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March 1, 2010

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

RE: DEMAND SIDE MANAGEMENT SEMI-ANNUAL REPORT
DECISION 67744; DOCKET NO. E-01345A-03-0437 & E-01345A-05-0526

Pursuant to Decision No. 59601:

“APS shall file detailed semi-annual reports with Staff and in Docket Control on all DSM and renewables activities, although confidential information need not be filed in Docket Control.”

Pursuant to Decision No. 67744:

“APS is required to file mid-year and end-year reports on each DSM program. All DSM year-end reports filed at the Commission by APS must be certified by an Officer of the Company”

Decisions No. 68648, 70637, and 71444 also included requirements for specific changes and additions to the DSM Semi-Annual Report.

Enclosed please find the DSM Semi-Annual Report covering the period of July 1, 2009 through December 31, 2009 consistent with the above requirement. The Company is also required to provide its updated Energy Conservation Plan pursuant to the Arizona Administrative Code, Section R14-2-213. This DSM Semi-Annual Report also satisfies that requirement and includes consumer education and conservation information.

If you have any questions or concerns please contact Erinn Andreasen at (602) 250-3276.

Sincerely,

Leland R. Snook

LS/sl
Attachments

cc: Brian Bozzo
Terri Ford
Barbara Keene
Julie McNeely

Arizona Corporation Commission
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ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS
REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2009

March 1, 2010

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

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ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

This Demand Side Management Semi-Annual Progress Report ("Progress Report") includes the following information for all APS Demand Side Management ("DSM") programs that were in place during this Reporting Period, including programs for residential, non-residential and low income customers:

- A brief description of the program;
- Program modifications;
- Program goals, objectives, and savings targets;
- Programs terminated;
- Levels of participation;
- A description of evaluation and monitoring activities and results;
- kW and kWh savings;
- Benefits and net benefits, both in dollars, as well as Performance Incentive calculation;
- Problems encountered and proposed solutions;
- Costs incurred during the Reporting Period disaggregated by type of cost, such as administrative costs, rebates, and monitoring costs;
- Findings from all research projects; and
- Other significant information.

Summary pages detailing the program expenses are provided in Tables 1, 2 and 3. Tables 4, 5 and 6 depict DSM program MW and MWh savings. Tables 7, 8, and 9 depict net benefits and the Performance Incentive calculation. Table 10 depicts the environmental benefits associated with the energy savings that resulted from DSM programs.

Items included in this Progress Report as a result of Arizona Corporation Commission ("Commission" or "ACC") Decision Numbers 70637 and 70666 are:

- Year-to-Date ("YTD") and Program-to-Date ("PTD") results are reflected in the tables;
- Gross and net DSM demand and energy savings
- Savings results are Measurement, Evaluation and Research ("MER") adjusted
- Estimated environmental benefits
- Non-Residential study applications for the current Reporting Period and for cumulative results since being offered in 2006; and
- Health and safety, and repair and replace results are reported by measure type in the Low Income Program section.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

TABLE 1
DSM Program Expenses: July 2009 – December 2009

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation ¹	Program Marketing	Planning & Admin	Program Total Cost	
Residential								
Low Income	\$573,510	\$12,100	\$1,977	\$167,607	\$2,991	\$63,572	\$821,757	
Res Existing Homes HVAC	\$2,464,936	\$62,918	\$93,654	\$457,315	\$26,639	\$65,310	\$3,170,772	
Res New Home Construction	\$292,000	\$102,557	\$21,114	\$113,411	\$150,254	\$52,107	\$731,443	
Consumer Products	\$1,083,685	\$228	\$1,948	\$470,602	\$182,500	\$83,089	\$1,822,052	
Totals for Residential	\$4,414,131	\$177,803	\$118,693	\$1,208,935	\$362,384	\$264,078	\$6,546,024	
Non-Residential								
Large Existing Facilities	\$2,265,403	\$101,904	\$49,689	\$696,339	\$271,946	\$149,585	\$3,534,866	
Large Non Res New Const	\$586,856	\$8,016	\$2,720	\$208,165	\$120,919	\$35,427	\$962,103	
Small Business	\$192,630	\$10,983	\$1,107	\$160,682	\$97,064	\$26,643	\$489,109	
Energy Information Svcs	\$17,279	\$1,810	\$0	\$32,603	\$2,712	\$18	\$54,422	
Schools ²	\$125,561	\$10,174	\$2,024	\$79,707	\$104,961	\$19,337	\$341,764	
Total for Non-Residential	\$3,187,729	\$132,887	\$55,540	\$1,177,496	\$597,602	\$231,010	\$5,382,264	
Segment Totals	\$7,601,860	\$310,690	\$174,233	\$2,386,431	\$959,986	\$495,088	\$11,928,288	
							Program Costs	\$11,928,288
							Measurement, Evaluation, & Research (MER)	\$395,045
							Performance Incentive³	\$1,369,259
							TOTAL	\$13,692,592

1. Includes costs for Implementation Contractor ("IC") for all programs.
2. Schools are allowed to receive funding from other non-residential programs as well. Refer to the subsection on the Schools Program for additional information on total funds allocated to school districts to date.
3. The Performance Incentive is calculated in Tables 7, 8 & 9, (methodology/calculation was approved by the ACC in Decision No. 69663).

Definitions

Rebates & Incentives – Dollars that go toward customer rebates and incentives, installation of low income weatherization and low income bill assistance.

Training & Technical Assistance – Dollars that are used for energy efficiency training and technical assistance.

Consumer Education – Dollars that are used to support general consumer education about energy-efficient improvements.

Program Implementation – Program delivery costs associated with implementing the program - includes implementation contract labor and overhead costs, as well as other direct program delivery costs.

Program Marketing – Expenses related to marketing the program and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).

Planning & Administration – APS's costs to plan, develop and administer programs-includes management of program budgets, oversight of the RFP process and implementation contractor, program development, program coordination and general overhead expenses.

Measurement, Evaluation, & Research – Activities that will identify current baseline efficiency levels and the market potential of DSM measures, perform process evaluations, verify that energy-efficient measures are installed, track savings, and identify additional energy efficiency research.

Performance Incentive – Share (%) of DSM net economic benefits (benefits minus cost), capped at 10% of total DSM expenditures, inclusive of the Performance Incentive.

ARIZONA PUBLIC SERVICE COMPANY

**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2009**

**TABLE 2
Year-to-Date DSM Program Expenses: January 2009 – December 2009**

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation¹	Program Marketing	Planning & Admin	Program Total Cost	
Residential								
Low Income	\$1,038,950	\$17,108	\$2,350	\$195,632	\$8,241	\$122,612	\$1,384,893	
Res Existing Homes HVAC	\$3,326,220	\$156,866	\$222,504	\$722,685	\$119,310	\$87,040	\$4,634,625	
Res New Home Const	\$570,000	\$170,961	\$21,429	\$204,868	\$295,106	\$97,298	\$1,359,662	
Consumer Products	\$2,227,649	\$626	\$26,473	\$1,019,829	\$351,023	\$148,699	\$3,774,299	
Totals for Residential	\$7,162,819	\$345,561	\$272,756	\$2,143,014	\$773,680	\$455,649	\$11,153,479	
Non-Residential								
Large Existing Facilities	\$4,046,939	\$190,024	\$96,977	\$1,460,814	\$534,165	\$303,284	\$6,632,203	
Large Non Res New Const	\$1,431,547	\$24,714	\$18,974	\$458,953	\$289,080	\$84,504	\$2,307,772	
Small Business	\$223,261	\$16,673	\$1,439	\$264,401	\$143,708	\$42,406	\$691,888	
Energy Information Svcs	\$39,859	\$6,027	\$0	\$38,014	\$2,712	\$1,289	\$87,901	
Schools ²	\$423,684	\$19,711	\$5,126	\$137,784	\$161,900	\$38,618	\$786,823	
Total for Non-Residential	\$6,165,290	\$257,149	\$122,516	\$2,359,966	\$1,131,565	\$470,101	\$10,506,587	
Segment Totals	\$13,328,109	\$602,710	\$395,272	\$4,502,980	\$1,905,245	\$925,750	\$21,660,066	
							Program Costs	\$21,660,066
							Measurement, Evaluation, & Research (MER)	\$1,345,860
							Performance Incentive³	\$2,556,215
							TOTAL	\$25,562,141

1. Includes costs for Implementation Contractor (IC) for all programs.
2. Schools are allowed to receive funding from other non-residential programs as well. Refer to the subsection on the Schools Program for additional information on total funds allocated to school districts to date.
3. The Performance Incentive is calculated in Tables 7, 8 & 9, and the methodology/calculation was approved by the ACC in Decision No. 69663.

