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April 1, 2011

Docket Control  
Arizona Corporation Commission  
1200 W. Washington  
Phoenix, AZ 85007

RE: Arizona Public Service Renewable Energy Standard and Tariff Rules 2010 Annual Compliance Report; Docket No. E-01345A-09-0338

Attached please find copies of Arizona Public Service Company's Annual Compliance Report pursuant to Arizona Administrative Code R14-2-1812(A):

Beginning April 1, 2007, and every April 1<sup>st</sup> thereafter, each Affected Utility shall file with Docket Control a report that describes its compliance with the requirements of these rules for the previous calendar year. The Affected Utility shall also transmit to the Director of the Utilities Division an electronic - copy of this report that is suitable for posting on the Commission's website.

In addition to the Report, pursuant to Decision No. 72022, APS is filing 1) a separate informational summary that highlights key elements of the Report in Docket Control and 2) all spreadsheets in electronic format on CD with Commission Staff. A Power Point presentation that summarizes APS's 2010 compliance efforts will be filed in Docket Control no later than the end of this month.

This Report complies with additional reporting requirements listed in Commission Decision No. 72022 and Decision Nos. 71958, 71646, 72058.

Finally, a portion of the Report contains competitively confidential information. Competitively confidential information is being provided to Staff under separate cover pursuant to the Protective Agreement in this matter. APS is also providing to the Director of the Utilities Division an electronic copy of this Report that is suitable for posting to the Commission website.

If you have any questions about the attached information, please call Jeff Johnson at 602-250-2661.

# Arizona Public Service Company 2010 Renewable Energy Standard Compliance Report Summary

For calendar year 2010, the Arizona Corporation Commission established an annual Renewable Energy Standard ("RES") requirement of 2.5 percent of a utility's 2010 total retail kilowatt-hour ("kWh") sales, with 20 percent of that requirement to be satisfied through energy received from Distributed Energy ("DE") resources.<sup>1</sup> For APS, these percentages equate to a total 2010 RES requirement of 692,737 megawatt-hours ("MWh"), of which 138,547 MWh were to be derived from DE resources.

In addition, per APS's 2009 Settlement Agreement<sup>2</sup>, the Company is required to procure new renewable energy resources with annual generation or savings of 1,700,000 MWh above those commitments made through 2008. The new resources are to be in-service by December 31, 2015 and APS is on target to meet or exceed the Settlement requirement.

By year end 2010, the APS fleet of utility-scale renewable generation facilities and customer DE systems produced **826,534 MWh of renewable energy**. After deducting energy sales through the Green Choice Rates<sup>3</sup>, APS's total production in 2010 was 703,770 MWh, **exceeding the 2.5 percent RES requirement for the year**. This energy was obtained through Purchase Power Agreements ("PPA"), APS-owned and operated projects, and DE sources sited at the customer's property.

APS managed a total renewable energy budget of approximately \$128.6 million in 2010. Of this amount, approximately \$103.9 million was spent or committed towards DE incentives.

## **Renewable Generation Highlights**

Two specific projects, as well as a series of individual projects identified under the AZ Sun program, were advanced in 2010:

- *Solana Generating Station, Gila Bend, Arizona*; developer achieved significant project financing milestones and **commenced construction** on the 250 MW solar trough station with thermal energy storage
- *Perrin Ranch Wind Farm, near Williams, Arizona*; APS received regulatory approval and issued a contract for this 99 MW facility, which will be **the largest in-state wind project in Arizona**
- *AZ Sun Program, various Arizona sites*. APS executed contracts for the development of **66 MW of photovoltaic projects** in 2010, including:
  - *Cotton Center Solar Plant* – Gila Bend, AZ; 17 MW (estimated in-service by November 2011)
  - *Hyder Solar Plant* – Hyder, AZ; 16 MW (April 2012)
  - *Chino Valley Solar Plant* – Chino Valley, AZ; 19 MW (October 2012)
  - *Luke Air Force Base Solar Plant* – Glendale, AZ; 14 MW (2013)

## **Distributed Energy Highlights**

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<sup>1</sup> A.A.C. R14-2-1804(B) and R14-2-1805(B).

<sup>2</sup> Decision No. 71448 (December 30, 2009).

