

Pinnacle West Environmental, Health & Safety Summary Report

2003



FUELING TOMORROW'S ECONOMY

“Pinnacle West recently received a rating of AAA from Innovest Strategic Value Advisors, an internationally recognized investment research and advisory firm specializing in analyzing companies’ performance on environmental, social and strategic governance issues.”



At Pinnacle West and APS, we look at shareholder value through a wide-angle lens.

Shareholder value is more than earnings and stock performance — though those elements get a lot of our attention. We create shareholder value through our environmental focus, by being an employer people want to work for, by working safely, by being an integral part of the communities we serve and by holding ourselves up to a high standard of integrity.

As you’ll see in this report, these are areas we quantify and scrutinize as much as any other aspects of our business. Their impact is felt by our customers, our employees and our state, and also by Wall Street. We are pleased that our focus has been recognized in the business community as well.

Pinnacle West recently received a rating of AAA from Innovest Strategic Value Advisors, an internationally recognized investment research and advisory firm specializing in analyzing companies’ performance on environmental, social, and strategic governance issues. Our company also earned a AAA rating in Innovest’s previous two studies, in 2002 and 2000.

Ultimately, our strength as a company lies in the collective character of our employees and their desire to produce safe and reliable energy while keeping the needs of the community and the environment at the forefront of everything they do. It is on that commitment to excellence that we plan for the future.

We encourage and look forward to your comments about this report and our progress in achieving our goals.

Sincerely,

**JACK E. DAVIS**  
PRESIDENT, PINNACLE WEST





## FUELING TOMORROW'S ECONOMY

To paraphrase Shakespeare, “tomorrow and tomorrow and tomorrow... creeps in from day to day.”

And for those who believe the environment is in a crisis and that renewable energy is part of the answer, it must feel like tomorrow does come at a creeping pace. While we might differ on the issue of crisis and how long it will take for the future to materialize, we don't disagree that environmental improvements can and should be made to the existing infrastructure. Nor do we disagree that renewable technology is part of a cleaner energy future.

The energy future visualized at our company, however, is not just about the environment. At APS, the energy future is sustainable, cost-effective and reliable. The energy sources and systems will be transparent to the end user and will power a 24-hour economy.

Accomplishing these goals is a daunting task and will not happen overnight. However, renewable energy is beginning to emerge today and will become reality in the next 20 to 50 years. Clearly this isn't a quick fix, but our company has been doing business for 117 years, and focusing on long-term solutions is a major component of our success.

Presently, Arizona produces the most solar energy per capita in the U.S., and the Arizona Corporation Commission's aggressive environmental portfolio standard has played an important role in our progress. As noted in this report, APS' solar portfolio is a major part of this success.

However, the future success of our renewable technology portfolio must be broader than just a set number of kilowatts. We must seek a workable, renewable future. We won't realize this future by simply putting up solar panels wherever and whenever possible. This would help meet some immediate goals, but would do little to advance and develop the emerging technologies that promise to be cost competitive with other energy sources.

Our goals for the future are inextricably tied to the communities we serve and to the environment in which we live and work. Our customers rely on us for their economic livelihood and comfort. They expect that we will work to protect the environment. This means working with manufacturers to deploy technology that is more than a niche tied to quotas or mandates or political agendas. While solar will be key to Arizona's renewable future, it is only one aspect. We are also exploring other renewable technologies including biomass, landfill gas, biogas, geothermal and wind; as well as clean-burning fuels such as hydrogen and compressed natural gas.

As the future unfolds, we are dedicated to managing our system with an emphasis on environmental stewardship and continuous improvement. This environmental focus is consistent with a corporate-wide philosophy of doing things the right way. As the President of our company, Jack Davis, states in his message, areas such as environmental performance, charitable giving, safety and business ethics are more than just good corporate citizenship. Combined with financial performance, they equal shareholder value. Today, tomorrow, 20 years from now, this focus will not change.

Thank you for your interest in Pinnacle West and our Environmental Health and Safety Report.

Sincerely,

A handwritten signature in black ink, appearing to read "Edward Z. Fox". The signature is stylized and fluid.