ARIZONA PUBLIC SERVICE COMPANY

**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2009**

**TABLE 3
Program-to-Date DSM Program Expenses: January 2005 – December 2009**

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation ¹	Program Marketing	Planning & Admin	Program Total Cost	
Residential								
Low Income	\$4,740,926	\$59,494	\$18,647	\$502,484	\$21,054	\$456,716	\$5,799,321	
Res Existing Homes HVAC	\$6,579,844	\$352,130	\$807,339	\$1,954,860	\$1,167,443	\$264,781	\$11,126,397	
Res New Home Const	\$2,668,706	\$452,473	\$121,533	\$732,009	\$1,511,214	\$377,277	\$5,863,212	
Consumer Products	\$9,089,359	\$3,938	\$50,150	\$3,431,656	\$1,320,896	\$515,338	\$14,411,337	
Totals for Residential	\$23,078,835	\$868,035	\$997,669	\$6,621,009	\$4,020,607	\$1,614,112	\$37,200,267	
Non-Residential								
Large Existing Facilities	\$12,067,448	\$364,636	\$172,008	\$4,700,435	\$1,309,718	\$1,163,331	\$19,777,576	
Large Non Res New Const	\$4,385,068	\$78,117	\$36,690	\$2,665,281	\$623,941	\$436,528	\$8,225,625	
Small Business	\$518,002	\$18,548	\$21,016	\$1,370,261	\$248,351	\$217,287	\$2,393,465	
Bldg Operator Training	\$0	\$56,897	\$0	\$22,043	\$15,783	\$7,480	\$102,203	
Energy Information Svcs	\$49,573	\$6,027	\$583	\$94,482	\$2,712	\$23,207	\$176,584	
Schools ²	\$1,026,358	\$25,502	\$11,173	\$560,076	\$254,294	\$116,964	\$1,994,367	
Total for Non-Residential	\$18,046,449	\$549,727	\$241,470	\$9,412,578	\$2,454,799	\$1,964,797	\$32,669,820	
Segment Totals	\$41,125,284	\$1,417,762	\$1,239,139	\$16,033,587	\$6,475,406	\$3,578,909	\$69,870,087	
							Program Costs	\$69,870,087
							Measurement, Evaluation, & Research (MER)	\$4,643,461
							Performance Incentive³	\$8,296,859
							TOTAL	\$82,810,407

1. Includes costs for Implementation Contractor (IC) for all programs.
2. Schools are allowed to receive funding from other non-residential programs as well. Refer to the subsection on the Schools Program for additional information on total funds allocated to school districts to date.
3. The Performance Incentive is calculated in Tables 7, 8 & 9, and the methodology/calculation was approved by the ACC in Decision No. 69663. The program to date performance incentive amount is a summation of the performance incentive amount as calculated during each previous Reporting Period beginning with the January – June 2005 Semi-Annual Report.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

TABLE 4
DSM Electric Savings: July 2009 – December 2009¹

DSM Program	Gross Peak MW Capacity Savings	Gross Annual MWh Savings	Gross Lifetime ² MWh Savings	Net Peak MW Capacity Savings	Net Annual MWh Savings	Net Lifetime ² MWh Savings
Residential						
Low Income ³	0.0	300	5,240	0.0	300	5,240
Res Existing Homes HVAC	5.5	7,551	109,133	5.0	6,736	96,704
Res New Home Construction	1.4	1,971	39,426	1.3	1,774	35,483
Consumer Products	9.2	65,910	395,462	7.2	51,410	308,460
Totals for Residential	16.1	75,732	549,261	13.5	60,220	445,887
Non-Residential						
Large Existing Facilities	4.7	37,575	498,335	3.8	30,264	399,194
Large Non Res New Const	1.1	22,567	261,852	0.8	16,957	196,617
Small Business	0.5	2,161	31,749	0.4	1,832	27,255
Energy Information Svcs	0.1	425	6,377	0.1	425	6,377
Schools	0.2	1,496	21,695	0.1	1,256	18,292
Total for Non-Residential	6.6	64,224	820,008	5.2	50,734	647,735
TOTAL	22.7	139,956	1,369,269	18.7	110,954	1,093,622

1. Savings for 2008 and after are MER adjusted, savings prior to 2008 are NOT MER adjusted. Per Decision No. 69663, APS is submitting MER adjusted MW and MWh savings, which started with the January – June 2008 Semi-Annual Report. All Semi-Annual Reports submitted prior to 2008 were based on savings as filed in APS's original DSM Portfolio Plan, before any MER adjustments.
2. Refers to savings over the expected lifetime of all program measures.
3. Semi-Annual Reports submitted prior to the July-December 2007 Report inadvertently reported only annual MWh savings for the Low Income Program.

Definitions

Gross Savings – Demand and energy savings related to the DSM programs prior to accounting for free-riders or spillover.

Net Savings – Demand and energy savings related to the DSM programs after accounting for free-riders and spillover.

Free-riders – Program participants who would have installed the energy efficient DSM measures anyway, even if the program were not in operation.

Spillover – Refers to indirect energy impacts of the program and estimates savings from customers who take the energy efficient action as a result of knowledge of the program, but who do not receive an incentive through the program.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

TABLE 5
Year-to-Date DSM Electric Savings: January 2009 – December 2009¹

DSM Program	Gross Peak MW Capacity Savings	Gross Annual MWh Savings	Gross Lifetime ² MWh Savings	Net Peak MW Capacity Savings	Net Annual MWh Savings	Net Lifetime ² MWh Savings
Residential						
Low Income ³	0.1	497	9,189	0.1	497	9,189
Res Existing Homes HVAC	7.8	10,494	149,904	7.0	9,202	130,151
Res New Home Construction	2.7	3,848	76,961	2.4	3,463	69,265
Consumer Products	16.3	116,890	701,342	12.7	91,174	547,047
Totals for Residential	26.9	131,729	937,396	22.2	104,336	755,652
Non-Residential						
Large Existing Facilities	9.6	71,166	932,254	7.8	58,522	765,232
Large Non Res New Const	2.9	45,345	544,373	2.3	36,604	442,013
Small Business	0.9	4,016	39,215	0.7	3,228	33,130
Energy Information Svcs	0.2	1,227	18,401	0.2	1,227	18,401
Schools	1.0	6,089	84,874	0.7	5,000	69,634
Total for Non-Residential	14.6	127,843	1,619,117	11.7	104,581	1,328,410
TOTAL	41.5	259,572	2,556,513	33.9	208,917	2,084,062

1. Savings for 2008 and after are MER adjusted, savings prior to 2008 are NOT MER adjusted. Per Decision No. 69663, APS is submitting MER adjusted MW and MWh savings, which started with the January – June 2008 Semi-Annual Report. All Semi-Annual Reports submitted prior to 2008 were based on savings as filed in APS's original DSM Portfolio Plan, before any MER adjustments.
2. Refers to savings over the expected lifetime of all program measures.
3. Semi-Annual Reports submitted prior to the July-December 2007 Report inadvertently reported only annual MWh savings for the Low Income Program.