<sup>3</sup> Decision No. 70313 ordered that APS shall not count Green Choice sales towards meeting the REST requirements.

Customer participation in the APS Renewable Energy Incentive Program reached its highest level in program history in 2010. A total of **5,089 new DE systems were installed in 2010**, representing more than 36 MW of new capacity, for a total DE program capacity of over 58 MW. **The number of installations in 2010 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. In total, APS residential and non-residential DE programs achieved 95 percent of the Company's 2010 DE target, compared to 58 percent in 2009.

Residential customers generated 70,969 MWh from DE 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 DE for the first time in program history**, achieving 102 percent of the annual RES compliance target.

Non-residential customer DE installations also surged in 2010, with a total production of 60,444 MWh. When combined with wholesale DE, 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 non-residential DE production was well over the year-end 2010 target.

The increase in participation in APS's DE programs demonstrates that the renewable energy market is beginning to mature. As incentive levels are expected to decrease over the next few years, APS is well positioned to provide its customers the opportunity to deploy DE resources for less cost to all customers.

### **Other Program Highlights**

APS managed an aggressive outreach campaign with the goal of driving awareness in community and customer renewable energy programs. The Company continued its upward trend in customer awareness of its RES programs, with 68 percent of consumers and 70 percent of business customers indicating that they were aware of available incentives for renewable energy installations in December 2010.<sup>4</sup>

APS also launched or expanded several initiatives in 2010 including:

- The Community Power Project – Flagstaff Pilot
- A new 2010 Schools and Government Program
- The Qualified Solar Installer Program
- The APS Energy Star and Solar Homes Program
- The APS Solar Calculator
- Renewable Program Management

APS's renewable energy programs experienced significant growth in 2010, exceeding annual targets for overall RES and residential DE production. The Company expects to continue to diversify its renewable energy portfolio and maintain enhancements to customer and program information tools so that trends in renewable energy deployment continue into 2011.

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<sup>4</sup> This data is based on APS's Customer Satisfaction Tracking survey completed in November 2010. The Customer Satisfaction Tracking survey is a telephone survey conducted twice a year by a third party vendor on behalf of APS.



# 2010 Renewable Energy Standard Compliance Report

April 1, 2011

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ATTACHMENT 1 – RES Banking Reconciliation

ATTACHMENT 2 – Schools Funded from 2009 UFI Funds – Total Production

ATTACHMENT 3 – Community Power Project – Flagstaff Pilot Reporting

ATTACHMENT 4 – Independent Monitor Certifications

For calendar year 2010, the Arizona Corporation Commission (“ACC” or “Commission”) established an annual Renewable Energy Standard (“RES”) requirement of 2.5 percent of a utility’s 2010 total retail kilowatt-hour (“kWh”) sales, with 20 percent of that requirement to be satisfied through energy received from Distributed Energy (“DE”) resources.<sup>1</sup> For APS, these percentages equate to a total 2010 RES requirement of 692,737 megawatt-hours (“MWh”), of which 138,547 MWh were to be derived from DE resources.

In addition, per APS’s 2009 Settlement Agreement<sup>2</sup>, the Company is required to procure new renewable energy resources with annual generation or savings of 1,700,000 MWh above those commitments made through 2008. The new resources are to be in-service by December 31, 2015, and will exceed the RES requirement. APS is on target to meet or exceed the Settlement requirement.

**APS exceeded compliance with its requirement under the Renewable Energy Standard in 2010.**

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

By year end 2010, the APS fleet of utility-scale renewable generation facilities and customer DE systems produced 826,534 MWh of renewable energy. After deducting energy sales through the Green Choice

Rates<sup>3</sup>, APS’s total production in 2010 was 703,770 MWh, exceeding the 2.5 percent RES requirement for the year. This energy was obtained through Purchase Power Agreements (“PPA”), APS-owned and operated projects, and DE sources sited at the customer’s property.

