteer functions. They actively engage employees, get their hands dirty and make change happen.

From our programs for supporting children and education; to our commitment to helping small and minority-owned businesses; to our patronage of the arts and culture; to our encouragement of economic development, APS will continue to be an active participant in the continued well-being of our entire state. This commitment to the community did not go unnoticed.

APS was the recipient of the **2009 Corporate Volunteer Program of**

**the Year Award** presented by *The Business Journal* and HandsOn Greater Phoenix. In 2010, Marty Shultz, former vice president Government Affairs, was recognized as the Volunteer Executive of the Year by *The Business Journal* and HandsOn Greater Phoenix.

### Getting Employees Involved

Volunteer news is featured prominently in the company's internal newsletter and intranet site. News releases and other communications vehicles, such as our online newsletter to customers promote "Team APS" volunteering opportunities. Volunteerism is proudly displayed in the company's Annual Report and its Corporate Responsibility Report. All communications provided by APS, internally and externally, contain messages that APS is a committed corporate citizen, providing leadership on issues and inspiring similar involvement by others:

- The internal volunteer website publicizes community and volunteer opportunities.
- In addition to printed and electronic materials, APS executives and Community Relations representatives hold regular "community conversations" that provide opportunities to discuss company and community issues with business and elected leaders, public officials, civic leaders and employees.
- The APS customer e-newsletter, which is distributed to approximately 265,000 customers, highlights upcoming volunteer events and also reports results of past events.



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- APS retirees have a dedicated website, which includes a link to the APS Volunteer site. The site also highlights an upcoming project each month. The APS Volunteer Program Coordinator also attends the retirees' monthly meetings to share information about the program.
- Employee engagement metric — The company has established a goal of 20 percent of employees logging their volunteer hours on the APS volunteer website. In 2010, 26 percent of employees who volunteered logged their hours.

**LINK**  
[aps.com](http://aps.com)

### Volunteerism Starts at the Top

Volunteer efforts at APS often have an executive sponsor leading the charge. APS executives work alongside employees on volunteer projects and serve on organizations and boards addressing key community issues. They don't just "show up" at meetings or volunteer functions. They actively engage employees, get their hands dirty and make change happen.

Here are a few examples:

- Tammy McLeod, vice president & chief customer officer, participated in the "A Day for Downtown," working with other volunteers to revitalize a neighborhood and plant 32 shade trees.
- Marty Shultz, former vice president-Government Affairs, was the statewide chair for the March of Dimes March for Babies. Shultz not only participated in



the event, he helped to raise over \$35,000 for the event, in addition to recruiting other community leaders and revenue for the organization.

- APS was integral in the development and building of the Human Services campus for the homeless in downtown.
- APS President & Chief Operating Officer Donald Robinson serves as the executive sponsor of APS's United Way campaign.

### Volunteerism Strategy

APS's employee volunteer program is integral to the company's community development efforts and is tied to our strategic communications and corporate branding. Often, APS volunteers are the face of the company in

the community and are on the frontline of issues affecting their neighbors, our customers and other shareholders. Volunteers serve as APS ambassadors to the myriad organizations they serve and are part of a concerted effort to bring good will to the community while adding a human element to events and causes.

Volunteerism is a measurable goal for each department in our company, and is part our corporate strategic framework, under Customers and Communities.

Most volunteer opportunities are family-friendly, allowing employees to spend time with their family while enhancing the community in which they live and work, thereby contributing to a positive work-life balance. Our volunteer efforts are strategically aligned with our Health and Wellness department to provide collaborate opportunities for employees to become aware of and involved in activities that affect their health and well-being and that of their co-workers. Volunteer efforts are also closely aligned with the organizations our Community Development team gives charitable contributions to. That way, our assistance to these organizations is augmented and enhanced.

### Pinnacle West Attorneys Do Pro Bono Work

For many years, APS and its parent company, Pinnacle West, have encouraged employees to use their special talents for the betterment of our Arizona communities. Linemen and electricians put up lights at many Little League and other ballparks. Energy efficiency experts



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give free talks to rotary clubs, churches and just about any group that asks for help.

Now, thanks to a new formalized pro-bono program, attorneys from the Pinnacle West Law department are able to offer their knowledge and experience free of charge to deserving members of the Arizona community. The program affords the Pinnacle West attorneys and staff a variety of pro-bono opportunities, from traditional pro-bono services for the indigent (through the Maricopa County Volunteer Lawyers Program), to litigation and appeals in the federal court system.

While the company is encouraging participation by all members of the legal staff, the program is strictly voluntary and has well-defined limits. The program is consistent with the company's focus on helping the communities it serves and the ethical obligations of attorneys to perform pro-bono work.

## Corporate Giving

### Corporate Giving Strategies

At Pinnacle West and APS, we are committed to the communities we serve. We understand that building strong communities is good for our state, but it is also good for our business. In supporting the community, we make careful consideration to fund organizations within our guidelines that ultimately meet APS's business objectives and goals. We also encourage employee engagement in the community.

APS's Community Development department is applying this strategy to how we fund the organizations that serve our communities. The department works closely with other departments; including our power plants in order to leverage their expertise and knowledge of the communities where they're located. Community Development's past efforts in supporting the communities we serve has made

Arizona a better place to live and work, however we must always look to the future, making tough, strategic decisions about what organizations to continue funding to best align with the company's business objectives.

