



# DELIVERING SUPERIOR SHAREHOLDER VALUE

## OPERATIONS OVERVIEW

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PINNACLE WEST  
CAPITAL CORPORATION

# OPERATIONS OVERVIEW AGENDA

Planning and operational execution position APS for success.

## Safety

- Top decile in the industry

## Resource Planning

- Meeting growing energy needs through a balanced resource mix

## Energy Innovation

- Strategically piloting and implementing advanced technologies

## Energy Delivery

- Making transmission investments to maintain reliability and deliver diverse resources
- Top quartile reliability in industry over past several years

## Fossil Fleet

- Consistently strong summer reliability and performance
- Actively working to meet environmental regulations

## Internationally Recognized Environmental, Sustainability and Governance Leader

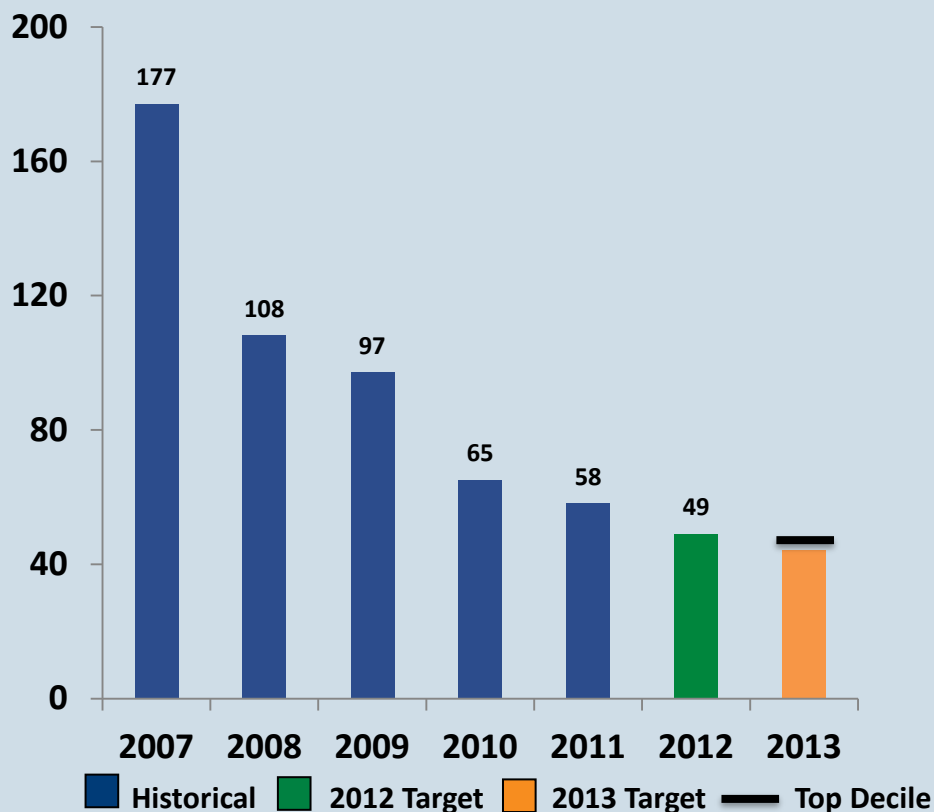
- Fossil Fleet – ISO 14001 environmental certification achieved
- Intelligent Utility Magazine's #4 Most Intelligent Utility in 2011