Expanding Renewable Generation

Several procurement milestones in 2010 will ensure that APS maintains its commitment to meeting the RES goals, as well as the energy targets that exceed those goals established in its 2009 Settlement Agreement. Two specific projects, as well as a series of individual projects identified under the AZ Sun program, were advanced in 2010:

- *Solana Generating Station, Gila Bend, Arizona.* In December 2010 Arizona Solar One, LLC achieved financial close on the future 250-megawatt (“MW”) solar-trough station with thermal energy storage. Construction was started in November 2010 and the project is expected to be in-service in 2013, with an anticipated yearly output of 903,000 MWh when fully operational.
- *Perrin Ranch Wind Farm, near Williams, Arizona.* In compliance with APS’s Settlement Agreement, APS issued a solicitation for in-state wind resources. The Company contracted with PR Wind LLC, a special purpose entity of

<sup>1</sup> A.A.C. R14-2-1804(B) and R14-2-1805(B).

<sup>2</sup> Decision No. 71448 (December 30, 2009).

<sup>3</sup> Decision No. 70313 ordered that APS shall not count Green Choice sales towards meeting the RES requirements.

NextEra Energy Resources, LLC to develop a 99 MW wind project. Upon completion, expected by year end 2011, it will be the largest wind project in Arizona with an anticipated yearly output of 282,000 MWh.

- *AZ Sun Program, various Arizona sites.* In 2010, through a competitive solicitation process, APS entered into four contracts for Company-owned photovoltaic solar projects as part of its AZ Sun Program. Together, these projects represent 66 MW of photovoltaic capacity to be in-service between 2011 and 2013. An additional 17 MW project was identified in early 2011, bringing the total committed capacity of the program to 83 MW. The four projects for which contracts were executed in 2010 are:
  - *Cotton Center Solar Plant* – Gila Bend, AZ; 17 MW (estimated in-service by November 2011)
  - *Hyder Solar Plant* – Hyder, AZ; 16 MW (April 2012)
  - *Chino Valley Solar Plant* – Chino Valley, AZ; 19 MW (October 2012)
  - *Luke Air Force Base Solar Plant* – Glendale, AZ; 14 MW (2013)

The Company continues to engage the energy markets to identify new renewable resource opportunities. In April 2010, APS issued a second competitive solicitation under the APS Small Generator Standard Offer Program. The 2010 Request for Proposal ("RFP") resulted in two Arizona projects currently before the Commission prior to full project development, as required by Decision No. 71459.

#### Strong Growth in Distributed Energy Deployment

Customer participation in the APS Renewable Energy Incentive Program ("REIP") reached its highest level in program history in 2010. A total of 5,089 new DE systems were installed in 2010, representing more than 36 MW of new capacity, for a total DE program capacity of over 58 MW. 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.

**In 2010, 5,089 distributed energy systems were installed, representing more than 36 MW of new capacity.**

Residential customers generated 70,969 MWh from DE 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 DE for the first time in program history, achieving 102 percent of the annual RES compliance target.

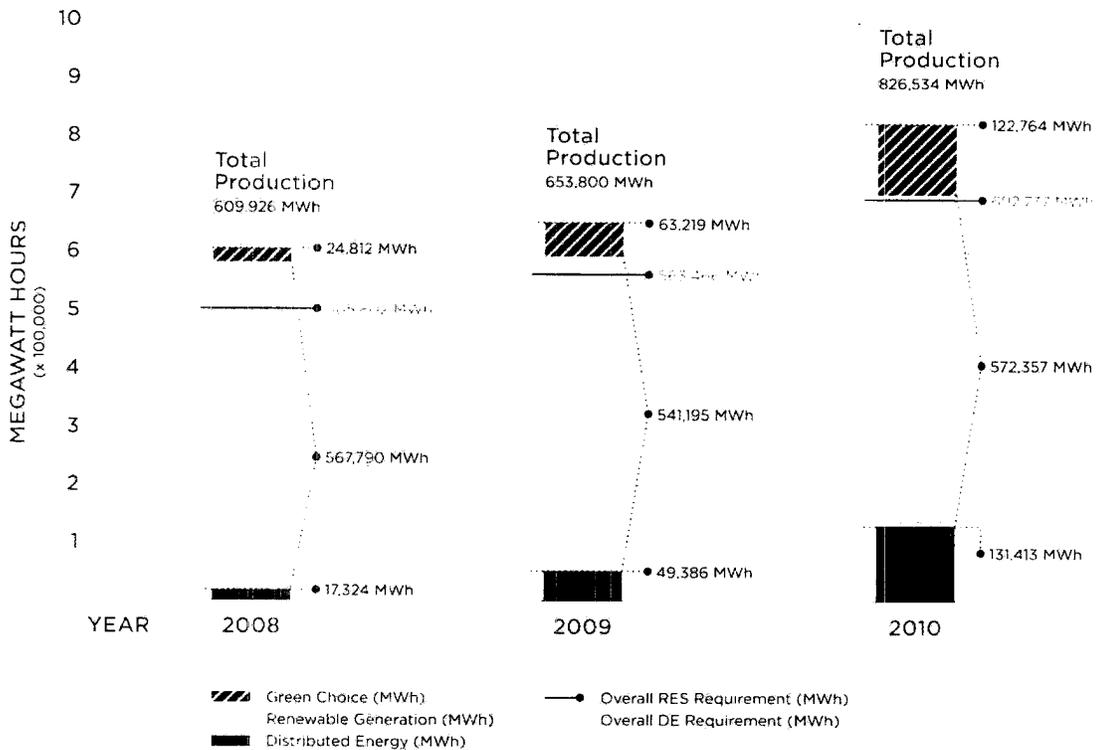
Non-residential customer DE installations also surged in 2010, with a total production of 60,444 MWh. When combined with wholesale DE, APS reached 87 percent of the 2010 target for non-residential DE production. An additional 30 MW of projects were funded in 2010,