**EDWARD Z. FOX**  
VICE PRESIDENT OF ENVIRONMENTAL HEALTH,  
SAFETY AND COMMUNICATIONS

NAME OF REPORTING ORGANIZATION .....PINNACLE WEST  
 CONTACT .....BILL WILEY, CORPORATE ENVIRONMENTAL,  
 .....HEALTH AND SAFETY DEPARTMENT  
 ADDRESS .....P.O. BOX 53999, MAIL STATION 8376,  
 .....PHOENIX, ARIZONA 85072  
 PHONE .....602-250-3259  
 FACSIMILE .....602-250-3872  
 E-MAIL .....WILLIAM.WILEY@PINNACLEWEST.COM  
 DUN & BRADSTREET NUMBER .....131155400  
 APS DUN & BRADSTREET NUMBER .....184147700  
 CORPORATE TAX ID NUMBER .....86-001170

**MAJOR PRODUCTS AND/OR SERVICES** For more than a century, Pinnacle West and our affiliates have provided energy and energy-related products to people and businesses throughout Arizona. Based in Phoenix, Pinnacle West has consolidated assets of \$9.5 billion and annual revenues of \$2.8 billion.

Pinnacle West's largest affiliate, Arizona Public Service (APS), generates, sells and delivers electricity and energy-related products and services. APS serves more than 900,000 customers in 11 of Arizona's 15 counties, and is the operator and co-owner of the Palo Verde Nuclear Generating Station – a primary source of electricity for the Southwest.

Our other affiliates include SunCor Development Company\*, a developer of residential, commercial and industrial real estate; APS Energy Services, a retail energy service provider; Pinnacle West Energy Corporation; a competitive generation company; and El Dorado Investment Company\*, a venture capital and investment firm.

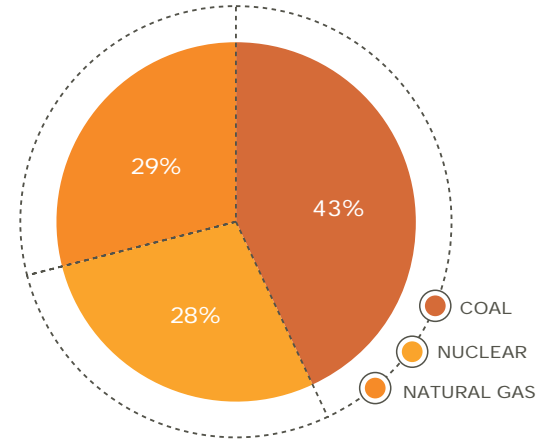
\* SunCor and El Dorado environmental, health, safety and social performance are not included in this report.

This summary report provides information on our company's performance across three areas of sustainability – namely economic, environmental and social issues.

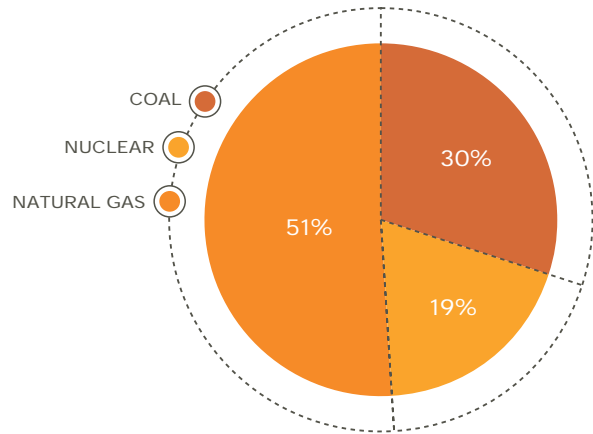
Our full report, available online at [www.pinnaclewest.com/ehs](http://www.pinnaclewest.com/ehs), was prepared in accordance with guidelines set by the Coalition for Environmentally Responsible Economies (CERES) and to the extent possible, Global Reporting Initiative (GRI). These guidelines were established to develop globally applicable standards for sustainability reporting.

**GENERATION RESOURCES**

APS- OWNED GENERATION MIX



PINNACLE WEST CAPITAL CORPORATION-OWNED GENERATION MIX



## FINANCIAL PERFORMANCE

Detailed information on our company's financial performance can be found in the Pinnacle West Annual Report at [www.pinnaclewest.com](http://www.pinnaclewest.com).