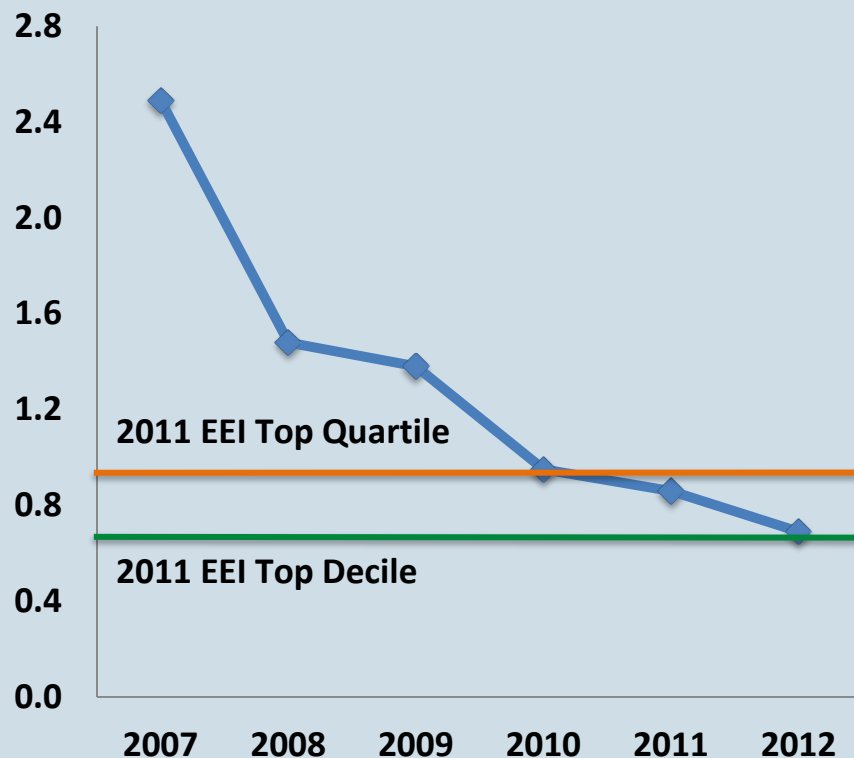
# SAFETY = #1 CRITICAL AREA OF FOCUS

APS continues to build and maintain a safety-first culture that strives for "zero incidents."