although development schedules resulted in actual installations in early 2011. Adding these projects together with those installed in 2010, APS's total non-residential DE production was well over the year-end 2010 target.

In total, APS residential and non-residential DE programs achieved 95 percent of the Company's 2010 DE target, compared to 58 percent in 2009.

The increase in participation in APS's DE programs demonstrates that the renewable energy market is beginning to mature. As incentive levels are expected to decrease over the next few years, APS is well positioned to provide its customers the opportunity to deploy DE resources for less cost to all customers.

## RENEWABLE ENERGY BECOMES MAINSTREAM



### Community Programs and Outreach

APS managed an aggressive outreach campaign with the goal of driving awareness in community and customer renewable energy programs. In 2010, APS aired TV and radio ads that were seen or heard more than 60 million times. As described in its 2010 marketing plan, APS's target audience was the 25 to 54 year old age group. APS successfully reached 99.9 percent of customers within this target group. Further, APS continued its upward trend in customer awareness of its RES programs, with 68 percent of consumers and 70 percent of business customers indicating that they were aware of available incentives for renewable energy installations in December 2010.<sup>4</sup>

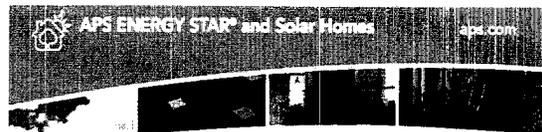
<sup>4</sup> This data is based on APS's Customer Satisfaction Tracking survey completed in November 2010. The Customer Satisfaction Tracking survey is a telephone survey conducted twice a year by a third party vendor on behalf of APS.

APS also launched or expanded several initiatives in 2010 including:

- The **Community Power Project – Flagstaff Pilot**, a program to help APS gain an understanding of the impact of systems on the distribution grid and to increase DE deployment in APS’s service territory. APS received regulatory approval for the project in 2010 and, within five months of deployment, 232 residential customers had applied for the program. From these applications, 31 residential systems totaling 108 kW were installed by the end of 2010. Additionally, eight non-residential customers met the qualifications for the program, and the Cromer Elementary School and Doney Park projects received local permit approvals in early 2011.



- A new **2010 Schools and Government Program** was introduced in 2010 for schools, municipalities and other government entities as part of APS’s DE program expansion. Beginning in 2010, \$15 million of the authorized \$100 million annual increase in the lifetime production based incentive was allocated to this program. APS reserved approximately 3.75 MW of capacity, installed approximately 670 kW and committed the entire \$15 million budget in 2010.
- APS launched the **Qualified Solar Installer Program**, which offers third-party training to installers on technical issues, APS incentives, contractor program requirements, customer service, and customer care. A total of 59 contractors completed the training in 2010.
- The **APS Energy Star and Solar Homes Program**, introduced in 2009, was expanded in partnership with interested homebuilders in 2010. The goal of the program is to increase the overall number of energy efficient homes being built that include renewable technologies in the most cost-effective way for the end-use customer. By year end, there were 12 participating builders in the program, representing a total of 34 communities.