### In-Kind Giving

In 2009, Pinnacle West provided in-kind printing services to numerous nonprofit organizations across Arizona, with a total out-of-pocket expense of \$58,697 and a projected market value of \$85,031.

In 2010, Pinnacle West also provided in-kind charitable printing services to numerous nonprofit organizations across Arizona, with a total out-of-pocket expense of \$141,100 and a projected market value of \$206,600.



Pinnacle West was listed in the 2010 Dow Jones North America Sustainability Index for the sixth year in a row.

### 2010 Giving Report

#### Corporate Community Giving

Community & Economic Development	\$1,309,651.45
Community Vitality	\$3,098,408.98
Education	\$717,652.93
Employee Engagement	\$118,580.24

**Total Corporate** **\$5,244,293.60**

**APS Foundation Giving** **\$1,442,475.00**

**2010 Total Giving** **\$6,686,768.60**

\*Total does not include in-kind giving or volunteer hours.



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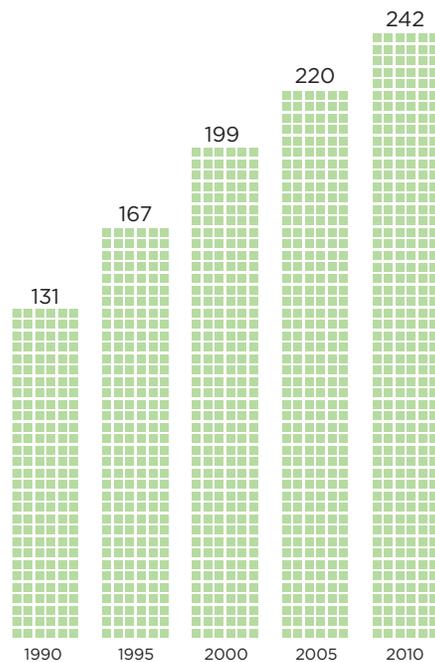
# WORKFORCE PERFORMANCE

The 6,700 men and women who make up the Pinnacle West/APS workforce comprise one of our largest stakeholder groups and are our greatest asset. Our talented, dedicated employees drive our business success, live our values and serve as our eyes and ears in our communities.

## Employee Profile

Over the past two decades, APS has had one of the fastest-growing customer bases in the nation. Our employees have responded with increased innovation productivity and operating efficiency. The next

**Employee Productivity Improvement**  
APS Customers Served Per Employee



five years will bring a different challenge: Planning for and supporting a significant workforce transition as many employees retire, and needed skills and technologies continue to evolve.

To address this transition, we are strengthening our workforce planning, reinvigorating our talent acquisition process, boosting our leadership development programs, ensuring we continue to offer a competitive benefits and compensation package and doing even more to help employees reach their full potential.

Despite the many changes, we continue to ensure employee issues are addressed promptly, fairly and consistently. Our internal policies and our strong code of conduct protect the rights of both employees and the company. (See our ethics policy in the governance section.) Our HelpLine enables employees to anonymously report any suspected wrongdoing, and we investigate each report.

We have adopted as our values: safety, integrity and trust, respect and accountability. We work hard to weave these values throughout the fabric of our company and the experiences of our employees.

## Diversity and Inclusion

We continued to strengthen our commitment in 2010, adopting a statement to reflect our views:

At APS, we believe diversity is smart business.

- We embrace a corporate culture that respects and leverages different backgrounds, experiences and viewpoints.
- Diversity will enable our company to capture the opportunities of our changing industry and realize our vision of creating a sustainable energy future for Arizona.

We demonstrate diversity through the following actions:



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- Workforce: We will attract and develop a diverse workforce and leadership team to foster innovation, inclusion and high performance.
- Workplace: We will encourage and support an open and engaging environment that recognizes employees' unique needs and values diverse talent.
- Marketplace: We will engage in the community, use diverse suppliers and work to meet the changing needs of the customers we serve.

Equal employment opportunity: At Pinnacle West/APS, decisions about employment, training, compensation and promotions are based on job-related qualifications. Our company prohibits 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. In addition, we explicitly prohibit sexual harassment or harassment of any other nature in the workplace. APS's Affirmative Action/Equal Employment Opportunity programs focus on workforce analysis, compliance, affirmative action, a harassment-free workplace, training and education.