APS ELECTRIC REVENUE ANALYSIS	2003	2002
<b>REGULATED ELECTRICITY SEGMENT</b>		
RETAIL SALES:		
Residential	960,303	912,245
Commercial	811,642	795,999
Industrial	132,146	123,508
Irrigation	1,898	2,257
Other	11,818	11,554
Total retail	1,917,807	1,845,563
WHOLESALE REVENUE ON DELIVERED ELECTRICITY:		
Traditional contracts	15,301	8,616
Retail load hedge management (a)	157,225	
Transmission for others	41,379	29,803
Other miscellaneous services	24,903	18,132
Total regulated electricity revenue	1,999,390	1,902,112
<b>MARKETING AND TRADING SEGMENT</b>		
DELIVERED MARKETING AND TRADING:		
Generation sales other than native load	87,832	20,527
Realized margin on electricity trading	7,469	—
Other delivered electricity	15,082	13,527
Total delivered marketing and trading	110,383	34,054
OTHER MARKETING AND TRADING:		
Realized margins on delivered commodities other than electricity	(696)	—
Prior period mark-to-market gains on contracts delivered during current period	172	—
Change in mark-to-market for future period deliveries	(4,318)	—
Total other marketing and trading	(4,842)	—
Total marketing and trading revenue	105,541	34,054
Total electric revenues	2,104,931	1,936,166

(a) Marketing and trading was moved to APS from the parent in February, 2003, consistent with regulatory policy changes.

## COMMUNITY PARTICIPATION AND ACCOUNTABILITY

APS and its employees devote a lot of time, energy and resources to helping make our community strong, healthy and vital.

That means we're there to sponsor community events, to support Getting Arizonans Involved in Neighborhoods (GAIN) projects, to lend a helping hand to underprivileged families, to build community ballfields and to foster health initiatives in schools.

For example, APS and Major League Baseball's Arizona Diamondbacks share a winning partnership. APS, which has been a principal sponsor of the hometown Diamondbacks since the team's inception, has a special connection to the team. As such, APS and the Diamondbacks have teamed to build and dedicate nine lighted baseball fields in neighborhoods throughout Arizona. APS also partners with the International Brotherhood of Electric Workers (IBEW) to light the fields.

Thanks to the partnership with the Diamondbacks, APS has given away thousands of free tickets to Arizona youths and will again donate blocks of 40 or more tickets to deserving children for home games this season. The children are chosen from schools, YMCAs and Boys and Girls Clubs throughout the state.

We also support local charities, including the Valley of the Sun United Way. In 2003, APS and its employees exceeded previous company giving records, contributing \$2.3 million to the United Way. APS employees also contributed more than 127,000 hours to 300 community-based projects in 2003.

## CUSTOMER SATISFACTION

Our company takes pride in its commitment to the community.

Throughout Arizona, our company is recognized as a leader in the communities we serve.

In a 2003, APS-sponsored survey of 757 community leaders, APS was the first company mentioned by 60 percent of those surveyed as the one company that comes to mind first as a good community citizen. According to the survey, our active participation in the areas we serve established us as a good citizen in the minds of community leaders. We are recognized for our involvement in community development, support programs and for our support of economic development activities.

We support the arts and education not just because it's the right thing to do, but because today's youth are our employees, consumers and leaders of tomorrow and we need an educated society to move us forward in the 21st Century. We support educators through professional development opportunities such as:

- Our Generation division's Summer Teachers' Workshop provides new and exciting ways to teach about energy while providing real-world information about the electric industry from people who work in it every day.
- APS' PASS (Partners Advancing Student Success) program in which we partner with Motorola and Communities in Schools to help educators integrate the Arizona Academic Workplace Skills Standards into their lesson plans. This program gives educators real-world business experience to help them demonstrate the relevance of what their students are learning in the classroom.
- Through sponsorships of arts and culture we provide opportunities for "at-risk" schools to take part in programs offered by local museums and theaters.
- Our five-year commitment with Arizona Department of Education's Character Education Initiative to bring character education to all schools statewide.
- Our continued support of Kids Voting Arizona to help our youth understand their obligations as citizens to participate in local and national elections.
- In partnership with the Phoenix Suns, we offer up to \$50,000 in energy and environmental mini-grants to schools within the APS service territory. We provide scholarships to ASU, ASU West and the Maricopa Community Colleges.