Definitions

Gross Savings – Demand and energy savings related to the DSM programs prior to accounting for free-riders or spillover.

Net Savings – Demand and energy savings related to the DSM programs after accounting for free-riders and spillover.

Free-riders – Program participants who would have installed the energy efficient DSM measures anyway, even if the program were not in operation.

Spillover – Refers to indirect energy impacts of the program and estimates savings from customers who take the energy efficient action as a result of knowledge of the program, but who do not receive an incentive through the program.

ARIZONA PUBLIC SERVICE COMPANY

DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD: JULY THROUGH DECEMBER 2009

TABLE 6
Program-to-Date DSM Electric Savings: January 2005 – December 2009¹

DSM Program	Gross Peak MW Capacity Savings	Gross Annual MWh Savings	Gross Lifetime ² MWh Savings	Net Peak MW Capacity Savings	Net Annual MWh Savings	Net Lifetime ² MWh Savings
Residential						
Low Income ³	0.6	3,623	71,702	0.6	3,623	71,702
Res Existing Homes HVAC	17.9	32,495	477,769	14.5	25,483	372,771
Res New Home Construction	12.6	25,165	503,297	11.3	22,649	452,967
Consumer Products	72.1	532,389	2,986,590	56.8	419,418	2,352,393
Totals for Residential	103.2	593,672	4,039,358	83.2	471,173	3,249,833
Non-Residential						
Large Existing Facilities	25.4	206,810	2,809,926	21.0	171,107	2,323,700
Large Non Res New Const	8.6	133,147	1,883,176	7.0	109,480	1,553,219
Small Business	1.7	10,695	139,613	1.4	8,772	116,460
Bldg Operator Training	0.2	1,001	12,447	0.1	701	8,713
Energy Information Svcs	0.4	2,155	32,319	0.4	2,155	32,319
Schools	1.9	13,316	201,597	1.4	10,998	166,514
Total for Non-Residential	38.2	367,124	5,079,078	31.3	303,213	4,200,925
TOTAL	141.4	960,796	9,118,436	114.5	774,386	7,450,758

1. Savings for 2008 and after are MER adjusted, savings prior to 2008 are NOT MER adjusted. Per Decision No. 69663, APS is submitting MER adjusted MW and MWh savings, which started with the January – June 2008 Semi-Annual Report. All Semi-Annual Reports submitted prior to 2008 were based on savings as filed in APS's original DSM Portfolio Plan, before any MER adjustments.
2. Refers to savings over the expected lifetime of all program measures.
3. Semi-Annual Reports submitted prior to the July-December 2007 Report inadvertently reported only annual MWh savings for the Low Income Program.

Definitions

Gross Savings – Demand and energy savings related to the DSM programs prior to accounting for free-riders or spillover.

Net Savings – Demand and energy savings related to the DSM programs after accounting for free-riders and spillover.

Free-riders – Program participants who would have installed the energy efficient DSM measures anyway, even if the program were not in operation.

Spillover – Refers to indirect energy impacts of the program and estimates savings from customers who take the energy efficient action as a result of knowledge of the program, but who do not receive an incentive through the program.

ARIZONA PUBLIC SERVICE COMPANY

**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2009**

**TABLE 7
DSM Societal Benefits and Performance Incentive
July 2009 – December 2009**

DSM Program	Program Cost	Societal Benefits	Societal Costs	Net Benefits
Residential				
Low Income ¹	\$821,756	\$749,367	\$749,367	\$0 ²
Res Existing Homes HVAC	\$3,170,772	\$6,947,055	\$4,368,570	\$2,578,485
Res New Home Construction	\$731,443	\$2,695,160	\$932,193	\$1,762,967
Consumer Products	\$1,822,052	\$13,190,122	\$3,073,840	\$10,116,282
Totals for Residential	\$6,546,023	\$23,581,704	\$9,123,970	\$14,457,734
Non-Residential				
Large Existing Facilities	\$3,534,866	\$18,253,465	\$4,789,024	\$13,464,441
Large Non Res New Const	\$962,103	\$8,551,928	\$1,132,756	\$7,419,172
Small Business	\$489,109	\$1,390,414	\$292,334	\$1,098,080
Energy Information Svcs	\$54,422	\$229,880	\$27,410	\$202,470
Schools	\$341,764	\$750,865	\$375,845	\$375,020
Total for Non-Residential	\$5,382,264	\$29,176,552	\$6,617,369	\$22,559,183
Subtotal	\$11,928,287	\$52,758,256	\$15,741,339	\$37,016,917
Measurement, Evaluation & Research	\$395,045		\$395,045	(\$395,045)
Performance Incentive	\$1,369,259		\$1,369,259	(\$1,369,259)
TOTAL	\$13,692,591	\$52,758,256	\$17,505,643	\$35,252,613
Performance Incentive Calculation:				
Spending Before PI / Total Net Benefits	\$12,323,332			\$36,621,872
10% of Spending / Net Benefits	\$1,369,259			\$3,662,187
Performance Incentive This Period³	\$1,369,259			

1. Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.
2. Consistent with the ACC Staff's analysis in Decision No. 68647, the societal benefit is equal to the societal cost, resulting in a benefit to cost ratio of 1.00.
3. The Performance Incentive equals the minimum of either 10% share of net benefits, or 10% of total period program expenditures. The ACC approved the incentive calculation in Decision No. 69663. The Maximum Performance Incentive allowed is 10% of the total spending level, including the performance incentive, as ordered in Decision No. 67744.

ARIZONA PUBLIC SERVICE COMPANY

**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
JULY THROUGH DECEMBER 2009**

**TABLE 8
DSM Societal Benefits and Performance Incentive
Year-to-Date, January 2009 – December 2009**

DSM Program	Program Cost	Societal Benefits	Societal Costs	Net Benefits
Residential				
Low Income ¹	\$1,384,892	\$1,176,777	\$1,176,777	\$0 ²
Res Existing Homes HVAC	\$4,634,624	\$9,883,633	\$6,414,814	\$3,468,819
Res New Home Construction	\$1,359,660	\$5,261,100	\$1,751,537	\$3,509,563
Consumer Products	\$3,774,299	\$23,334,349	\$5,678,283	\$17,656,066
Totals for Residential	\$11,153,475	\$39,655,859	\$15,021,411	\$24,634,448
Non-Residential				
Large Existing Facilities	\$6,632,219	\$31,870,985	\$9,101,503	\$22,769,482
Large Non Res New Const	\$2,307,771	\$16,397,941	\$2,942,372	\$13,455,569
Small Business	\$691,887	\$1,723,030	\$372,592	\$1,350,438
Energy Information Svcs	\$87,901	\$558,280	\$61,897	\$496,383
Schools	\$786,824	\$2,544,107	\$831,980	\$1,712,127
Total for Non-Residential	\$10,506,602	\$53,094,343	\$13,310,344	\$39,783,999
Subtotal	\$21,660,077	\$92,750,202	\$28,331,755	\$64,418,447
Measurement, Evaluation & Research	\$1,345,860		\$1,345,860	(\$1,345,860)
Performance Incentive YTD ³	\$2,556,217		\$2,556,217	(\$2,556,217)
TOTAL	\$25,562,154	\$92,750,202	\$32,233,832	\$60,516,370

1. Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.
2. Consistent with the ACC Staffs' analysis in Decision No. 68647, the societal benefit is equal to the societal cost, resulting in a benefit to cost ratio of 1.00.
3. The ACC approved the incentive calculation in Decision No. 69663. The Maximum Performance Incentive allowed is 10% of the total spending level, including the performance incentive, as ordered in Decision No. 67744. The year to date performance incentive amount is a summation of the performance incentive amount, as calculated during this Reporting Period and the previous Reporting Period of January – June 2009.