PNW EEO Employer Information Report**								
JOB CATEGORIES	WHITE	BLACK OR AFRICAN AMERICAN	HISPANIC	NATIVE HAWAIIAN OR PACIFIC ISLANDER	ASIAN	NATIVE AMERICAN	TWO OR MORE RACES	TOTALS
Executives	19(m) 3(f)	0(m) 0(f)	1(m) 1(f)	0(m) 0(f)	0(m) 0(f)	0(m) 0(f)	0(m) 0(f)	24
First/Mid Officials/ Managers	677(m) 123(f)	11(m) 6(f)	57(m) 16(f)	0(m) 0(f)	18(m) 1(f)	33(m) 4(f)	1(m) 0(f)	947
Professionals	1135(m) 437(f)	29(m) 19(f)	138(m) 88(f)	0(m) 0(f)	90(m) 31(f)	38(m) 25(f)	6(m) 2(f)	2038
Technicians	345(m) 63(f)	17(m) 2(f)	41(m) 11(f)	0(m) 0(f)	7(m) 3(f)	13(m) 4(f)	2(m) 0(f)	508
Sales Workers	8(m) 2(f)	0(m) 0(f)	1(m) 2(f)	0(m) 0(f)	0(m) 0(f)	0(m) 0(f)	0(m) 0(f)	13
Administrative Support	215(m) 324(f)	11(m) 22(f)	83(m) 148(f)	0(m) 0(f)	5(m) 6(f)	7(m) 34(f)	1(m) 6(f)	862
Craftspersons	1331(m) 36(f)	33(m) 4(f)	232(m) 10(f)	1(m) 0(f)	15(m) 1(f)	344(m) 54(f)	7(m) 0(f)	2068
Operatives	88(m) 11(f)	4(m) 0(f)	17(m) 2(f)	0(m) 0(f)	0(m) 1(f)	3(m) 0(f)	0(m) 0(f)	126
Laborers	39(m) 4(f)	2(m) 0(f)	27(m) 0(f)	0(m) 0(f)	0(m) 0(f)	0(m) 1(f)	0(m) 0(f)	73
Service Workers	183(m) 27(f)	18(m) 2(f)	49(m) 4(f)	0(m) 0(f)	4(m) 0(f)	2(m) 0(f)	1(m) 0(f)	290
<b>2010 Totals</b>	<b>4040(m) 1030(f)</b>	<b>125(m) 55(f)</b>	<b>646(m) 282(f)</b>	<b>1(m) 0(f)</b>	<b>139(m) 43(f)</b>	<b>440(m) 122(f)</b>	<b>18(m) 8(f)</b>	<b>6949</b>
<b>2009 Totals</b>	4081(m) 1036(f)	126(m) 49(f)	605(m) 265(f)	2(m) 0(f)	136(m) 37(f)	477(m) 124(f)	16(m) 3(f)	6957
<b>2008 Totals</b>	4105(m) 1063(f)	126(m) 50(f)	597(m) 263(f)	1(m) 0(f)	130(m) 35(f)	476(m) 131(f)	10(m) 1(f)	6988

\*\*Does not include SunCor employees (m) = male, (f) = female



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## Labor Practices

### Labor unions

Committed to positive relationships with all employees, the company worked in 2010 to increase leaders' understanding of how to work effectively with labor unions and our employee members. This included additional labor relations training and fostering an environment of candid conversation.

The company successfully negotiated a business-focused contract with the local chapter of the Security, Police and Fire Professionals of America at Palo Verde in 2010 and began preparing for collective bargaining with the International Brotherhood of

Electrical Workers (IBEW), Local 387, in 2011.

Nearly 30 percent of the company's 6,700 employees are represented by one of these unions. A negotiated labor agreement establishes the working rules and other terms and conditions of employment. The company believes in working cooperatively with unions where they are in effect and honoring the agreements we have made in our negotiations.

Pinnacle West/APS enjoys a healthy, mutual respect with the IBEW, and we have partnered to offer a multi-skill training program, process to hire supplemental workers, drug-free workplace program, apprenticeship

program, driver qualification program and numerous safety projects. The union and the company often join in community causes, such as the Valley of the Sun United Way's Community Service Fund campaign and a baseball-field building program with the Arizona Diamondbacks professional baseball team.

We respect the rights of our union employees to bargain collectively, and we strive to maintain positive labor relations and resolve issues quickly and with a positive outcome for both the employee and the company.

### Our People Focus in 2010

The company focused on four people-related objectives to help us drive our Strategic Framework:

- Ensuring competitive rewards
- Attracting and engaging strong talent
- Strengthening and developing leadership
- Building a culture of high performance

#### Ensuring Competitive Rewards

The company's Total Rewards package for employees offers market-competitive pay and benefits to help us attract, retain and reward top talent.

#### Compensation

In 2010, we worked to ensure that our pay policies and processes reflect best practices for our market and industry. To help leaders make informed decisions about compensation, we offered additional training, both in person and online. We also re-designed our annual incentive plan and, for the first time, an individual



Nearly 30 percent of the company's 6,700 employees are represented by a labor union.



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employee's annual performance rating impacted the incentive award calculation. The Palo Verde Nuclear Generating Station did not add the individual performance rating in 2010 but will do so in 2011. This delay is due to the time and coordination required to secure approval of the plan changes with Palo Verde's multiple owners.

As part of building a high-performing company, we launched in 2010 the company's highest recognition for performance, the APS Chairman's Award. We honored nine individuals and three teams for their outstanding contributions.

**Employee benefits:** Pinnacle West/APS completed a major redesign of employee benefits in 2010, which we launched in the fall during our annual "open enrollment" for benefits. We wanted to ensure competitive benefits for our employees, reflect best practices, increase efficiency and contain costs.

To make it easier for employees to understand their health-care plans, we reduced the number to three in 2011, down from six in 2010. We also contracted with a single plan administrator, UnitedHealthcare.

Our redesigned life insurance programs resulted in a 24 percent reduction in employee premiums for supplemental life in 2011.