*OSHA Recordable Incidents*

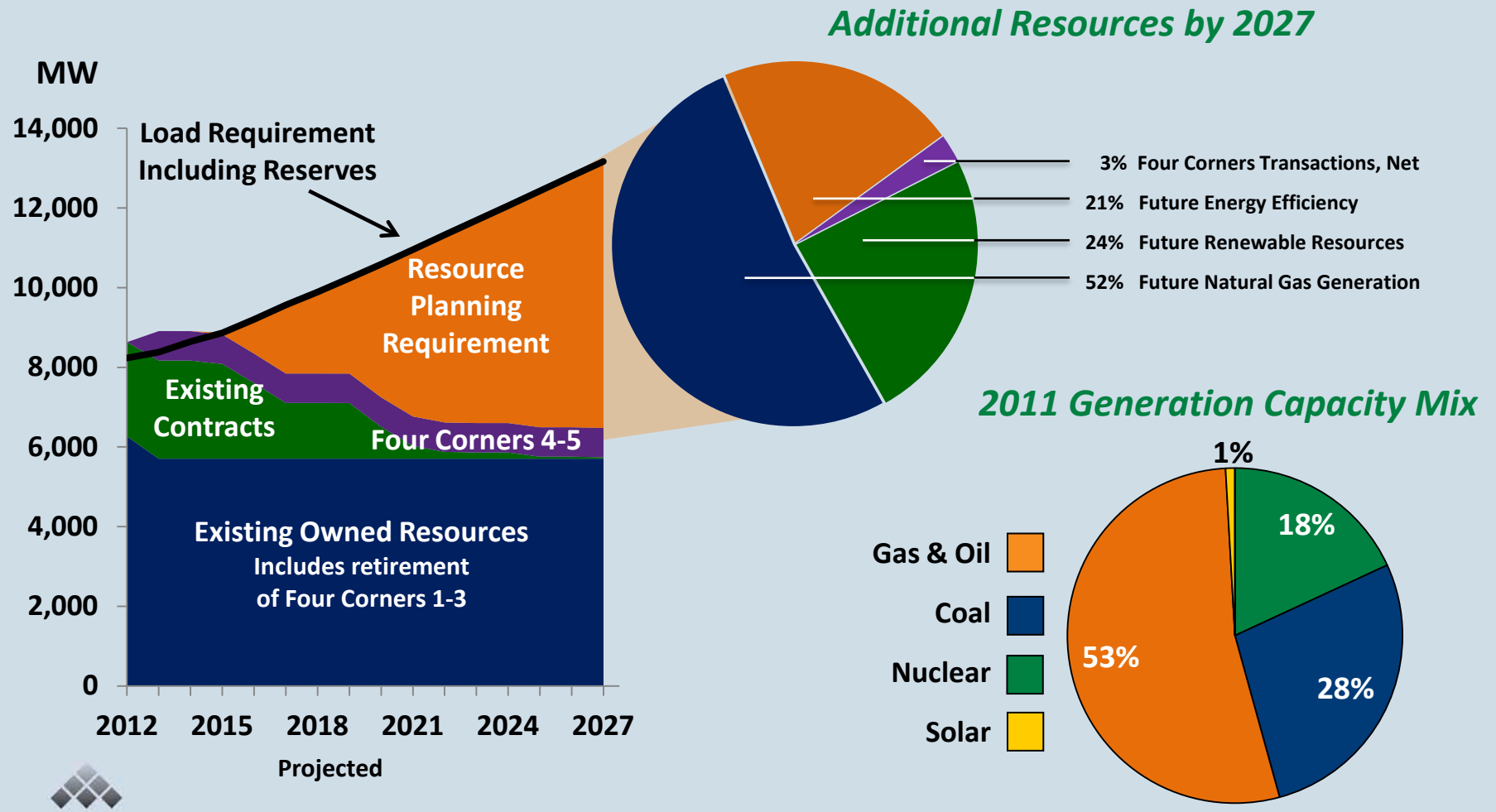


*Accident Injury Rate 2007 – 3Q2012*



# RESOURCE PLANNING FOR RELIABILITY AND SUSTAINABILITY

We will meet future load growth through a balanced resource mix including renewable resources and energy efficiency programs.





# RESOURCE PLANNING FOR RELIABILITY AND SUSTAINABILITY

APS has multiple resources options to serve future energy growth.

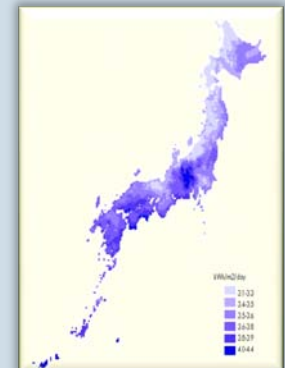
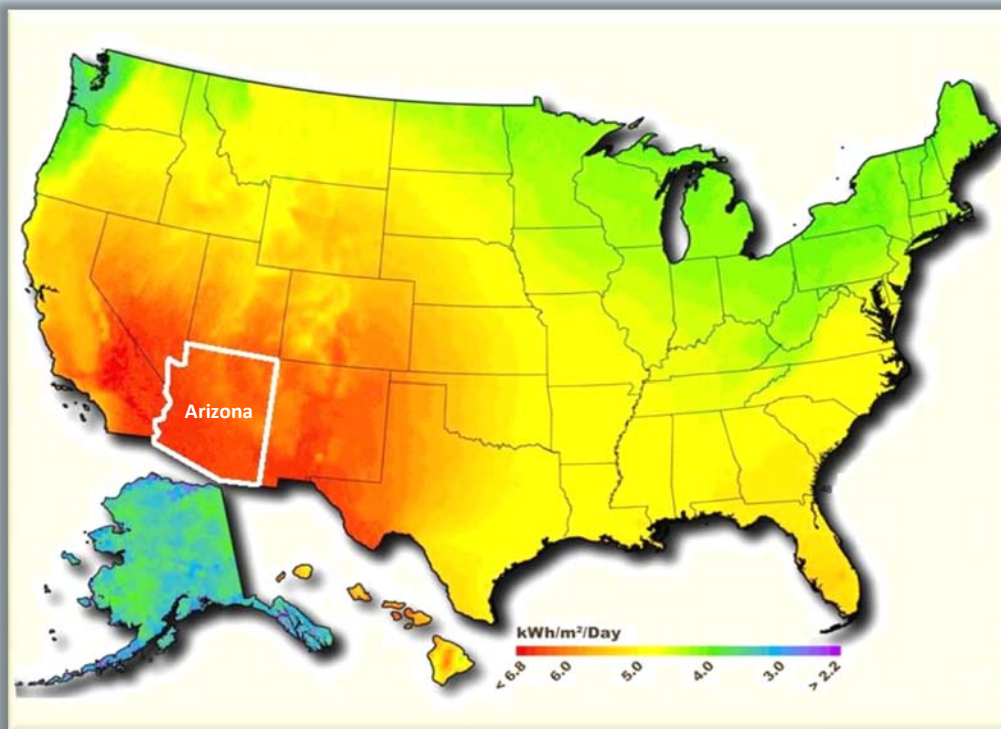