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**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
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**TABLE 9
DSM Societal Benefits and Performance Incentive
Program-to-Date, January 2005 – December 2009**

DSM Program	Program Cost	Societal Benefits	Societal Costs	Net Benefits
Residential				
Low Income ¹	\$5,799,317	\$4,922,215	\$4,922,215	\$0 ²
Res Existing Homes HVAC	\$11,126,397	\$24,613,423	\$17,566,076	\$7,047,347
Res New Home Construction	\$5,863,211	\$26,368,566	\$7,503,821	\$18,864,745
Consumer Products	\$14,411,336	\$137,354,032	\$31,674,340	\$105,679,692
Totals for Residential	\$37,200,261	\$193,258,236	\$61,666,452	\$131,591,784
Non-Residential				
Large Existing Facilities	\$19,777,594	\$84,195,768	\$32,193,910	\$52,001,858
Large Non Res New Const	\$8,225,625	\$59,487,617	\$17,517,365	\$41,970,252
Small Business	\$2,393,463	\$3,410,424	\$2,229,684	\$1,180,740
Bldg Operator Training	\$102,205	\$424,302	\$183,392	\$240,910
Energy Information Svcs	\$176,584	\$1,056,812	\$254,683	\$802,129
Schools	\$1,994,373	\$5,152,970	\$2,061,300	\$3,091,670
Total for Non-Residential	\$32,669,844	\$153,727,893	\$54,440,334	\$99,287,559
Subtotal	\$69,870,105	\$346,986,129	\$116,106,786	\$230,879,343
Measurement, Evaluation & Research	\$4,643,461		\$4,643,461	(\$4,643,461)
Performance Incentive PTD ³	\$8,296,861		\$8,296,861	(\$8,296,861)
TOTAL	\$82,810,427	\$346,986,129	\$129,047,108	\$217,939,021

- 1. Program Costs include weatherization and bill assistance. Societal Costs do not include bill assistance because it does not contribute to electric savings.*
- 2. Consistent with the ACC Staff's analysis in Decision No. 68647, the societal benefit is equal to the societal cost, resulting in a benefit to cost ratio of 1.00.*
- 3. The ACC approved the incentive calculation in Decision No. 69663. The Maximum Performance Incentive allowed is 10% of the total spending level, including the performance incentive, as ordered in Decision No. 67744. The program to date performance incentive amount is a summation of the performance incentive amount as calculated during each previous Reporting Period beginning with the January – June 2005, Semi-Annual Report.*

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**TABLE 10
Net Environmental Benefits¹**

Reporting Period	Water Mil Gal²	SOx Lbs	NOx Lbs	CO2 Mil Lbs	PM10 Lbs
July – Dec 2009 Reporting Period	250	4,607	184,264	982	25,390
YTD: January 2009 – December 2009	480	8,865	354,620	1,891	48,863
PTD: January 2005 – December 2009	1,731	31,942	1,277,692	6,812	176,054

1. *The environmental reductions are based on the net KWh energy savings of all program measures over their expected lifetimes.*
2. *Some measures will result in customer water savings, which this calculation does not include. Only utility water savings are included in this calculation.*

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PROGRAM: RESIDENTIAL EXISTING HOMES HVAC

Description

The Residential Existing Homes Heating Ventilation Air Conditioning Program ("HVAC") promotes energy-efficient equipment and proper installation and maintenance of residential heating and air conditioning systems. The HVAC Program provides training and technical assistance for HVAC contractors and education for consumers about the benefits of energy-efficient heating and cooling systems. Through the APS Qualified Contractor program, APS provides customer referrals to contractors who meet strict program requirements for professional standards, technician training and customer satisfaction.

Currently, the Residential Existing Homes HVAC Program has two measures with incentives: (1) AC Rebate with Quality Installation and (2) Duct Test and Repair. In June 2006, APS implemented the AC Rebate measure, which builds on the existing APS Qualified Contractor program and offers financial incentives to encourage upgrades to high-efficiency equipment.

On August 1, 2007, APS began offering the Quality Installation measure to optimize the installation of high efficiency equipment that meets the AC Rebate measure requirements. This measure has high standards on air conditioning sizing, airflow and refrigerant charge to ensure that when the equipment is installed it will operate at a high level of efficiency.

On December 31, 2007, APS began the Duct Test and Repair measure which offers financial incentives to customers that test and, if necessary, repair the duct work in their home.

On April 7, 2009, the ACC approved the combination of the AC Rebate and Quality Installation measures along with revised incentive levels. See the January through June 2009 Semi-Annual report for a detailed explanation.

On October 7, 2009, the ACC approved APS' request to modify the contractor requirements to offer the AC Rebate and Quality Installation measures. This change is described in the Program Modifications section.

The changes made to the program in 2009 have increased the volume of program participation and also improved the program's Total Resource Cost ("TRC") test results. For this reporting period the program's TRC was 1.59. This is a significant improvement from the TRC results from the 2008 MER report.

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Program Modifications

The ACC approved revisions to the program on April 7, 2009 that included allowing only APS Qualified Contractors to offer the new combined equipment and quality installation rebate. One of the requirements for becoming an APS Qualified Contractor was membership in both the Electric League of Arizona and its Heat Pump Council ("ELA"). Many contractors have expressed their concern about this requirement since the change was implemented. In response to contractors' concerns and also a letter from Commissioner Pierce, APS reached a compromise with the contractors on this issue and submitted it to the ACC for consideration and approval on June 12, 2009. APS requested approval to allow contractors to offer the AC Rebates without joining the ELA if they are licensed, bonded, insured, and completed the same training required of the APS Qualified Contractors. The ACC approved this request in Decision No. 71283 on Oct. 7, 2009.

Program Goals, Objectives and Savings Targets

The HVAC Program uses a combination of financial incentives, contractor training and consumer education to promote high efficiency HVAC systems, the proper installation of this equipment and the testing and repair of the duct work in existing residential homes within the APS service territory.

APS's DSM Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the HVAC Program could reduce peak demand by approximately 17.1 MW and 814,000 MWh over the life of the measures, which are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

During this Reporting Period:

- A total of 6,222 rebates were paid through the HVAC program. That is 36% more than the same period in 2008. 10,122 rebates were paid in 2009 compared to 7,229 in 2008, a 40% overall increase. Specifically, APS has paid:
 1. Old AC Rebate Incentive Levels (Pre April 7, 2009 levels)
 - a. 277 of the \$250 AC rebates for 14 or 15 SEER/11.5 EER equipment
 - b. 91 of the \$400 AC rebates for 16 SEER/12.25 EER and above equipment
 - c. 60 Quality Installation rebates
 2. New AC Rebate Incentive Levels (Post April 7, 2009 levels)
 - d. 808 of the \$175 AC rebates for 13 SEER/10.8 EER equipment with QI, \$50 for contractor
 - e. 3,373 of the \$425 AC rebates for 14 - 16 SEER/10.8 EER equipment with QI, \$50 for contractor
 - f. 711 of the \$525 AC rebates for 17+ SEER/10.8 EER equipment with QI, \$50 for contractor
 3. 902 Duct Test and Repair rebates; made up of 673 repair rebates and 229 tests without repairs. Only the repair rebates are used for calculating the demand and energy savings shown in the savings table.