We also made it easier for employees and their leaders to manage absences, such as disability and worker's compensation, by moving to an outside absence management firm, Sedgwick Claims Management Services.

With a tradition of supporting employees' development, the company continued to provide an educational assistance program for employees seeking college credit or degrees. Employees are reimbursed for 80 percent of their tuition costs when they successfully complete a course. With an annual

limit of \$5,250, the company also reimburses employees for the remaining 20 percent of tuition costs when they earn a degree.

All full-time employees are covered by a retirement plan, through a traditional defined-benefit plan, a cash-balance plan or a combination, depending on the year of hire and the individual selection.

About 88 percent of employees participate in our 401(k) defined contribution plan, which includes a match from Pinnacle West. The company's compensation and benefits plan are described in detail on the Pinnacle West website.

The company's competitive benefits for employees and their families also include sabbatical leaves, child-care discounts, flexible spending accounts for health care and dependent care, alternative work schedules, paid time off and leaves to meet family and personal needs.



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## Attracting and Engaging Strong Talent

In today's fast-paced, competitive environment, having the right people with the right skills in the right positions has never been more important. As a result, the company launched several new talent programs in 2010 and planned additional programs to roll out in 2011.

To ensure we have the talent pipeline we require both today and tomorrow, we undertook a major transformation of our recruiting organization. We are taking a more in-depth look at our workforce needs, increasing the efficiency of our processes and developing new partnerships with educational institutions. In 2010, the company filled almost 1,000 positions with a mixture of internal and external talent.

**New employees:** Pinnacle West/APS targets new employees from diverse sources, including students attending community colleges or universities or enrolled in vocational programs tailored for the electric utility industry. We work with Arizona State University, the University of Arizona, Northern Arizona University, local community colleges, area high schools and targeted local organizations to offer scholarships and career information. APS's affiliation with the National Association of Colleges and Employers enables us to benchmark graduation rates, new-graduate compensation and other information that helps us compete successfully for talent. In addition, we sponsor an internship program, (see the training section).

**Talent reviews:** Because of the importance of knowing our key talent and helping them reach their full potential, we completed our second year of talent reviews for officers and directors, designed a stronger plan to develop our high-potential employees and significantly upgraded our leadership development programs, which will launch in spring 2011.



**Employee networks:** The company formalized its sponsorship of employee networks in 2010, encouraging employees with similar views, experiences or other affinities to come together for professional development, networking and learning more about the company and our industry.

These networks include Palo Verde Young Generation in Nuclear for PV employees age 35 and younger, Next Generation at APS for professionals new to the utility industry, Palo Verde Women in Nuclear and Women in Search of Excellence (WISE). In addition, Hispanic employees took steps to form the Hispanic Organization for Leadership and Advancement (HOLA).

These networks have grown quickly, with more than 500 employees participating. In addition, APS continued its strong support of diversity in our communities; for example, initiating the APS Navajo Scholars program in 2010. Through its supplier diversity and development program, the company purchased almost \$64 million in goods and services from diverse suppliers.

## Employee Development

### Apprenticeship, Internship and Other Training Programs

With an eye to our future workforce needs, we offer a variety of innovative programs to train, develop and engage talented women and men.

- **Fossil Joint Apprenticeships:** Developed by APS and the International Brotherhood of Electrical Workers, Local 387, this program trains qualified employees for our fossil-fueled power plants. The apprenticeships provide on-the-job training for maintenance technician, automotive/heavy equipment mechanic, maintenance technician-machinist and electrical and instrumentation technician. In addition, the program provides classes through San Juan College in Farmington, N.M., Northland Pioneer College in northern Arizona and Education Direct (an online learning program).
- **APS Apprenticeships:** Launched in 1948, this program trains men and women for a career in electric utilities. Apprentices



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receive statewide on-the-job training, along with trade-related classroom training. Upon successfully completing the apprenticeship program, apprentices become journeymen linemen, electricians, poly-phase meter readers and mechanics. APS also has a Utility Tree Worker Apprenticeship, one of the first of its kind in the nation.

- **APS Internships:** This program and its scholarships introduce students to virtually every part of our business, from engineering to trades to information systems. We target students who are attending community colleges or universities or who are enrolled in vocational programs tailored for the utility industry. The company also works with Arizona State University, the University of Arizona, Northern Arizona University, community colleges, area high schools and local organizations on scholarship opportunities, career expos and more to help develop and hire the local workforce.
- **Maintenance Internships:** Palo Verde partners with Estrella Mountain Community College to sponsor a 12-month program that prepares students for its apprenticeship program.
- **Radiation Protection Technical Training:** Palo Verde also works with Estrella Mountain Community College to offer a two-year program that prepares students to work in the radiation protection field when they graduate.



- **Electric Utility Technology Program:** We partner with Chandler-Gilbert Community College on this program, the first of its kind in Arizona. The two-year program provides students with a foundation in lineman training, and participants who complete the program earn an associate's degree in electric utility technology.
- **Quest for Excellence:** This Palo Verde-sponsored partnership with West Valley/Phoenix-area high schools enables students to participate in a seven-week program of advanced math, including algebra and physics. After completing the high school program, graduating seniors are eligible for the summer intern program. All college intern graduates are eligible for full-time employment based on the availability of entry-level positions and meeting performance standards.