“Our company takes pride in its commitment to the community.”

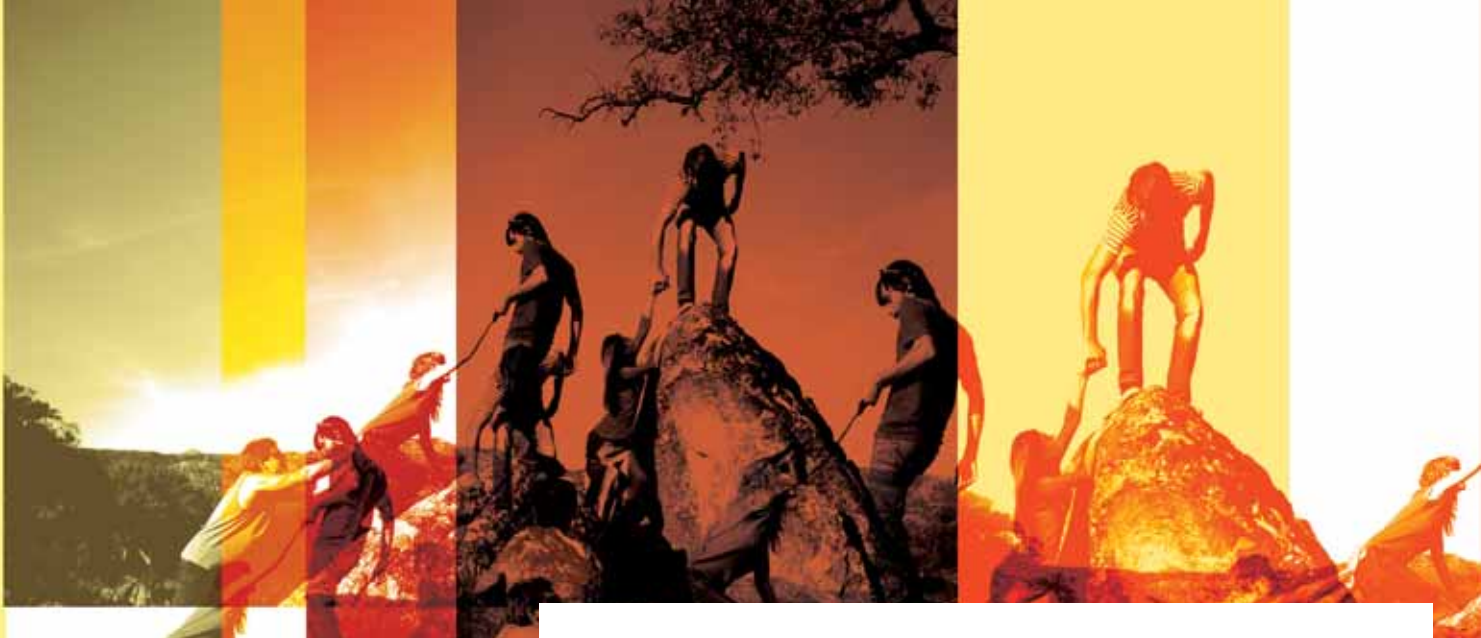
---

## HEALTH, SAFETY AND SOCIAL PERFORMANCE

### ACCOUNTABLE FOR SAFETY

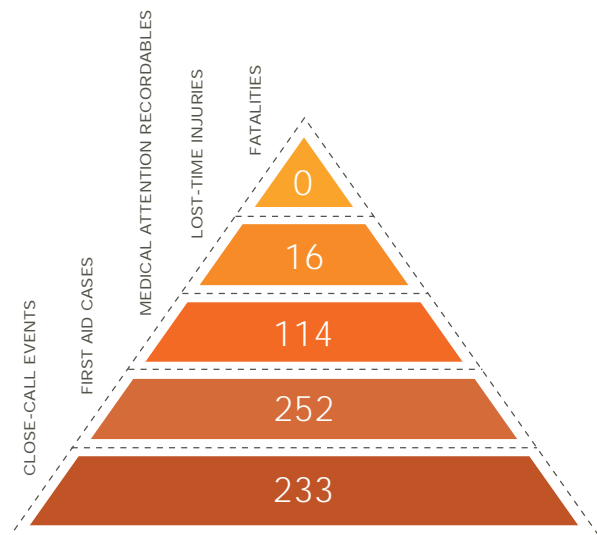
Safety performance is a core value at our company. It is a deep-seeded value that can not be compromised. We recognize that only through a commitment to safety can we achieve our long-standing goal of accomplishing our daily jobs with zero preventable recordable injuries. Unfortunately, although our preventable recordable injuries declined, our total recordable injuries increased. This increase was the result of new criteria implemented by the Occupational Safety and Health Administration (OSHA) concerning employee hearing loss. Additionally, the APS Severity Incident Rate dramatically increased as the result of two employee injuries requiring a collective 305 days away from work to rehabilitate. In 2003, 130 employees sustained an OSHA recordable injury in 2003.

Accidents occur for a variety of reasons, some preventable and some non-preventable. However, accidents are not inevitable. The Pinnacle West Safety and Health Advisory Team has evaluated the adverse 2003 trend using a modified Hiendrich Safety Pyramid model of reporting employee events. The Safety Pyramid for 2003 helps us to understand that the reporting of close-call events is disproportionate to injuries reported. The team has determined that the best way to reduce the number of injury accidents and their severity is to place a greater emphasis on close-call reporting and trending. Based on developing trends of precursors to injuries, appropriate action can and will be assigned to prevent recurrence of all events.



## SAFETY PERFORMANCE

	2003	2002	2001	2000	1999
<b>TOTAL RECORDABLE CASES</b>					
APS Total	130*	117	117	140	112
Target Maximum	0	0	0	0	0
APS All Injury Incident Rate (AIIR) <sup>a</sup>	2.04	1.81	1.83	2.26	1.88
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average <sup>b</sup>	N/A	3.33	3.63	3.78	3.47