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- There are currently 159 contractors that can offer the APS AC Rebate. 146 are APS Qualified Contractors and there are 13 Rebate Eligible contractors that can offer the rebate that entered the program through the new application process approved by the ACC in October 2009 which does not require membership in the Arizona Heat Pump Council. There are now 28 contractors outside the metro Phoenix area compared to 12 at the end of 2008. There are APS Qualified Contractors currently serving Arizona City, Aquila, Big River, Bouse, Casa Grande, Chino Valley, Clarkdale, Coolidge, Cornville, Cottonwood, Eloy, Flagstaff, Florence, Globe, Jerome, Kingman, Lake Havasu, Lake Montezuma, Parker, Payson, Prescott, Prescott Valley, Quartzite, Sedona, Waddell, Wickenburg, Whitman and Yuma.
- Including both metro and non-metro training classes, 714 students participated in APS sponsored training courses in order to meet APS Qualified Contractor program training requirements. This represents 38% more students trained during this Reporting Period than the same period in 2008.
- The APS Energy Answer Line provided over 974 referrals to customers seeking HVAC service, repair or replacement of their home HVAC system in this Reporting Period. That is 626 referrals less than the same period in 2008. The total amount of referrals for 2009 was 6,134.
- There are currently 44 contractors with Building Performance Institute certificates that are receiving Duct Test and Repair referrals. 536 referrals were provided to customers during this Reporting Period. There are eight contractors outside of the Phoenix, which serve Flagstaff, Globe, Show Low, Yavapai County and Yuma.
- Currently, we have 20 Home Performance with ENERGY STAR® contractors, and 411 customer referrals were given from July to December 2009.
- There were 14,934 visits to the Residential HVAC section of aps.com. The APS Qualified Contractor list, which is posted on aps.com, had 7,306 visits from July – Dec. 2009. The Duct Test and Repair section of aps.com had 5,307 hits for the same time frame.
- There were 55,801 unique user visits to the APS Energy Survey home energy audit at aps.com.

Evaluation and Monitoring Activities and Results

During this Reporting Period the Residential Existing Homes Program MER research data collection and analysis activities conducted by Navigant Consulting (formerly Summit Blue Consulting) included:

- Completed end-use metering data collection for sample of high-efficiency equipment rebate participants. Results of the study will be used to calibrate savings models and update savings for residential HVAC measures for the 2009 MER analysis to be completed during the second quarter of 2010.
- Planned similar end-use metering data collection study with a focus on Quality Installation and Duct Test and Repair measures to be completed in 2010.
- Completed Residential HVAC measure cost update. Results will be included in the 2009 MER analysis.

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- Completed run-time hour study of HVAC units for a sample of homes built by Pulte Homes to assess over-sizing of HVAC units. A draft report has been submitted Pulte and APS for review.
- Currently conducting pre- and post-retrofit monitoring of residential HVAC system energy use as part of the AZ DOE home performance study.
- Designed and in the process of conducting customer and trade ally research to determine net-to-gross effects and process efficiency of the HVAC Program.

MER Adjusted Gross kW and kWh Savings¹

Incentive Type	Number of Units	Annual kWh Savings per Unit	TOTAL Annual MWh Savings	Est. Measure Life	Total Lifetime MWh	Coin. kW Demand Savings Per Unit	Total MW Savings
14 SEER/11.5 EER, \$250	277	510	141	15	2,119	0.378	0.1
16 SEER/12.25 EER, \$400	91	1,052	96	15	1,436	0.308	0.0
Quality Installation, \$100	60	735	44	15	662	0.712	0.0
13 SEER/10.8 EER w/ QI, \$175	808	707	571	15	8,569	0.525	0.4
14 SEER/10.8 EER w/ QI, \$425	1,654	1,149	1,900	15	28,507	0.841	1.4
15 SEER/10.8 EER w/ QI, \$425	828	1,413	1,170	15	17,549	1.010	0.8
16 SEER/10.8 EER w/ QI, \$425	891	1,559	1,389	15	20,836	0.889	0.8
17 SEER/10.8 EER w/ QI, \$525	441	1,857	819	15	12,284	1.005	0.4
18 SEER/10.8 EER w/ QI, \$525	231	2,156	498	15	7,471	1.119	0.3
19+ SEER/10.8 EER w/ QI, \$525	39	2,455	96	15	1,436	1.233	0.0
Duct Test and Repair ²	673	1,228	826	10	8,264	1.716	1.2
TOTAL	5,993		7,551		109,133		5.5

1. Includes adjustments to savings as described in the Residential Existing HVAC Program Impact and Evaluation MER Report.
2. Duct Test and Repair total number of units only shows the number of rebates paid for repair work. The rebates paid for just the Duct test are not included.

The final savings are adjusted for line losses (Energy 7.8%, Demand 11.7%).

In addition to the savings shown above, the HVAC Program includes a number of market transformation efforts, such as contractor training and customer education activities designed to transform the market for energy efficiency. These elements of the program produce additional energy savings and benefits that are not quantified.

Benefits and Net Benefits/Performance Incentive Calculation

The MER Adjusted net benefits are provided in Tables 7, 8, and 9, as are the details for the MER Adjusted Performance Incentive Calculation.

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Problems Encountered and Proposed Solutions

The ACC approved revisions to the program on April 7, 2009 that included allowing only APS Qualified Contractors to offer the new combined equipment and quality installation rebate. One of the requirements to be an APS Qualified Contractor is membership in both the ELA and its Heat Pump Council. Many contractors have expressed their concern about this requirement since the change was implemented. In response to contractors' concerns and a letter from Commissioner Pierce, APS reached a compromise with the contractors on this issue and submitted it to the ACC for consideration and approval on June 12, 2009. APS requested approval to allow contractors to offer the AC Rebates without joining the ELA if they are licensed, bonded, insured, and completed the same training required of the APS Qualified Contractors. The ACC approved this request in Decision No. 71283 on Oct. 7, 2009.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Res. Existing HVAC	\$2,464,936	\$62,918	\$93,654	\$457,315	\$26,639	\$65,310	\$3,170,773

During the Reporting Period, APS exercised the budget flexibility that was granted in Decision No. 68488 by shifting 19.1% of the Consumer Products Program and 25% of the Residential New Home Construction Program budgets into the Residential Existing Homes HVAC Program. The 15% budget cap expansion was also utilized for the Residential Existing Homes HVAC program. The shift and expansion was necessary to accommodate the 40% increase in rebate volume compared to 2008 and also reflects the increase in the individual rebate amounts in the April 7, 2009 change to the program. As mentioned above the program has seen increased volume and improved TRC results due to the ACC approved changes.

Findings from all Research Projects

NA

Other Significant Information

Home Performance with EnergyStar® was launched on October 4, 2008. It utilizes home energy efficiency contractors to provide customers a detailed audit of ways they can improve their homes' energy efficiency. It serves as a delivery mechanism for the Residential HVAC Duct Test and Repair and other AC rebates, plus it also supports the usage of CFLs and other energy efficiency measures. It is being marketed to customers and also being used to give customers with high bill complaints an option to lower their bills. The following is an example of how the process works when a customer calls in with a high bill complaint. The customer receives referrals to several contractors that can come to their house and do a full home energy audit that is based on EPA Home Performance with ENERGY STAR® specifications. The audit provides the customer with a comprehensive list of potential improvements to make their home more energy efficient. The customer has the option of which improvements, if any, that they want to make to their home. A key part of the EPA's Home Performance with ENERGY STAR® audit is duct testing and repair

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work. The contractor will provide a recommendation on how the home can be repaired to reduce its energy usage and how the customer's cost can be mitigated with the existing APS HVAC rebates. Home Performance with ENERGY STAR® can also serve as a good platform to expand into a comprehensive home retrofit program that was included in the July 15, 2009 APS 2010 Implementation Plan filing.