- Plans to meet near-term needs include renewable energy and energy efficiency additions
- Options for future resource decisions
  - Intermediate term: renewable energy and natural gas tradeoffs drive resource decisions
  - Long term: natural gas is the most prevalent fuel source with renewable energy the most viable alternative to mitigate natural gas volatility and provide resource diversification
  - New technology, both traditional and advanced (e.g. battery storage), will continue to be monitored to meet load growth



# RENEWABLE ENERGY RISES WITH THE SUN

We are helping Arizona become the "Solar Capital of the World."



**Germany and Japan are among countries with highest installed solar capacity, yet have solar conditions far inferior to Arizona**



# APS AZ SUN PROGRAM PROVIDES EARNINGS GROWTH POTENTIAL

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Owning solar resources makes sense for our customers and the environment and provides returns to shareholders.



- Up to 200 MW utility-scale photovoltaic solar plants owned by APS
- Up to \$975 million capital investment
- In service 2011 through 2015
- Constructive rate recovery through RES until included in base rates
- Commitments to date:
  - 118 MW
  - \$504 million capital investment
- 50 MW in commercial operation to date
- Planning and procurement under way for additional projects

Projects to Date	Capacity	Actual or Target COD
Paloma	17 MW	Sept. 2011
Cotton Center	17 MW	Oct. 2011
Hyder	16 MW	Feb. 2012
Chino Valley	19 MW	Dec. 2012
Foothills – Phase 1	17 MW	1Q 2013
Foothills – Phase 2	18 MW	4Q 2013
Hyder II	14 MW	4Q 2013





# SOLANA

Solana will provide more than one-quarter of APS's renewable energy target by 2015.



- **250 MW 30-year PPA for all output (~900 GWh/year)**
- **Concentrating solar trough facility 70 miles southwest of Phoenix**
- **On target for 2013 commercial operation**
- **90%+ on-peak capacity factor with use of thermal storage capability**
- **Expected to be first major U.S. solar trough plant with thermal energy storage**
- **Near existing transmission lines**
- **To be built, owned and operated by Abengoa Solar**





# ARIZONA'S RENEWABLE RESOURCE AND ENERGY EFFICIENCY STANDARDS

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Our programs address Arizona's aggressive renewable energy and energy efficiency standards.

## Renewable Energy (RES) Minimum Requirements

**Portion of retail sales to be supplied by renewable resources**

- 5% by 2015
- 15% by 2025

**Distributed energy component**

- 30% of total requirement by 2012

**APS on track to approximately double 2015 requirement**

- Pursuant to 2009 regulatory settlement

## Energy Efficiency Requirements

**Increasing annually 2011-2020**

**Cumulative energy savings as percent of retail sales**

- 3% by 2012
- 9.5% by 2015
- 22% by 2020



# APS ENERGY INNOVATION INITIATIVES

APS is strategically piloting and implementing a number of advanced technologies.