<b>LOST WORK DAY CASES</b>					
APS Total	16	15	20	23	24
Target Maximum	0	0	0	0	0
APS Lost Work Day Incident Rate (LWIR) <sup>a,c</sup>	0.25	0.23	0.31	0.37	0.40
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average <sup>b</sup>	N/A	0.66	0.86	0.94	0.81
<b>LOST WORK DAYS</b>					
APS Total	691	313	425	458	348
APS Severity Incident Rate (SIR) <sup>a</sup>	10.83	4.81	6.66	7.40	5.83
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average <sup>b</sup>	N/A	18.48	22.17	23.96	19.02
<b>APS FATALITIES</b>					
	1	0	0	1	1



Our commitment to “Accountability For Safety” showed a distinct relationship between the severity of injuries and close-call events. As a result, we promote employee reporting of close-call events for the purpose of sharing the information with all employees. It is believed that by publicizing this relationship in daily statistical reports, we will be able to decrease the number of errors resulting in injuries.

(a) All Injury Incident Rate (AIIR): The total of all recordable cases multiplied by 200,000 and divided by the actual employee exposure hours worked. Lost Work Day Incident Rate (LWIR): The total of all lost work day cases multiplied by 200,000 and divided by the actual employee exposure hours worked. Severity Incident Rate (SIR): The total of all workdays lost multiplied by 200,000 and divided by the actual employee exposure hours worked.

(b) Source: Edison Electric Institute Safety Survey, 1999, 2000, 2001, 2002 and 2003.

(c) Total recordable increases in 2003 were due to changes in OSHA standards. SIR rate is high due to the fact one employee was off work 180 days and another was off 125 days.

\* This increase was the result of new criteria implemented by the Occupational Safety and Health Administration (OSHA) concerning employee hearing loss, which increased our total by 16 cases.



## RENEWABLE ENERGY TECHNOLOGIES

As an environmentally conscious company, we are committed to developing clean, renewable energy sources today that will fuel tomorrow's economy.