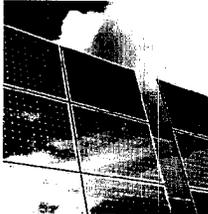


- APS developed and deployed a **solar calculator** to help customers quantify savings potential and calculate payback for photovoltaic installations. This provides customers with a realistic view of the financial benefits of solar to assist them in soliciting project estimates from contractors.
- A new and industry leading online transaction management platform, APS’s **Renewable Program Management** (“RPM”), was introduced on [aps.com](http://aps.com) and the [ArizonaGoesSolar.org](http://ArizonaGoesSolar.org) websites. The platform allows customers and installers to log onto an online website to track the status of their application in real time. Over time, this system will allow the Company to scale with program growth and integrate DE resources more effectively.

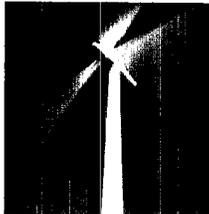
In addition to APS's efforts under the RES requirement, APS offers its customers renewable pricing plans such as the Green Choice Rate program and the Total Solar Rate.

APS's renewable energy programs experienced significant growth in 2010, exceeding annual targets for overall RES and residential DE production. The Company expects to continue to diversify its renewable energy portfolio and maintain enhancements to customer and program information tools so that trends in renewable energy deployment continue into 2011.

**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**

## I. 2010 Renewable Energy Standard Results

### A. Compliance with Renewable Energy Standard Requirements

For the calendar year 2010, the Commission established an annual RES requirement of 2.5 percent of a utility's 2010 total retail kWh sales, with 20 percent of that requirement to be satisfied through energy received from DE resources. For APS, these percentages equate to a total 2010 RES requirement of 692,737 MWh, of which 138,547 MWh were to be derived from DE resources.

The Company's 2010 renewable portfolio totaled 826,534 MWh. APS applied 122,764 MWh of the 826,534 MWh to sales through the Green Choice Rate program, and the remaining energy to its RES requirement. APS exceeded the overall 2010 RES requirement, achieving 102 percent of the RES compliance target. In doing so, APS experienced another record year of customer demand for DE. APS's DE production was 95 percent of the total DE requirement in 2010, compared to 58 percent in 2009. This resulted in 131,413 MWh from resources located on customer property.<sup>5</sup> The total DE requirement is comprised of both residential and non-residential targets, each equal to 50 percent of the 138,547 MWh DE energy production target.

TOTAL RENEWABLE GENERATION FOR 2010

# 826,534 MWh

Enough renewable energy to power more than **73,000** homes. 

# 332,679 Tons

of Carbon Dioxide emissions not produced.

The equivalent to taking nearly **55,000** cars off the road.



<sup>5</sup> In 2009, APS installed Interval Data Recording meters at 100 residential locations with solar PV systems to determine the typical output for solar systems within APS's territory. Based on data collected to date, APS has determined that the average annual energy output of a typical residential solar system in 2010 was 1,694 kWh/kW. This average annual energy output was used to determine the total energy output from residential solar systems for purposes of the Company's 2010 RES Compliance Reporting.

The overall DE program showed strong growth from previous years and by the end of 2010, APS's DE installation and reservation commitments totaled 383,845 MWh,<sup>6</sup> more than two and a half times the DE compliance target for the year. APS exceeded the residential DE requirement by producing 70,969 MWh,<sup>7</sup> and by year end, APS's non-residential installation production totaled 60,444 MWh, a 233 percent increase over 2009. Further, it is important to note that the targeted year-over-year DE growth rate included in the RES requirements (i.e., the 2010 incremental annual DE requirement) was achieved.<sup>8</sup> This accomplishment highlights the continued success of the Company's REIP and its ability to drive customer participation.

A detailed derivation of the Company's overall total RES compliance is shown in Table 1. The net renewable portfolio position includes annualization of DE resources, the effect of in-state solar installation multipliers,<sup>9</sup> and an adjustment made for energy sales supported through the Company's Green Choice Rate program.

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<sup>6</sup> In 2010, APS installed 131,413 MWh and reserved funds for projects expected to produce approximately 252,432 MWh.