Residential Existing Home HVAC program marketing and consumer/contractor education efforts for this Reporting Period include:

- TV ads promoting the program ran on Cox Cable, Fox AZ, Fox Sports, KASW, KAZT, KNXV, KPNX, KSAZ, KTVK, KUTP, KTAZ-TV (Telemundo Spanish), Univision (Spanish).
- Filmed a video describing the Duct Test and Repair process and rebate that was posted on aps.com in April 2009. It was viewed 2,988 times from July to Dec. 2009, 3,627 times in 2009.
- Radio ads to promote the program ran on KTAR-FM in Phoenix.
- Articles in: APS Lifestyles Bill Insert for July - August (AC Rebates); August - September (AC Rebates); November - December (Winter Heating Check-up, Duct Test and Repair).
- Presentations on the APS Residential DSM programs to numerous community groups.
- The aps.com homepage prominently features APS energy efficiency and renewable energy programs. These programs are grouped in one section of the homepage entitled "Green Choice," which is coordinated with the current advertising campaign and makes these programs easier to find for customers.

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PROGRAM: RESIDENTIAL NEW HOME CONSTRUCTION

Description

This program promotes high efficiency construction practices for new homes. It offers incentives to builders who meet the program's energy efficiency standards. The program emphasizes the whole building approach to improving energy efficiency and includes field testing of homes to ensure performance. Participating builders are trained to apply building science principles to assure that high-efficiency homes also have superior comfort and performance. The program also provides education for prospective homebuyers about the benefits of choosing an energy-efficient home and the features to consider.

The program takes advantage of the national ENERGY STAR® brand name, and promotes the EPA/DOE ENERGY STAR® label to prospective homebuyers. To encourage builders to meet the program's high efficiency standards, APS provides builder incentives of \$400 per home.

Program Modifications

On June 29, 2009, APS filed with the ACC for approval of a "second-tier" ENERGY STAR® Plus measure that proposes offering a higher incentive of \$1000 per home for builders who meet a higher energy efficiency standard than the current measure. The new measure would be equivalent to a savings of at least 30% compared to typical new construction – approximately double the 15% savings of the current ENERGY STAR® homes program measure. This program enhancement will represent a significant step on the road to Net-Zero Energy Homes, as ordered by the ACC in the December 2008 Decision No. 70666. At the time of this Progress Report, this proposed program modification was awaiting approval by the ACC.

On April 8, 2009, APS kicked-off a new program promotion to homebuilders (APS ENERGY STAR® and Solar Homes) that combines demand side management and renewable energy incentives that will encourage builders to offer both energy efficiency and solar features in their new home communities. The program requires builders to meet the standards of the APS ENERGY STAR® Homes program as a pre-requisite for being able to access special homebuilder incentives for solar communities. This is to ensure that homes incorporate efficiency first to enable solar to be as cost effective as possible. To participate, builders commit that all of the homes in a community will be APS ENERGY STAR® homes, and that all will be "solar ready" (pre-wired and plumbed to accommodate future solar PV panels and/or water heaters). In addition, they must commit to installing PV and/or solar hot water systems included in at least 50% of the homes in a participating subdivision. At the end of this Reporting Period, there are three homebuilders – Joseph Carl Homes, Monarch Communities, and Shea Homes that are participating in the combined APS ENERGY STAR® and Solar program.

Program Goals, Objectives and Savings Targets

The program objective is to increase the penetration of homes built to high efficiency standards. The rationale for this program is that residential new construction in the APS service territory, particularly the Phoenix metro area, has historically been one of the biggest drivers of APS's system load growth. It is more cost-effective to work with builders to implement energy efficiency at the time of construction rather than attempt to retrofit efficiency after a home has been built. For many new home measures, such as building envelope improvements, the benefits of energy

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efficiency upgrades will be sustained for the life of the home to produce very cost-effective savings.

APS's analysis of this program, as filed on December 28, 2007 in the APS DSM Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Residential New Construction Program could reduce peak demand by about 9.7 MW and 457,632 MWh over the life of the measures which are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

During this Reporting Period, APS signed up 1,061 homes that are committed to being built to program standards. At the end of this Reporting Period, there were 37 homebuilders and 137 subdivisions with 17,444 future lots signed up to participate in the program. The program currently includes ENERGY STAR® communities throughout the APS service territory including the Phoenix metro area, Yuma, Casa Grande, Florence, Prescott, Verde Valley, and Flagstaff.

APS paid homebuilder incentives for 730 APS ENERGY STAR® homes that were completed and connected to the APS system during this Reporting Period. Since the start of this program in 2006, APS has paid incentives on 6504 ENERGY STAR® homes.

APS held several days of detailed training with participating APS ENERGY STAR® homebuilders. The training, called "Success with ENERGY STAR®", teaches builders and their subcontractors about techniques for improving construction details that impact efficiency and that allow the home to pass ENERGY STAR® inspections. The training includes customized construction detail photos and process checklists to ensure implementation accuracy at the job site. During this Reporting Period, APS held Success with ENERGY STAR® training sessions with Richmond American (July), Shea Homes Active Adult and Shea Homes Family (July), Meritage (August), K. Hovnanian (September), and Monarch Communities (December). In addition, APS provided sales training and/or technical training assistance to numerous Arizona builders including Robson Communities, Meritage Homes, Pulte Homes, Shea Homes, and many others.

Evaluation and Monitoring Activities and Results

During this Reporting Period the Residential New Construction Homes program MER research data collection and analysis activities included:

- Revised and updated residential new home building energy simulation models to reflect population of homes participating in the program.
- Currently in process of conducting field research, measurement and verification of performance of non-participating builder homes.
- Designed and in the process of conducting customer and builder research to determine net-to-gross effects and process efficiency of the program.

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MER Adjusted Gross kW and kWh Savings*

Measure	Number of Homes Completed	Annual kWh Savings per Home	TOTAL Annual MWh Savings	Est Measure Life (yrs)	TOTAL Lifetime MWh	kW Demand Savings Per Home	TOTAL MW Savings
APS Energy Star Homes	730	2,505	1,971	20	39,426	1.5	1.4

* Includes adjustments to savings as described in the Residential New Construction Program Impact and Evaluation MER Report.

In addition, program consumer education and homebuilder training efforts produce significant additional energy savings and benefits that are not quantified here.

Benefits and Net Benefits/Performance Incentive Calculation

The MER Adjusted net benefits are provided in Tables 7, 8, and 9, along with the details for the MER Adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

This program has been successful to date, despite the residential new construction market decline over the past couple of years. APS first indicated the market downturn in our January - June 2006 Semi-Annual DSM Report, and this concern continues at a heightened level given the current economy. While the overall market has been down, the APS program has seen increasing market share, especially as the trend for energy efficient and "green" homes has grown. However, during this Reporting Period, there continued to be a lack of new home construction activity and lower than anticipated rebates being issued for this program. There are some indications that the market is beginning to rebound, although recent housing market forecasts indicate that 2010 will be similar to 2009 in terms of home starts.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

	Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Program Total Cost
Res New Home Construction	\$292,000	\$102,557	\$21,114	\$113,411	\$150,254	\$52,107	\$731,443

During the reporting period, APS exercised the budget flexibility that was granted in Decision No. 68488 by shifting 25% of the Residential New Home Construction Program budget into the Residential Existing Homes HVAC Program.

Findings from all Research Projects

No findings to report at this time.

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Other Significant Information

In recognition of the ongoing success of the APS ENERGY STAR® Homes Program, APS was selected by the US Environmental Protection Agency (“EPA”) and the US Department of Energy (“DOE”) as a 2010 ENERGY STAR® Sustained Excellence Award winner. This is the highest award that can be earned by an ENERGY STAR partner, bestowed on partners who show sustained excellence in their commitment to energy efficiency and whose organization is a national model of best practices in advancing energy efficiency. APS has now earned ENERGY STAR awards for four years running: Partner of the Year in 2007 for the APS Consumer Products program (ENERGY STAR® CFL lighting), Partner of the Year in 2008 and 2009 for the APS ENERGY STAR® Homes program, and the Sustained Excellence Award in 2010.