APS has long been a leader in the development of renewable technology. With solar installations across the state and with the operation of the APS Solar Test and Research (STAR) Center, APS is one of the industry leaders in solar technology. Recently the company has begun exploring other renewable technologies that we hope will develop into mainstream energy sources that can power a 24-hour future. APS now owns and operates approximately 4.5 megawatts of photovoltaic solar generation around the state. Besides solar, we are active partners in the development and testing of energy such as solar trough, biomass, hydrogen and wind.

Here is a summary of several key projects started in 2003:

- Located at the company's Saguaro Power Plant in Red Rock, about 30 miles north of Tucson, the APS Solar Trough Generating Station will have a one-megawatt generating capacity, enough to provide for the energy needs of approximately 200 average-size homes. The plant is expected to come on line in April 2005.

Solar-trough technology uses parabolic mirrors to concentrate the sun's rays to heat mineral oil between 250 and 550 degrees. The fluid is then passed through a heat exchanger to vaporize a secondary working fluid. The vapor is used to spin a turbine, making electricity, then is condensed back into a liquid before being vaporized once again.

- In 2003, we entered into an agreement with Western Wind Energy (WND) Corp., to construct a 15-megawatt wind turbine facility in eastern Arizona. The facility, the first of its kind in Arizona, will produce enough energy to power up to 3,000 average-sized homes.

- APS is also a proud participant in the development of a newly-opened biomass plant in northeastern Arizona. This three-megawatt biomass plant addresses two major needs in that it helps ease the fire danger from forest waste in northeastern Arizona and provides renewable energy.

- In an effort to further encourage its customers to use solar energy, APS doubled its current credit purchase in 2003 to customers buying and installing solar systems under the Environmental Portfolio Standard. Under the program, APS pays customers who install solar systems for the EPS credits generated by these systems and helps offset the cost of installing solar on their homes or businesses. APS will pay \$4 per watt – up from \$2 per watt – for solar systems that are tied to APS' electric grid, for up to 50 percent of the system's cost. In addition, APS will make a one-time \$700 purchase credit to customers who install solar water heating systems, up from \$350. The goal of this program is to increase demand for alternative energy sources, thus leading to systems that become more affordable for everyday consumers.

In addition to the solar, wind and biomass plants, APS is the only utility in Arizona, and one of only a handful in the United States, to build and operate a facility that produces and stores hydrogen and compressed natural gas. Built with an \$800,000 grant from the U.S. Department of Energy, our downtown Phoenix facility houses a hydrogen generator capable of powering 50 homes. With this plant, APS developed a hydrogen/compressed natural gas fueling station where a dozen APS fleet vehicles use the fueling station to fill up.

As our record demonstrates, the company is committed to the exploration of alternative means of producing energy and fueling our future.

## REPORTING TOXIC RELEASES

The EPA requires us to track all chemicals listed by the EPA as Toxic Release Inventory (TRI) substances at all our fossil fuel-fired power plants. Most of the chemicals we report are captured by pollution control equipment or are contained in ash that is either stored in ash ponds on site, in ash sold for reuse or sent to the coal mine for reclamation.

In July 1999, we issued our first TRI report to the EPA under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). Previously, the EPA only required companies classified as manufacturing industries to file annual TRI reports. The EPA expanded that list to include electric utilities and six other industry groups.

While TRI quantities reported by APS and other utilities are large, the majority is contained within coal ash used to restore the mine or managed on site.

Coal ash has many beneficial uses and we are working to use much of that ash for use in concrete or related products. When ash is added to concrete products, it enhances the strength and quality of the product. Continued commitment to ash sales will help decrease some of our TRI numbers while providing a useful ingredient for other industries.