- **Other accredited, certified training programs:** Eleven nuclear training programs are accredited by the Institute of Nuclear Power Operations (INPO). 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, Environmental Protection Agency, Department of Transportation and Nuclear Regulatory Commission.

### Employee Training

All employees must complete annual training in ethics, safety and environmental and business practices, averaging four hours per employee. Approximately 70 percent of the company's employees work in highly specialized craft, operations, technical, engineering and customer-service positions. These positions have annual job-specific training requirements that range from 16 to 400 hours annually, for an average of 46 hours of annual continuing training per employee in these job groups.

The APS Learning Center is the company's corporate 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 have classrooms for instructor-led as well as computer-based training.



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## Strengthening and Developing Leadership

In October, the Pinnacle West Board of Directors adopted its 2011-12 business plan and included as one of its key initiatives: Developing strong leaders to ensure a strong workforce.

We redesigned and re-launched *Succeeding @ Leadership*, with 10 sessions for 162 new leaders. Offered over a three-month period, *Succeeding @ Leadership* provides information on compensation, company values, managing performance and other required skills and knowledge for leaders.

All leaders of union employees attended a comprehensive three-day training program to help them effectively manage a wide range of labor-related supervisory situations and ensure a non-threatening work environment.

In addition, leaders benefited from a new class called *Employment Law Boot Camp*, a half-day session covering topics such as sexual harassment, wage-and-hour issues and discrimination.

Preparing for the future, we evaluated the best leadership programs across the U.S. in 2010 and determined to use the BTS *Performance Mastery* series, starting in spring 2011.

We also enhanced our succession planning process for key leadership positions throughout the company. A CEO-led committee reviews and confirms candidates for senior positions.

In addition, we continued to upgrade our process for identifying

and developing high-potential employees. Our online talent management system enabled us to improve our tracking and reporting capability and more effectively manage developmental opportunities across the company.

Mid-level and senior leaders benefited from strengthened quarterly meetings of the Leadership Forum and the Senior Management Group, respectively. Attendees heard regular business and industry updates and gained a strategic understanding of our business goals and initiatives and our progress in achieving them.



70%

Approximately 70 percent of company employees work in highly specialized positions.

These jobs have annual job-specific training requirements.

At the Palo Verde Nuclear Generation Station, our innovative Palo Verde Legacy Program continued to develop engineers to run the nation's largest nuclear facility.

## Creating a Culture of High Performance

Pinnacle West/APS is committed to being a high-performing company, and, in 2010, we continued to take steps to embed performance in our culture.

## Performance management:

The company launched a new performance-management process in 2010 to ensure that employees are aligned with and supporting our business goals, objectives and values. The process forges the link between pay and performance and encourages candid conversations between employees and leaders about performance and professional development plans.

The aligned, consistent process included a stronger focus on goal setting at the beginning of the year and a new, automated tool to support goal setting, performance management, talent planning and compensation administration.

In our first year of using this new performance-management process, 95 percent of employees had documented performance goals, 63 percent had development plans, and 97 percent had mid-year performance reviews.

**Workforce planning:** To meet our future talent needs, the company undertook more aggressive strategic planning in 2010. This included new processes for leaders to assess their talent needs and to link workforce plans to business plans.

APS also led the effort to create a statewide energy workforce consortium, with representatives from all major state utilities, to address workforce training issues.

**Empower website:** To increase employees' access to people-related information, Human Resources launched a new intranet site, Empower, in mid-2010. Using SharePoint technology, the website



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provides a wealth of information that employees can access easily at their convenience. By year-end, monthly visits had grown to almost 16,000.

## Health and Wellness

The safety and health of employees ranks as a top priority for Pinnacle West. Employees can take advantage of health clinics at corporate headquarters and our Deer Valley, Four Corners, Cholla and Palo Verde facilities, as well as through a network of local physicians, clinics and other health-care facilities that serve employees with work-related injuries. As always, our goal is zero injuries!

For our employees at Palo Verde, we added a health clinic in the “protected” area in 2010, making it easier and faster for employees to obtain services.

Our wellness program offers health information, screenings and assessments to help employees maintain their health and a healthy lifestyle. In 2010, we provided employees with free, confidential health screenings at more than 30 company sites and also offered online health assessments through Mayo Clinic’s Embody Health program.

The company also offered free flu shots to employees in 2010 and developed a strategic plan to deal with a potential flu outbreak and its impact on business operations.

To help employees deal with a variety of personal issues, such as stress from caring for a seriously ill family member, the company offers an employee assistance program. At the end of 2010, we moved this

program to UnitedHealthcare / Optum Health Network and began providing expanded services, including short-term counseling services, family support, financial and legal advice and referrals for extended care.

We have a proactive ergonomics program that provides information and skills to encourage healthy and safe behaviors, minimizing ergonomic-related injuries and illnesses.

With our strong focus on employees, we began planning for an expanded, companywide wellness program in 2011, called *Health Matters*.

## APS 2010 Employee Safety Performance

### APS Continues to Improve Overall Safety Performance in 2010

For the third consecutive year APS has decreased the number of recordable injuries, with a 33 percent reduction in OSHA recordable injuries in 2010 compared to the previous year, and a 63 percent reduction compared to 2007. Not only did our safety performance improve in 2010 but it was our safest year ever. We achieved this improved safety performance by emphasizing employee participation in behavior-based initiatives. The initiatives served to focus our workforce’s attention on safety awareness and also minimize at-risk behaviors and conditions.