## INFORMATION TECHNOLOGY

### Cyber Security

### Communications Infrastructure

APS's primary objectives to deploying a smarter grid:

- Optimize System Reliability & Performance
- Empower Customers
- Manage Alternative Energy



### GENERATION

Distributed Generation

- Schools & Government
- Community Power Program (Pilot)
- DOE High Penetration Solar Study



### TRANSMISSION

Transmission Applications

- PMU
- Synchrophasers



### SUBSTATION

Substation Health Monitoring

- Breakers
- Bushings
- Transformers



### DISTRIBUTION

Integrated Volt Var Control

- Automated Switched Capacitors
- Communicating Fault Current Indicators
- Sectionalizing Reclosers
- Distribution Asset Monitoring
- Automated Remote Switching
- Fire Mitigation



### CUSTOMERS

## AMI

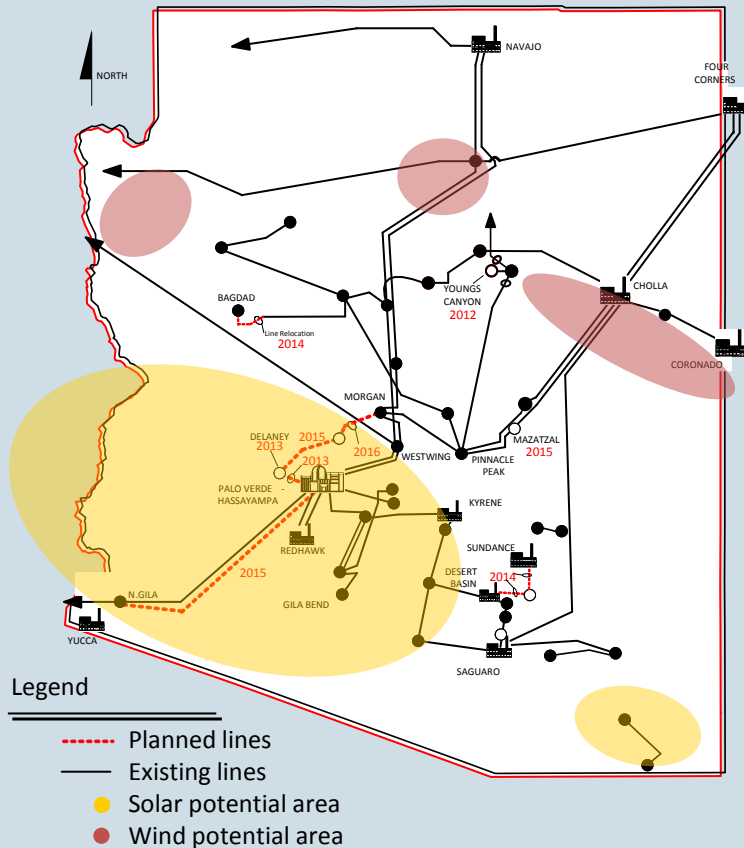
- EVs
- HEI (Pilot)
  - Prepay
  - Thermostats
  - Displays
- Demand Response
- Time of Use Rates

## SMART CIRCUITS



# TRANSMISSION INVESTMENT ESSENTIAL

Strategic transmission is necessary to maintain reliability and deliver diversified resources to our customers.



- **10-Year Transmission Plan (115-kV and above)**
  - \$550 million of new transmission investment
  - 269 miles of new lines
- **Projects to deliver renewable energy approved by ACC**
- **Transmission investment diversifies regulatory risk**
  - Constructive regulatory treatment
  - FERC formula rates and retail adjustor