<sup>7</sup> The 2010 residential DE requirement was 69,274 MWh.

<sup>8</sup> The 2010 year-over-year DE requirement within the RES for APS was 54,027 MWh (the 2010 APS DE requirement of 138,547 MWh less the 2009 APS DE requirement of 84,520 MWh), while the Company's actual increase in DE between 2009 and 2010 was 82,028 MWh (2010 achieved DE of 131,413 MWh less the 2009 achieved DE of 49,385 MWh).

<sup>9</sup> Pursuant to A.A.C. R14-2-1806, a multiplier of .5 is used in the RES for in-state solar installations prior to December 31, 2005.

**Table 1:  
2010 Overall Renewable Portfolio Results**

	<b>MW (capacity)</b>	<b>MWh (energy)</b>
<b>Renewable Generation</b>		
Wind	190.0	529,674
Biomass <sup>1</sup>	25.0	119,118
Landfill Gas	2.8	17,880
Geothermal	10.0	14,851
Solar	5.6	9,065
Renewable Generation	233.4	690,588
Multiplier <sup>2</sup>	-	4,533
<i>Subtotal: Renewable Generation</i>	233.4	695,121
<i>Less Green Choice Rate Sales<sup>3</sup></i>		(122,764)
<i>Renewable Generation Total</i>		572,357
<b>Distributed Energy<sup>4</sup></b>		
Solar Electric	58.3	94,283
Wind	0.1	165
Biogas	0.3	1,574
Solar Space Heating	n/a	1,288
Solar Water Heating	n/a	16,082
Solar Pool Heating	n/a	897
Geothermal	n/a	1,773
Solar HVAC	n/a	582
Wholesale DE	n/a	13,855
<i>Subtotal: Distributed Energy</i>	58.7	130,499
Multiplier <sup>2</sup>	-	914
<i>Distributed Energy Total<sup>5</sup></i>	58.7	131,413
<b>Net Renewable Portfolio Position (including all adjustments)</b>		<b>703,770</b>
<i>RES Compliance Requirement (2.5% of retail sales)<sup>6</sup></i>		692,737
<i>% Achievement of Overall RES Goal</i>		102%
<i>Renewable Portfolio Position (+/-) relative to RES Compliance</i>		11,033

*Notes to Table 1:*

<sup>1</sup> Includes contractual capacity extension for the Snowflake White Mountain Power facility of 10MW from September 1, 2010 through August 31, 2011. Total plant capacity is 25MW. Of this amount, 5MW is used for on-site plant consumption for a net capacity of 20MW.

<sup>2</sup> RES multiplier for in-state solar installations prior to December 31, 2005.

<sup>3</sup> APS does not count Green Choice sales towards the RES pursuant to Decision No. 70313.

<sup>4</sup> Annualized energy production capacity.

<sup>5</sup> Consists of 70,969 MWh residential and 60,444 MWh non-residential.

<sup>6</sup> Based on 2010 retail sales of 27,709,463 MWh.

## **B. Renewable Energy Standard Budget**

APS managed a total renewable energy budget of approximately \$128.6 million in 2010. This amount included funds from various sources such as base rates, the RES adjustor, Green Choice Rate revenue, Solar Partners revenue, the 2009 committed accrual, funds collected in 2009 but not committed in 2009 and other miscellaneous, unplanned revenues. APS's 2010 RES adjustor collected a total of \$77.6 million, which was \$3 million less than APS's 2010 RES Implementation Plan budget as approved by the Commission. As discussed in the Company's letter to the Commission,<sup>10</sup> APS experienced a shortfall in revenue collected through the RES adjustor in 2010. Consistent with the Company's normal business practices in administering its RES programs, APS managed the RES funds to address the anticipated shortfall while preserving its commitment to fund renewable energy incentives and programs. This was accomplished primarily through the re-allocation of incentive funds from projects that were either cancelled by customers or did not meet program milestones.

In 2010, APS spent and committed approximately \$128.2 million. These funds supported the Company's Renewable Generation purchased power, DE incentives and other program costs. Therefore, the Net Adjustor balance at the end of 2010 is \$495,464.

Revenues and expenditures associated with the RES for the year 2010 are outlined in Table 2.