Of course, while we use our safety statistics to track our performance, safety isn’t about numbers, it’s about people. It is the strong commitment to safety our

employees take to work each day and out into the communities where we live and serve. Safety continues to be an overriding value that binds all aspects of our business. Along with Accountability, Integrity & Trust, and Respect, Safety is a Core Value in our corporate Strategic Framework.



Even while our company continues to implement management and operational changes designed to achieve greater efficiency and productivity; these changes do not occur at the expense of the health and safety of our employees. We are committed to our employees returning home at the end of their shift in the same condition in which they arrived.

### Safety Goals

Our APS business plan includes a safety goal: to create a “zero incidents” culture and operating model. The performance metric for this goal is our placement in the top quartile of investor-owned utilities nationwide in OSHA recordable injuries. We achieved this goal in 2010, placing in the top 15 percent of our industry based on Edison Electric Institute rankings.



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## Incident and Close Call Tracking

Safety-related incidents are reported through an electronic Event Notification and Tracking System. Every employee is strongly

encouraged to also report close calls. By evaluating close calls and making corrections when appropriate, we believe we can better identify potential problem areas before they result in an accident.

At this time, APS does not have accurate numbers for hours worked for every contracted job, so we cannot currently calculate injury rates for contractors. However, we are currently working to install processes that will allow us to better capture all contractor hours worked in order to begin monitoring contractor injury rates in 2012.

In 2010, we had 15 OSHA Reportable Injuries for APS contractors reported to us, with two lost time accidents and five days of lost work.

### APS Safety Core Value

I will make a personal and conscious commitment in my decisions and actions to ensure the safety of myself, my co-workers, our customers and the general public. Safety will always be my top priority.

### Contractor Safety

We hold our contractors to the same level of safety as we do our employees. APS has a formal Contractor Safety Program and a Contractor Code of Ethics which contractors are required to meet.

## 2010 APS Employee Safety Performance

	2007	2008	2009	2010
<b>OSHA Recordable Injuries</b>				
APS Total	177	108	97	<b>65</b>
APS Injury Incident Rate (AIIR)	2.49	1.52	1.38	<b>.95</b>
2009 Electric Utility Industry Average	3.12	2.70	2.32	<b>2.37</b>
2009 Electric Industry Top Quartile				<b>1.19</b>
<b>Lost Work Day Cases</b>				
APS Lost Work Day Total	61	47	36	<b>18</b>
APS Injury Incident Rate (LWIR)	0.86	0.64	0.51	<b>0.26</b>
2009 Electric Utility Industry Average	0.63	0.70	0.63	<b>0.61</b>
2009 Electric Industry Top Quartile				<b>0.23</b>
<b>Lost Work Days</b>				
APS Total	1636	1198	641	<b>352</b>
APS Injury Incident Rate (SIR)	22.97	16.40	9.11	<b>5.16</b>
2009 Electric Utility Industry Average	25.59	24.25	24.25	<b>19.48</b>
2009 Electric Industry Top Quartile				<b>5.87</b>
<b>APS Fatalities</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>

From Edison Electric Institute Safety Survey



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## Public Safety

Safety is our top priority, and we carry that commitment to safety into the community. To that end, we staff a Public Safety department to strengthen our public-private partnerships in the community to ensure that not only is the public safe and informed about any possible dangers of electricity, but that we have a strong partnership with emergency management professionals throughout the State to be prepared for “all hazards” and to safely maintain and protect critical infrastructure.

Our Customer Service, Energy Delivery, and Public Safety departments work to ensure our customers have access to accurate information on the proper use and handling of electricity. In an effort to educate and protect children, our Public Safety employees target students throughout Arizona with an outreach program aimed at safety and electrical hazard awareness, that also supplements the student’s knowledge of electricity to meet Arizona’s science curriculum. APS employees have also reached hundreds of maintenance workers, city employees, firefighters, arborists, and other potentially at-risk groups with targeted electrical safety and emergency preparedness presentations.

In fact, beginning in 2009 the Arizona Peace Officers Standards and Training (POST) Board accredited APS’s First Responder—Electrical Safety Awareness course. This means APS can teach the course to any peace officer in

Arizona, and it will count toward the officer’s accreditation and continuing education requirements. The Energy Delivery organization maintains three electrical safety trailers that provide live demonstrations of the potential danger of electrical conductors and the dramatic impact of electrical current on living tissue to audiences across Arizona.

We also offer safety messages through the media, in customer newsletters and on [aps.com](https://www.aps.com).