## REPORTABLE RELEASES

	LBS. RELEASED TO WATER	LBS. RELEASED TO AIR	LBS. RELEASED TO LAND	TOTAL LBS. RELEASED
Barium	0	1,634	2,780,060	2,781,694
Beryllium	88	25	27,320	27,433
Benzo(ghi)perylene	0	0.34	0	0.34
Chromium	0	558	157,073	157,631
Cobalt	0	111	40,598	40,709
Copper	2,384	597	210,250	213,231
Dioxin	0	1.65	0	1.65
Hydrochloric Acid	0	203,736	0	203,736
Hydrofluoric Acid	0	351,080	0	351,080
Lead	3	554	184,501	185,085
Manganese	0	1,278	455,779	457,057
Mercury	0	958	549	1,507
Nickel	1	535	9,1564	9,2100
PACs	0	9.73	0	9.73
Selenium	0	3,874	2,6636	3,0510.53
Sulfuric Acid	0	116,413.4	0	116,413
Vandium	0	597	397,308	397,905
Zinc	763	2,366	173,833	176,962
2003 Total	3,239	684,329	4,545,471*	5,233,039
2002 Total	7,405	658,932	4,014,728	4,681,065
2001 Total	8,698	805,123	4,194,285	5,008,106
2000 Total	8,138	638,674	4,439,800	5,086,612
1999 Total	8,434	709,497	4,195,890	4,913,812

\* The increase in 2003 can be attributed to two factors: Our company utilized more coal last year and the Cholla Power Plant changed its coal source to a new coal that has more ash in its composition.

## NOTICES OF VIOLATION RESULTING IN FINES OR PENALTIES

	2003	2002	2001	2000	1999
<b>ENVIRONMENTAL</b>					
Clean Air Act (CAA), State, County and City Regulations	0	0	1(c) \$200,000	0	0
Clean Water Act (CWA) and State Water Regulations	0	0	0	1(d) \$15,000	0
Resource Conservation and Recovery Act (RCRA) and State Waste Regulations	0	0	1(c)	0	0
Superfund Amendments and Reauthorization Act (SARA)	0	0	0	0	0
Toxic Substances Control Act (TSCA)	0	0	0	0	0
Local Statutes/Regulations	0	1(a) \$350	0	1(e) \$2,500	1(g) \$600
<b>SAFETY</b>					
Occupational Safety and Health Act (OSHA) and State OSHA Regulations	0	1(b)	0	1(f) \$13,750	0
<b>NUCLEAR</b>					
Atomic Energy Act	0	0	0	0	0

(a) Violation of the Federal Migratory Bird Act for removal of a raven's nest from a pole. \$350 fine.

(b) NOV from Arizona Department of Occupational Safety and Health (ADOSH) for violation of electric safety rules. This action is currently being negotiated with ADOSH and a hearing is set for April 2004

(c) These incidents at the Cholla Plant occurred in Sept. 2001 and Oct. 2001 and while we have not admitted guilt, we settled this matter. The Consent Judgment (No. CV2004-000731) was entered on January 26, 2004, and on February 2, 2004 pursuant to its terms, APS paid a \$200,000 penalty to the State of Arizona.

(d) Release of slurried bottom ash into a dry stream bed at the Cholla Power Plant.

(e) Fine for raptor electrocution in Winslow, Arizona.

(f) Arizona Department of Occupational Safety and Health for safety training violations at the Cholla Power Plant.

(g) Arizona Revised Statute 41-2123, Area A: gasoline at West Phoenix Power Plant found to be below oxygen requirements (\$300). Arizona Revised Statute 41-2123, Area A: gasoline at Deer Valley facility found to be below oxygen requirement (\$300).

## ENVIRONMENT-RELATED FINES

No violations with penalties were recorded in 2003. In 2001, however, the Arizona Department of Environmental Quality (ADEQ) issued two Notices of Violations (NOVs) to APS, alleging, among other things, the burning of unauthorized materials and storage of hazardous waste without a permit at the Cholla Power Plant. APS, the Attorney General for the state of Arizona and ADEQ have reached an agreement (in the form of a Consent Judgment) to settle this matter. The Consent Judgment (No. CV2004-000731) was entered on January 26, 2004, and on February 2, 2004, pursuant to its terms, APS paid a \$200,000 penalty to the State of Arizona.

In 2003, APS entered into agreements on some innovative Arizona firsts — the state's first biomass plant; its first commercial wind plant and its first solar trough plant.