Program marketing efforts during this Reporting Period include the following:

- Completed a new 5-minute video segment targeting potential homebuyers. The video is available on aps.com www.aps.com/main/green/choice/choice_8.html?source=hme and also made available for builders to use in their model homes or sales centers. The video is designed to help homebuyers understand the features and benefits of purchasing an energy efficient home that meets the standards of the ENERGY STAR® program.
- Completed the APS ENERGY STAR® + Solar consumer brochure to help explain the various technologies and features of energy efficient and solar home measures.
- Ran billboard campaign in fall/winter 2009 promoting APS ENERGY STAR® Homes. The billboard message was “More Home, Less Energy Bill”. The billboards ran in targeted locations near APS ENERGY STAR® Homes communities in the metro Phoenix area.
- The APS ENERGY STAR® homes program was a sponsor and exhibitor at the Southwest Builder Show, a trade show event targeted to Arizona’s homebuilding industry held in October 2009. Program representatives and trade allies (home energy raters) met with builders to discuss the benefits of participation in the ENERGY STAR® homes program.
- Distributed model home sales signage that participating builders can customize with their logo to promote the benefits of ENERGY STAR® homes. The series of signs can be ordered by participating builders and customized directly online at aps.com.
- Monthly 2-page placement in New Homes Today (magazine targeted to prospective homebuyers).
- Cover page and 4-page article insert in the August and November/December issues of New Homes Today magazine to promote the features and benefits of APS ENERGY STAR® + Solar Homes.
- ENERGY STAR® feature webpages on Newhomeswebzine.com – website targeted to prospective Arizona homebuyers.
- Homestore.com/Move.com – (website for Realtors and homebuyers).
- Distributed APS ENERGY STAR® Home program book for builder sales agents to use in selling the features of ENERGY STAR® Homes to prospective homebuyers. The books are being distributed through model home sales offices of participating APS ENERGY STAR® builders.
- Energy Cost Brochures – customized point of sale brochures that describe APS ENERGY STAR® Homes features and outline the approximate annual and monthly energy costs per model.

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- Homebuyer brochure that is targeted to new buyers which discusses the features and benefits of an ENERGY STAR® home. The brochures are being distributed at community events and at participating builders' model home sales offices.
- Information on aps.com. Website homepage has been updated to highlight APS energy efficiency and renewable energy programs. APS ENERGY STAR® Homes program is now featured prominently on aps.com.
- Construction Corner at aps.com – webpages targeted to Arizona homebuilders.
- Article placement in the APS Lifestyles residential newsletter in March/April and April/May newsletters.
- Press release on APS ENERGY STAR® Homes + Solar program promotion issued July 30, 2009.
- Radio ads aired as part of the "Better Tomorrow Starts Today" ad campaign. Focuses on the energy savings and environmental benefits of APS ENERGY STAR® Homes.
- APS ENERGY STAR® Homes TV commercial ran during sports and news segments, and as part of ongoing placement contract with Cox Cable.
- 2010 Homebuilder's Association member directory, back cover ad placement to promote the program to builders.

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PROGRAM: CONSUMER PRODUCTS PROGRAM

Description

This program promotes high-efficiency EPA/DOE ENERGY STAR® compact fluorescent lamps ("CFLs"). CFLs use an average of 75% less energy than standard incandescent bulbs and last up to ten times longer, typically saving consumers more than \$30 in energy costs over the life of each bulb. The program offers discounts on CFLs at local retail locations through cooperative agreements with retailers and lighting manufacturers. This provides consumers with reduced retail prices for CFLs at local lighting retailers, with prices typically at or below \$0.99 per bulb for standard 60 watt equivalent CFLs.

Program Modifications

On July 15, 2009, APS filed a plan with the ACC to expand the Consumer Products program to include pool pumps and seasonal pool timers as measures in the program.

Program Goals, Objectives and Savings Targets

The program's goals are to promote the purchase of high-efficiency CFLs and increase the awareness and knowledge of retailers and consumers on the benefits of ENERGY STAR® rated lighting products.

APS's analysis of this program, as filed on December 28, 2007 in the APS DSM Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Consumer Products Program could reduce peak demand by about 43.7 MW and 2,016,000 MWh over the life of the measures which are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

During this Reporting Period, the program resulted in sales of 1,311,358 CFLs through participating retail locations. In addition, APS distributed 15,616 CFLs during community events and consumer education seminars, for a combined total of 1,326,974. There were also approximately 325 retail outlets participating throughout the APS service territory where APS customers could purchase discounted CFLs. Participating retailers during this Reporting Period included: 99 Cents, Ace Hardware, AJs Fine Foods, Albertson's, Basha's, Costco, CVS, Dollar Tree, Family Dollar, Food City, Fry's Electronics, Go Green World, Grocery Outlet, Home Depot, Hunt's Lumber Company, Lightbulb Store, Lowe's, Sam's Club, TechniArt (online retailer), True Value, and Wal-mart.

Evaluation and Monitoring Activities and Results

During this Reporting Period the Consumer Products program MER research data collection and analysis activities included:

- Continued to review and update CFL Measure Analysis Spreadsheets.
- Completed residential lighting run-time hour study. Results of the study will be used to verify residential operating hours and demand coincidence factor. Results will be included in the 2009 MER analysis, and include operating data by space type (e.g., bedroom, living

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room), home type (e.g., single-family, mobile home), and day type (e.g., week day, weekend).

- Completed CFL measure cost update. Results will be included in the 2009 MER analysis.
- In the process of conducting customer research to determine net-to-gross effects and process efficiency of the program.

MER Adjusted Gross kW and kWh Savings*

Total No. of Units Sold	Units currently in service in APS territory	Wattage	Watts Saved	Hours Per Year	Est. Measure Life (yrs)	Annual MWh Savings	Lifetime MWh Savings	kW Demand Savings	
500	422	7	33	1000	6	15.34	92	2	
40,169	33,896	9	31	1000	6	1157.96	6948	137	
20,399	17,213	10	30	1000	6	569.08	3414	67	
3720	3139	10	35	1000	6	121.07	726	14	
10,108	8530	11	29	1000	6	272.59	1636	32	
1980	1671	11	34	1000	6	62.60	376	7	
77	65	11	39	1000	6	2.79	17	0	
410,865	346,704	13	47	1000	6	17,957.20	107,743	2123	
450,962	380,540	14	46	1000	6	19,290.32	115,742	2281	
33,094	27,926	14	51	1000	6	1569.50	9417	186	
72,164	60,895	15	45	1000	6	3019.78	18,119	357	
79,366	66,972	15	50	1000	6	3690.17	22,141	436	
4022	3394	15	60	1000	6	224.41	1346	27	
15,040	12,691	16	49	1000	6	685.31	4112	81	
3979	3358	18	57	1000	6	210.91	1265	25	
15,781	13,317	19	56	1000	6	821.80	4931	97	
22,710	19,164	20	55	1000	6	1161.51	6969	137	
657	554	20	65	1000	6	39.71	238	5	
1195	1008	23	67	1000	6	74.45	447	9	
73,683	62,177	23	77	1000	6	5275.94	31,656	624	
13,380	11,291	23	97	1000	6	1206.90	7241	143	
1191	1005	26	64	1000	6	70.88	425	8	
272	230	26	69	1000	6	17.45	105	2	
46,283	39,055	26	74	1000	6	3184.89	19,109	377	
3366	2840	27	73	1000	6	228.50	1371	27	
679	573	29	121	1000	6	76.40	458	9	
38	32	40	110	1000	6	3.89	23	0	
1294	1092	42	108	1000	6	129.96	780	15	
1,326,974	1,119,754					SUBTOTAL	61,141	366,848	7229
						Line Loss Factors	7.8%		11.7%
						Reserve Capacity Factor			15%
						TOTAL	65,910	395,462	9160

* Includes adjustments to savings as described in the Consumer Products Program Impact and Evaluation MER Report.