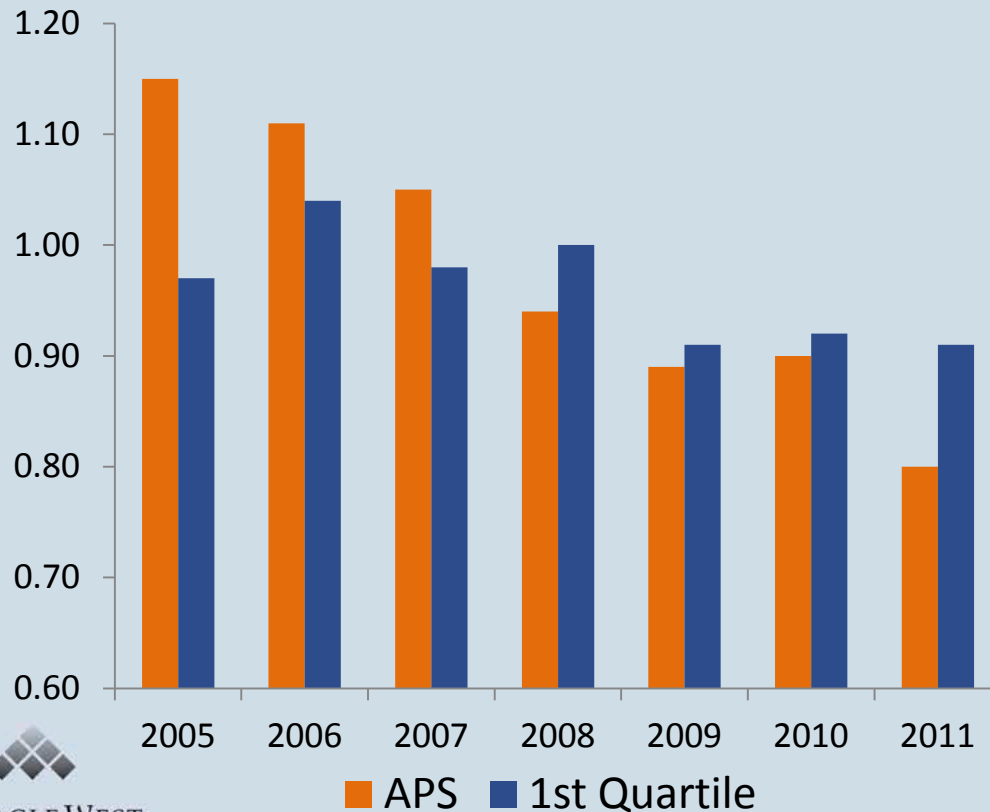


# ENERGY DELIVERY PERFORMANCE

Top-quartile reliability is reducing the frequency of customer outages.

Average number of customer interruptions/year

## System Average Interruption Frequency Index (SAIFI)



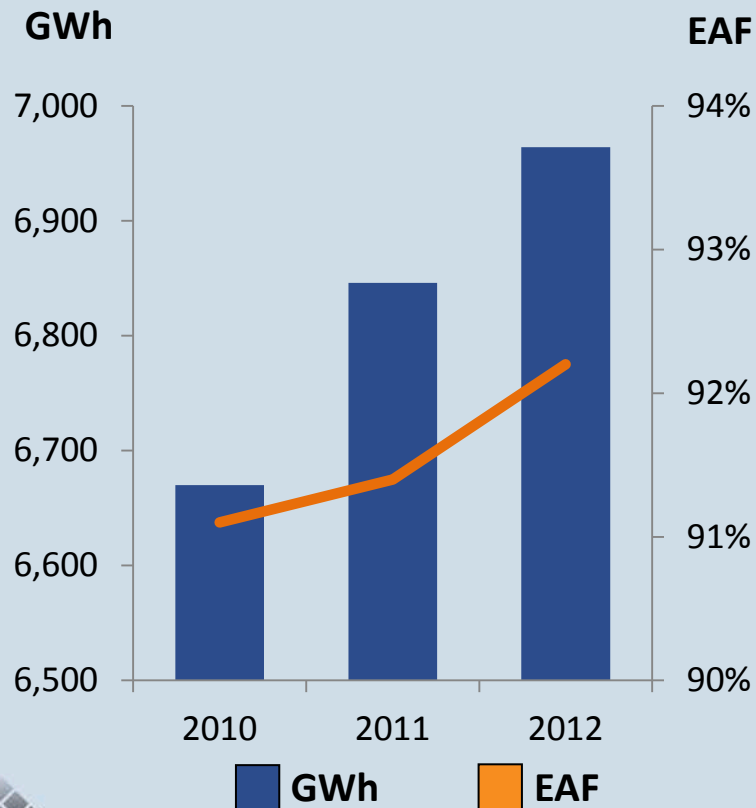
### Comprehensive maintenance and inspection program includes:

- EEI *Edison Award* winning TOAN, state-of-the-art, on-line transformer diagnostics system
- Extensive circuit breaker maintenance program
- Award-winning vegetation management program
- Direct buried cable replacement program
- Annual patrol of transmission and distribution lines
- Wide use of predictive, condition assessment technologies

# FOSSIL FLEET SUMMER PERFORMANCE

APS's Fossil Fleet is delivering exceptional performance during the summer peak season.