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<sup>10</sup> APS's letter to the Commission dated October 14, 2010 in Docket No. E-01345A-09-0338.

**Table 2:**  
**2010 RES Associated Revenues and Costs**

<b>Collected (Revenue)</b>	
System Benefit Charge (SBC) Revenue <sup>1</sup>	\$ 6,000,000
Renewable Energy Standard (RES) Revenue	77,658,626
Green Choice Revenue	485,721
Solar Partners Revenue <sup>2</sup>	16,233
Miscellaneous Revenue <sup>3</sup>	1,300,000
2009 Committed Accrual <sup>4</sup>	38,701,289
Funds from 2009: Uncommitted Carry forward	4,500,000
<b>Total: Collections</b>	<b>\$ 128,661,869</b>
<b>Spent / Committed (Cost)</b>	
<u>Energy/Incentives</u>	
Renewable Generation Purchase Power Agreements	\$ 8,200,983
APS-owned Solar Maintenance	227,440
Distributed Incentives:	103,927,943
Paid	\$ 62,904,600
Annual Commitment	\$ 41,023,343
<i>Subtotal: Energy and Incentives</i>	<i>\$ 112,356,366</i>
<u>Non-Energy Costs</u>	
Administration & Implementation	6,870,660
Information Services <sup>5</sup>	1,500,000
Commercialization & Integration <sup>6</sup>	1,896,870
Marketing & Outreach <sup>7</sup>	5,400,000
<i>Subtotal: Non-Energy Costs</i>	<i>\$ 15,667,530</i>
<u>Program Costs</u>	
Flagstaff Community Power Project	142,509
<b>Total: Spent / Committed</b>	<b>\$ 128,166,405</b>
<b>Net Adjustor Balance</b>	<b>\$ 495,464</b>

*Notes to Table 2:*

<sup>1</sup> Collected from base rates.

<sup>2</sup> Revenues collected in 2010 from Rate Schedule Solar-3 customers.

<sup>3</sup> Consists of a contractual pass-through of New Mexico production tax credits for the High Lonesome Wind Ranch in the amount of \$700K, and \$600K funded through APS corporate budgets for RES marketing and outreach as discussed in the Commission's 12/22/09 Open Meeting.

<sup>4</sup> Funds collected in 2009 that were committed to cover customer reservations and short-term purchases, but not spent by 12/31/2009.

<sup>5</sup> Includes \$170K of contractual commitments not paid in calendar year 2010.

<sup>6</sup> Includes \$275K of contractual commitments not paid in calendar year 2010.

<sup>7</sup> Includes \$720K of contractual commitments not paid in calendar year 2010.

### **C. Renewable Energy Credit Bank Reconciliation**

As approved in the Company's 2008 RES Implementation Plan,<sup>11</sup> APS will use RES-eligible banked energy to fill compliance shortfalls from time to time. APS expects these shortfalls may occur as production from generation currently under contract fluctuates and new projects experience potential construction or operational delays. Changes to the bank consist of expected withdrawals to meet compliance and deposits from excess generation in any given year. In other words, withdrawals from the entire bank will be made first to meet compliance, then the current year's eligible renewable generation will be used to meet any remaining compliance balance. Any remainder, after all compliance goals are met, will be the current year's ending bank balance. A table detailing the banking reconciliation is provided in Attachment 1.

### **D. Additional Reporting Requirements**

1. *The following compliance items were required in conjunction with approval of the 2011 RES Implementation Plan in Decision No. 72022:*

- The Company acknowledges that it is not aware of any affiliate, employee or director that has a financial interest or other interest in renewable energy projects.
- For reporting years 2008 through 2010, APS had two contracts for which the Company received damages. High Lonesome, LLC compensated APS for a delay to the in-service date of the High Lonesome Wind Farm in 2009. In addition, APS received damages from Starwood Solar 1 for a project that was terminated in 2009.

2. *Performance Metering for Schools Receiving Up-Front Incentives*

In Decision No. 71275, APS was required to install a performance meter at every school project that received an up-front incentive ("UFI") pursuant to the Decision. Further, APS is required to monitor and report the actual metered production of these systems. Attachment 2 lists all ten schools that received UFIs in 2010 as a result of this Decision, the date the systems were on-line, and the total energy produced in 2010. All ten schools installed photovoltaic systems. The production listed for each school is a partial year of production, as each system came on-line mid-year.