## EMISSIONS AND WASTE

We have policies to reduce or eliminate routine emissions of environmentally harmful substances such as:

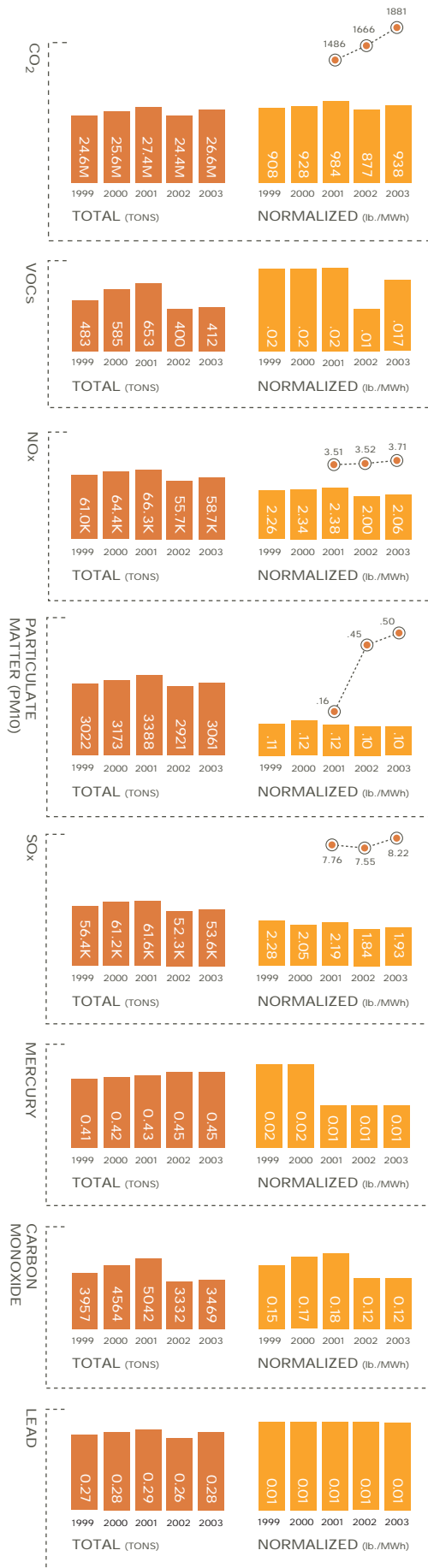
- Greenhouse gases (GHG)
- Ozone-depleting substances (ODSs) as defined by the Montreal Protocol
- Key air pollutants including carbon monoxide, lead, volatile organic compounds, nitrogen oxides (NOx), particulate matter (PM-10) and sulfur oxides (SOx)

We maintain air emissions per megawatt-hour at or below industry averages. We achieve this record by a combination of nuclear power, emissions control technology, improved power plant efficiency and a cleaner fuel mix.

All of our power plants are required by law to limit their emissions and operate within parameters set by federal, state and/or local



## AIR EMISSIONS



● INDUSTRY AVERAGE (lb./MWh)\* ONLY WHEN AVAILABLE

environmental agencies. In addition, all major stationary sources of air pollution (including power plants) are required under Title V of the 1990 Clean Air Act Amendments to obtain air quality operating permits from local permitting authorities that are approved by the EPA. All our plants maintain Title V permits and we update our permit applications as required.

In September 1999, the EPA proposed a Federal Implementation Plan (FIP) to set air quality standards at certain power plants including our Four Corners plant. The FIP is similar to current state regulations, with minor modifications.

\* The Industry and APS emissions in pounds per megawatt-hour include nuclear generation. The industry average emission data for SO<sub>2</sub>, NO<sub>x</sub>, CO, PM<sub>10</sub>, and VOC for period 1999 to 2001 was obtained from emission trends summaries located on EPA Emission Inventory Web site at: [www.epa.gov/ttn/chieftrends/index.html](http://www.epa.gov/ttn/chieftrends/index.html). The CO<sub>2</sub> emission data was obtained from "Emissions of Greenhouse Gases in the United States, 2001," DOE/EIA-0573, Dec, 2002. The report can be downloaded at: [www.eia.doe.gov/oiat/1605/ggrpt/index.html](http://www.eia.doe.gov/oiat/1605/ggrpt/index.html). The annual industry generation data was obtained from Electric Power Monthly, January 2003, DOE/EIA-0226(2003/01).