[LINK  
aps.com](https://www.aps.com)



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### STRATEGY AND ANALYSIS

1.1	Statement from senior decision-maker	Executive Message
1.2	Description of key impacts, risks, and opportunities	Management Strategy

### ORGANIZATIONAL PROFILE

2.1	Organization's name	Company Profile
2.2	Major products	Company Profile Our Business
2.3	Operational structure and major divisions	Company Profile
2.4	Location of headquarters	Company Profile
2.5	Countries of operation	Company Profile
2.6	Nature of ownership	Company Profile
2.7	Markets served including geographic breakdown/sectors served/customers	Company Profile
2.8	Scale of organization including number of employees, nets sales/revenues, total capitalization	Company Profile Economic Impact Employment Profile & Diversity
2.9	Significant changes during reporting period	Report Introduction Management Strategy Key Issues
2.10	Awards	Awards & Recognitions

### REPORT PARAMETERS

3.1	Reporting period	Report Introduction
3.2	Date of previous report	Report Introduction Archives
3.3	Reporting cycle	Report Introduction
3.4	Contact point	Company Profile
3.5	Process for defining report content	Report Introduction
3.6	Boundary of the report	Report Introduction
3.7	Limitations on the scope or boundary of the report	Report Introduction
3.8	Basis for reporting on joint ventures, etc.	Report Introduction
3.9	Data measurement techniques and bases of calculations including assumptions	Report Introduction
3.10	Restatements of information	Report Introduction
3.11	Significant changes from previous reporting periods	Report Introduction
3.12	GRI Content Index table	GRI Content Table
3.13	External assurance	Report Introduction

### GOVERNANCE, COMMITMENTS & ENGAGEMENT

4.1	Governance structure including committees	Corporate Governance
4.2	Indicate whether chair of highest governance body is also an executive officer	Corporate Governance
4.3	Percent of independent directors	Corporate Governance
4.4	Mechanisms for shareholders and employees to provide recommendations/direction to highest governance body	Corporate Governance



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4.5	Linkage between compensation and organization's performance for members of highest governance body/senior executives	Corporate Governance
4.6	Process for the Board to ensure conflicts of interest are avoided	Corporate Governance
4.7	Processes for determine qualifications and expertise for guiding strategy	Corporate Governance
4.8	Mission and values statements, codes of conduct, principles relevant to economic, environmental and social performance, and status of implementation	Corporate Governance EHS Policy Management Strategy Company Profile
4.9	Procedures of highest governance body for overseeing economic, environmental and social performance including compliance, codes of conduct	Corporate Governance
4.10	Processes for evaluating performance of governance body with respect to economic, environmental and social performance	Corporate Governance
4.11	Explanation of how precautionary approach/principle is addressed by organization	Corporate Governance
4.12	Externally developed, voluntary economic, environmental, and social charters, sets of principles, or other initiatives	Corporate Governance Environmental Performance Community & Customers
4.13	Significant memberships in associations and/or advocacy organizations	Affiliations and Memberships
4.14	List of stakeholder groups	Stakeholder Engagement
4.15	Basis for identification and selection of stakeholders with whom to engage	Stakeholder Engagement
4.16	Approaches to stakeholder engagement, including frequency and type	Stakeholder Engagement
4.17	Key issues raised through stakeholder engagement and how organization has responded	Stakeholder Engagement

**ECONOMIC PERFORMANCE INDICATORS**

EC1	Direct economic value generated and distributed	Economic Impacts
EC2	Financial implications and other risks and opportunities due to climate change	Climate Change
EC3	Coverage of the defined benefit plan obligations	Labor Practices
EC4	Significant government assistance	Corporate Governance
EC6	Policy, practices and proportion of spending on locally based supplier	Supply Chain
EC7	Procedures for local hiring at locations of significant operation	Workplace Performance
EC8	Development and impact of infrastructure investments and services provided for public benefit	Economic Impacts Community Support
EC9	Significant indirect economic impacts	Economic Impacts Supply Chain

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**ENVIRONMENTAL PERFORMANCE INDICATORS**

EN1	Materials Used	APS Generation Materials & Supply Chain
EN2	Recycled Materials	Waste
EN3	Direct energy consumption	Supply Chain
EN4	Indirect energy consumption	Supply Chain
EN5	Energy saved due to conservation and efficiency improvements	Materials & Supply Chain
EN6	Initiatives to provide energy-efficiency or renewable energy based products and services	Renewable Energy Energy Efficiency
EN7	Initiatives to reduce indirect energy consumption	Supply Chain Travel Reduction Demand Side Management
EN8	Total water withdrawal by source	Water
EN9	Water sources affected	Water
EN10	Water recycled and reused	Water
EN11	Land Use	Land Use & Biodiversity
EN12	Biodiversity	Land Use & Biodiversity
EN13	Habitats protected or restored	Land Use & Biodiversity
EN14	Strategies, current actions, and future plans for managing impacts on biodiversity	Land Use & Biodiversity
EN16	Direct and indirect greenhouse gas emissions	Climate Change
EN17	Other indirect GHG emissions	Climate Change
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved	Climate Change
EN19	Emissions of ozone-depleting substances	
EN20	NO, SO, and other air emissions	Air Emissions
EN21	Water discharge	Water
EN22	Wastes	Waste
EN23	Spills	Spills & Remediation Programs
EN24	Hazardous wastes	Waste
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation	Supply Chain
EN27	Products and packing reclaimed	Supply Chain
	Waste	
EN28	Compliance	Compliance
EN29	Transportation	Facilities & Fleet

**SOCIAL PERFORMANCE INDICATORS**

LA1	Total employees	Employment Profile & Diversity
LA3	Benefits	Labor Practices
LA4	Percentage of employees covered by collective bargaining agreements	Labor Practices
LA6	Workforce represented in health and safety committees	Safety Performance