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<sup>11</sup> Decision No. 70313 (April 28, 2008).

## II. APS's Renewable Energy Standard Efforts

### A. Renewable Generation Efforts

As outlined in the RES rules, a subset of the total RES requirement is derived from non-distributed renewable energy resources (referred to in this report as "Renewable Generation"). For calendar year 2010, the Renewable Generation contribution translated to 572,357 MWh of the Company's total RES requirement of 692,737 MWh. APS's Renewable Generation resources contributed 83 percent of the total 2010 RES Renewable Energy requirement. Table 3 summarizes the renewable resource categories which comprise the Renewable Generation portion of the Company's total 2010 RES requirement.

Table 3:  
2010 Renewable Generation Resources

	Actuals	
	MW (capacity)	MWh (energy)
Wind	190.0	529,674
Biomass <sup>1</sup>	25.0	119,118
Landfill Gas	2.8	17,880
Geothermal	10.0	14,851
Solar <sup>2</sup>	5.6	13,598
	233.4	695,121
Less Green Choice Rate Sales <sup>3</sup>		(122,764)
<b>Total Renewable Generation Resources</b>		<b>572,357</b>
	<i>Total RES goal<sup>4</sup></i>	692,737
	<i>% contribution from Non-DE</i>	83%
	<i>Planned % contribution from Non-DE</i>	80%

*Notes to Table 3:*

- <sup>1</sup> See Table 1, footnote 1. Additionally, a portion of the production from this category is counted toward the Company's contribution to the DE target of the total RES.
- <sup>2</sup> Includes RES multiplier for in-state solar installations prior to December 31, 2005.
- <sup>3</sup> Sales from the Green Choice program are not applied towards overall RES compliance.
- <sup>4</sup> RES goal based on actual 2010 retail sales.

## 1. Renewable Generation Resources

The Company's portfolio of Renewable Generation includes a diversity of resources that qualify as renewable facilities and whose energy is applied toward the overall RES target. These facilities, as well as resources that are currently under contract and/or pending regulatory approval, are described below:

**In 2010, APS contracted for 207 MW of additional Renewable Generation, which will almost double the Company's existing Renewable Generation capacity.**

### a) *Generation in Operation*

APS continues to focus on the need for a diverse and balanced portfolio, not only within its entire fleet of resources, but specifically within its Renewable Generation portfolio in order to accommodate expected fluctuations in production and resource availability. In 2010, the Salton Sea/CE Turbo plant, a geothermal resource, was only operational for a total of three months due to unplanned mechanical issues. In addition, the output from the High Lonesome wind farm was curtailed for about a month due to transmission system upgrades. During the third quarter of 2010, APS executed a short-term

contract with Snowflake White Mountain Power, a biomass facility, for an additional 10 MW of generation. Notwithstanding individual outages, APS's diverse and balanced portfolio of renewable energy resources collectively allowed the Company to continue to contribute a significant amount of energy to the overall RES requirement.

The outputs of the following agreements are eligible for RES compliance in 2010:

#### Solar Resources

##### Renewable Generation - APS Owned

APS owns approximately 5.6 MWdc<sup>12</sup> of solar capacity located throughout Arizona. Approximately 1 MW of this capacity is a solar trough facility located at the Company's Saguaro Generating Station near Red Rock, AZ. The remainder of the solar capacity is photovoltaic and includes both fixed and tracking installations. In 2010, APS-owned solar facilities generated 9,065 MWh, and applicable multipliers added 4,533 MWh of Renewable Energy Credits ("RECs") toward APS's total renewable production.

#### Wind Resources

##### Aragonne Mesa

Aragonne Mesa is a 90 MW wind facility located in Guadalupe County, NM. The facility is owned and operated by Bluarc Management Group, LLC, and achieved commercial operation in December of 2006. Total output for 2010 was 267,551 MWh.

##### High Lonesome Wind Ranch

High Lonesome Wind Ranch is a 100 MW wind generation facility located in Torrance County, New Mexico. The facility is owned and operated by High Lonesome Mesa,

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<sup>12</sup> Solar nameplate capacity is commonly designated in direct current ("dc") watts, while utility operations and service are provided in alternating current ("ac").