## Summer Performance June – September



Fossil Summer Equivalent Availability Factor (EAF)			
	2010	2011	2012
Coal	79.2%	90.9%	86.6%
Gas & Oil	97.6%	91.6%	95.0%
Total Fossil	91.1%	91.4%	92.2%



# ENVIRONMENTAL UPDATE

APS is actively pursuing options to comply with environmental regulations.

- **Mercury and Air Toxics Standards (MATS)**
  - EPA program to control mercury and other air pollutants
- **Regional Haze**
  - EPA program to reduce visibility impact of SO<sub>2</sub> and NO<sub>x</sub>
- **Cooling Water Intake Structure (316b)**
  - EPA program to protect fish and other aquatic organisms
- **Coal Combustion Residue (CCR)**
  - EPA program to regulate the management and disposal of coal ash





# ENVIRONMENTAL, SUSTAINABILITY AND GOVERNANCE LEADERSHIP

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We are recognized internationally for our achievements.



Environmental Certification  
Gas/Oil Fleet – 2011  
Coal Fleet - 2012



Highest Ranked Utility  
15<sup>th</sup> Overall



Best practices in utility  
arboriculture since 1997



PINNACLE WEST  
CAPITAL CORPORATION



Ranked on Dow Jones  
Sustainability Index since 2005



Top 10 Utility Solar Ranking



U.S. DOE/EPA  
Sustained Excellence since 2008  
Partner of the Year since 2005



Rated 4<sup>th</sup> Highest Intelligent  
Utility in 2011



1<sup>st</sup> utility in world to endorse  
Ceres' Code of Conduct in 1994

greentechmedia:



2012 - Top 10 North American  
Utility in Smart Grid Deployment



Ranked 6 of 196 energy  
and utility companies



# Operations Overview Appendix



PINNACLE WEST  
CAPITAL CORPORATION

# A WELL-BALANCED GENERATION PORTFOLIO

Fuel / Plant	Location	Units	Dispatch	Commercial Ops. Date	Ownership Interest <sup>1</sup>	Net Capacity (MW)
<b>Nuclear</b>						
Palo Verde	Wintersburg, AZ	1-3	Base	1986 - 1989	29.1%	1,146
<b>Total Nuclear</b>						<b>1,146</b>
<b>Coal</b>						
Cholla	Joseph City, AZ	1-3	Base	1962 - 1980	100	647
Four Corners	Farmington, NM	1-3	Base	1963 - 1964	100	560
Four Corners	Farmington, NM	4,5	Base	1969 - 1970	15	231
Navajo	Page, AZ	1-3	Base	1974 - 1976	14	315
<b>Total Coal</b>						<b>1,753</b>
<b>Gas/Oil - Combined Cycle</b>						
Redhawk	Arlington, AZ	1,2	Intermediate	2002	100	984
West Phoenix	Phoenix, AZ	1-5	Intermediate	1976 - 2003	100	887
<b>Total Gas/Oil - Combined Cycle</b>						<b>1,871</b>
<b>Gas/Oil - Steam Turbines</b>						
Ocotillo	Tempe, AZ	1,2	Peaking	1960	100	220
Saguaro	Red Rock, AZ	1,2	Peaking	1954 - 1955	100	210
<b>Total Gas/Oil - Steam Turbines</b>						<b>430</b>
<b>Gas/Oil - Combustion Turbines</b>						
Sundance	Casa Grande, AZ	10	Peaking	2002	100	420
Yucca	Yuma, AZ	6	Peaking	1971 - 2008	100	243
Saguaro	Red Rock, AZ	1-3	Peaking	1972 - 2002	100	189
West Phoenix	Phoenix, AZ	1,2	Peaking	1972 - 1973	100	110
Ocotillo	Tempe, AZ	1,2	Peaking	1972 - 1973	100	110
Douglas	Douglas, AZ	1	Peaking	1972	100	16
<b>Total Gas/Oil - Combustion Turbines</b>						<b>1,088</b>
<b>Solar</b>						
Hyder	Hyder, AZ	-	As Available	2011 - 2012	100	16
Paloma	Gila Bend, AZ	-	As Available	2011	100	17
Cotton Center	Gila Bend, AZ	-	As Available	2011	100	17
Various	Multiple Arizona Facilities	-	As Available	1996 - 2006	100	5
<b>Total Solar</b>						<b>55</b>
<b>Total Generation Capacity</b>						<b>6,343</b>