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LA7	Health and safety rates	Safety Performance
LA8	Programs to assist employees, families, or community members regarding serious diseases	Employee Health & Productivity Labor Practices
LA9	Health & Safety topics covered with unions	Safety Performance Labor Practices
LA10	Employee training	EHS Training Employee Development
LA11	Skills management and lifelong learning	Employee Development
LA12	Performance and career development	Employee Development
LA13	Diversity	Employment Profile
HR2	Suppliers and contractors that have undergone screening on human rights	Corporate Governance Supply Chain
HR3	Employee training on policies and procedures concerning human rights	Corporate Governance Employee Development
HR5	Collective bargaining	Labor Practices Employment Profile Corporate Governance
HR6	Operations having significant risk for incidents of child labor	Labor Practices
HR7	Operations having significant risk for incidents of forced labor	Labor Practices
HR8	Security personnel trained on policies and procedures concerning human rights	Corporate Governance Employee Development
SO1	Programs and practices that assess and manage the impacts of operations on communities	Stakeholder Engagement Electric System Reliability Land Use & Biodiversity Public Safety
SO2	Risks related to corruption	Corporate Governance Ethics
SO3	Employees trained in organization's anti-corruption policies and procedures	Ethics
SO5	Public policy development and lobbying	Corporate Governance Ethics
SO6	Total value of contributions to political parties, politicians, and related institutions	Corporate Governance
SO11	Community Engagement	Corporate Governance Community Support
PR1	Product health and safety	Supply Chain Public Safety Safety Performance
PR2	Health and Safety regulatory compliance	Compliance Safety Performance
PR3	Sustainability information on product and service	Environmental Performance Climate Change APS Generation



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PR4	Product and service regulatory compliance	Compliance Corporate Governance Ethics
PR5	Customer satisfaction	Community & Customers
PR6	Program for adherence to laws, standards, and voluntary codes related to marketing communications	Corporate Governance Ethics Environmental Performance

**ELECTRIC UTILITY SUPPLEMENT**

EU1	Installed Capacity	APS Generation
EU2	Number of customers	Company Profile
EU3	Length of transmission and distribution lines by voltage	Land Use & Biodiversity
EU5	Planning to ensure short and long-term electricity availability and reliability	APS Generation Electric System
EU6	Demand-side management programs	Energy Efficiency
EU7	Research and development activity aimed at providing reliable and affordable electricity and sustainable development	Electric System Renewable Energy
EU8	Provisions for decommissioning of nuclear power plants	APS Generation
EU9	Planned capacity against projected electricity demand over the long term	APS Generation
EU10	Estimated capacity saved through demand-side management programs	Energy Efficiency Demand Side Management
EU11	Estimated energy (MWh) saved through demand-side management programs	Energy Efficiency
EU12	Average generation efficiency by energy source	APS Generation
EU13	Transmission and distribution efficiency	Electric System
EU14	Biodiversity of replacement habitats compared to the biodiversity of the areas that are being replaced.	Land Use & Biodiversity
EU15	Processes to ensure retention and renewal of skilled workforce	Workplace Performance Employee Development
EU18	Participatory decision making processes with stakeholders and outcomes of engagement	Stakeholder Engagement Supply Chain
EU20	Contingency planning measures and disaster/emergency management plan and training programs, and recovery/restoration plans	Public Safety Climate Change
EU22	Programs, including those in partnership with government, to improve or maintain access to electricity services	Customers Stakeholder Engagement
EU23	Practices to address language, cultural, low literacy and disability related barriers to accessing and safely using electricity services	Community Support Customers
EU27	Power outage frequency	Electric System
EU28	Average power outage duration	Electric System
EU29	Average plant availability factor by energy source	APS Generation



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May 6, 2011

Mr. David Jallo  
Arizona Public Services Company  
400 North 5th Street  
Phoenix, AZ 85004

**Re:    *Summary of Voluntary Limited Third Party Verification  
2010 Air Emissions from APS Generation Fleet  
2010 Carbon Dioxide Emissions from APS Mobile Fleet***

Dear Mr. Jallo,

Arizona Public Services Company (APS) generates an annual Corporate Responsibility Report that contains a summary of air emissions from the APS system. APS retained Trinity Consultants (Trinity), an independent air quality consulting firm, to review the 2010 air emissions reporting process, using the Cholla and West Phoenix power plants as indicators for the air emission reporting system, which is consistent across the APS generation fleet. These plants 2010 air emissions were evaluated for the data collection process, emission calculation methodology, and reporting accuracy. In addition, Trinity reviewed the process for reporting 2010 carbon dioxide (CO<sub>2</sub>) emissions from the APS mobile fleet.

Following a detailed review of the calculation methodology as well as data inputs provided by APS, the verification team has found that the final 2010 air emissions developed by APS for the generation and mobile fleet are free of major material misstatements. “Material misstatement” means one or more inaccuracies identified in the course of verification that result in the total reported air emissions, being outside the 95 percent accuracy required to receive a positive verification opinion.

If you have any questions or need additional information, please contact me at (480) 222-4571.

Sincerely,

TRINITY CONSULTANTS



Eddie Al-Rayes  
Principal Consultant