As of February 24, 2012

<sup>1</sup>Includes leased generating plants.



# RENEWABLE PURCHASE POWER CONTRACTS

Fuel / Contract	Location	Owner/ Developer	Status <sup>1</sup>	PPA Signed	Commercial Operation Date	Term (years)	Capacity Net (MW)
<b>Solar</b>							
Solana	Gila Bend, AZ	Abengoa	UC	Feb-2008	2013	30	250
Ajo	Ajo, AZ	Duke Energy Gen Svcs	IO	Jan-2010	2011	25	5
Prescott	Prescott, AZ	SunEdison	IO	Feb-2010	2011	30	10
Solar 1	Tonopah, AZ	Not Disclosed	UC	Jan-2011	2012	30	15
Solar 2	Tonopah, AZ	Not Disclosed	UD	Jan-2012	2013	30	15
Solar 3	Maricopa County, AZ	Not Disclosed	UD	Jan-2012	2013	30	15
<b>Total Solar</b>							<b>310</b>
<b>Wind</b>							
Aragonne Mesa	Santa Rosa, NM	Infigen Asset Mgmt	IO	Dec-2005	2006	20	90
High Lonesome	Mountainair, NM	Foresight / EME	IO	Feb-2008	2009	30	100
Perrin Ranch Wind	Williams, AZ	NextEra Energy	IO	Jul-2010	2011	25	99
<b>Total Wind</b>							<b>289</b>
<b>Geothermal</b>							
CE Turbo	Imperial County, CA	Cal Energy	IO	Jan-2006	2006	23	10
<b>Total Geothermal</b>							<b>10</b>
<b>Biomass</b>							
Snowflake	Snowflake, AZ	Najafi	IO	Sep-2005	2008	15	14
<b>Total Biomass</b>							<b>14</b>
<b>Biogas</b>							
Glendale Energy	Glendale, AZ	Glendale Energy LLC	IO	Jul-2008	2010	20	3
Landfill 1	Surprise, AZ	Waste Management	IO	Dec-2010	2012	20	3
<b>Total Biogas</b>							<b>6</b>
<b>Total Renewable Contracted Capacity</b>							<b>629</b>

As of August 31, 2012

<sup>1</sup> IO = In Operation; UC = Under Construction; UD = Under Development



# FOUR CORNERS POWER PLANT FACTS & FIGURES

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	Common	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
<b>Commercial Operation Date</b>		1963	1963	1964	1969	1970
<b>Original Cost (\$M)</b>	\$41		\$382		\$164	
<b>Net Book Value at 6/30/12 (\$M)</b>	\$27		\$0		\$130	
<b>Current Depreciation Ends</b>	2038		Mid-2012		2038	2038
<b>Current Expiration Dates</b>						
Site Lease			July 6, 2041			
BHP Coal Agreement			July 6, 2016			
Certain Related Rights-of-Way			July 6, 2041			
<b>Total Employees (549) (75% Native Americans)</b>	48 Common + 75 Matrix		193		233	
<b>Capacity (MW)</b>		170	170	220	770	770
<b>Ownership Percentages</b>						
Arizona Public Service		100%	100%	100%	15%	15%
Southern California Edison		-	-	-	48%	48%
Public Service Company of New Mexico		-	-	-	13%	13%
Salt River Project		-	-	-	10%	10%
El Paso Electric		-	-	-	7%	7%
Tucson Electric Power		-	-	-	7%	7%
<b>Heat Rate (Btu/kWh)</b>		10,816	11,051	10,614	9,443	10,035