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Benefits and Net Benefits/Performance Incentive Calculation

The MER Adjusted net benefits are provided in Tables 7, 8 and 9, along with the details for the MER Adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

No problems were encountered during this Reporting Period.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Consumer Products	\$1,083,685	\$228	\$1,948	\$470,602	\$182,500	\$83,089	\$1,822,051

During the reporting period, APS exercised the budget flexibility that was granted in Decision No. 68488 by shifting 19.1% of the Consumer Products Program budget into the Residential Existing Homes HVAC Program.

Findings from all Research Projects

No findings to report at this time.

Other Significant Information

APS continued a CFL recycling program in partnership with participating retailers and Veolia Environmental Services, which operates a recycling facility in Phoenix. Customers can bring their burned out CFLs to participating retail locations (including select Ace, True Value and Home Depot stores) throughout the APS service territory for free recycling. Retailers collect the CFLs and then send them to Veolia, where more than 99% of all materials, including the trace amounts of mercury in CFLs, are reused.

The program conducted 1,521 retailer visits and 318 retailer trainings during the Reporting Period to educate retail sales staff, assess inventories of merchandise, check point of purchase displays, address availability of qualified product, and communicate with retail sales staff.

In addition to the bulb sales at retail locations, APS purchased a supply of CFLs to use for the low income program and for customer education and awareness building purposes. APS uses these bulbs for direct installation through the APS Low Income Weatherization program (2 bulbs provided for each home that is weatherized) and to hand out at local community events and other opportunities to educate the public about CFLs.

APS conducted extensive community education and customer outreach efforts to promote the CFL program and educate customers. Consumer education events during this Reporting Period included:

- 7/3 – Wal Mart 4325, Yuma
- 7/3 – Wal Mart 1474 Yuma
- 7/3 – Wal Mart 5342 Yuma

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- 7/11 – Home Depot 401, Phoenix
- 7/15 – Lowes 2272, Casa Grande
- 7/16 – JDA Software Green Expo, Scottsdale
- 7/17 – Wal Mart 1218, Casa Grande
- 7/18 – Latino Institute Back to School Fair, Phoenix
- 7/18 – American Solar: Sunny Community, Prescott
- 7/23-7/29 – Diamondbacks Green Homestand, Phoenix
- 7/25 – True Value 8054, Prescott
- 7/29 – Home Depot 408, Casa Grande
- 8/1 – Home Depot 446, Prescott
- 8/5 – American Solar Sunny Community Vistancia, Peoria
- 8/7 – Sam's Club 6205, Yuma
- 8/14 – Lowes 792, Scottsdale
- 8/15 – Ace Hardware 10266, Casa Grande
- 8/22 – Ace Hardware 6947, Chino Valley
- 8/22 – Ace Hardware 14600, Surprise
- 8/26 – Home Depot 408, Casa Grande
- 9/2 – Home Depot 475, Glendale
- 9/2 – Albertson's 968, Casa Grande
- 9/4 – Lowe's 2272, Casa Grande
- 9/8 – True Value, Prescott
- 9/12 – Hunt's Lumber Center (Do It Best), Flagstaff
- 9/17 – Helping Hands Housing Services, Phoenix
- 9/18 – Sam's Club 6205, Yuma
- 9/19 – Home Depot, Yuma
- 9/21 – APS Sustainability Fair, Phoenix
- 9/25 – APS Sustainability Fair, Deer Valley
- 9/26 – Creative Energy Fair, Prescott
- 9/26 – Yuma PLAY event, Yuma
- 9/26 – Ace 11875, Phoenix
- 10/1 – Fire District of Sun City West Safety Day, Sun City West
- 10/1 – Winslow Solar Tour, Winslow
- 10/3 – Ace 11594, Carefree
- 10/4 – Tour de Scottsdale, Scottsdale
- 10/11 – Tempe Tardeada, Tempe
- 10/13 – American Solar Sunny Communities, Sun City
- 10/14 – True Value 3884, Sun City West
- 10/17 – ASU "Green" Football Game, Tempe
- 10/24 – Northern Arizona Sustainable Living Fair, Flagstaff
- 10/25 – Festival Telemundo, Maryvale
- 11/4 – Albertson's 968, Casa Grande
- 11/6 – Home Depot 420, Scottsdale
- 11/7 – Ace Hardware 10266, Casa Grande
- 11/9-11/13 – Greenbuild Conference, Phoenix
- 11/10 – Green Streets, Tempe
- 11/11 – Phoenix Suns "Green" game, Phoenix

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- 11/12 – Green Streets, Scottsdale
- 11/13 – Green Streets, Phoenix
- 11/16 – Harmon Solar, Phoenix
- 11/18 – American Solar, North Phoenix
- 11/18 – National City Bank Employees Fair, Phoenix
- 11/18 – Ace Hardware 7473, Youngtown
- 11/21 – Ace Hardware 11564, Coolidge
- 11/21 – Sedona Energy Efficiency Workshop, Sedona
- 11/22 – Discover India, Phoenix
- 11/30 – Home Depot 446, Prescott Valley
- 12/2 – Albertson's 968, Casa Grande
- 12/4 – Lowes, Buckeye
- 12/8 – American Solar, Peoria
- 12/9 – Home Depot 441, Avondale
- 12/11 – Comerica Bank Grand Opening, Goodyear
- 12/11 – Home Depot 420, Scottsdale
- 12/12 – Boat Parade, Tempe
- 12/14 – American Solar, Carefree/Cave Creek
- 12/17 – Home Depot 408, Casa Grande

Advertising and article placements for the CFL program included the following:

- Ran "Green Choice" campaign TV spots featuring CFL program messages on Cox Cable, local sports broadcasts (Diamondbacks, Suns) and KNXV TV.
- Created a new tool on aps.com called the "CFL Calculator" www.aps.com/main/various/CFL/calculator.html?source=hme. The tool provides customers with a way to enter all of the light fixtures in their home and see the savings in dollars and greenhouse gas emissions they could achieve by switching to CFLs. The calculator provides recommendations for which type of CFL should be used to replace each bulb in a home and then the tool will print out a custom shopping list for customers to use to purchase exactly the bulbs they need at the store.
- CFL radio spot was aired on local sports broadcasts and local news talk radio.
- Information on the homepage of aps.com including a listing of all participating retail locations and a retail locator function that shows that closest stores for any customer throughout the service area based on entering a zip code.
- Public relations and earned media including TV, radio and print articles. APS issued a press release on December 2, 2009 to announce the CFL Calculator tool on aps.com and a similar calculator that shows the savings from switching to LED holiday lights.
- Articles in the Lifestyles residential newsletter in October/November and November/December issues.
- Point of sale signage at all participating retail locations.

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PROGRAM: REFRIGERATOR RECYCLING PROGRAM

Description

The program is designed to educate APS customers that their old, operating, extra refrigerator or freezer uses a great deal of energy and that by turning in their extra refrigerator or freezer, they can save up to \$100 per year. Many refrigerators and freezers being replaced are still functioning and often end up as back-up appliances in basements and garages, or are sold in the used appliance market. This program provides customers a way to remove their old, inefficient appliances from the grid.

APS customers with an old operating extra refrigerator can receive a \$30 rebate with free pick up service that can be scheduled either online at www.aps.com/turnitin or by calling toll free 877-514-6654. APS is partnering with JACO Environmental, Inc. to provide the free pick up service.

As a result of establishing this program, a recycling facility will be located in Phoenix where up to 95% of appliance elements are recycled and used to manufacture other products. Additionally, up to 17 new "green" jobs will be created to staff and operate the new recycling facility. During the recycling process, JACO Environmental safely disposes of all refrigerators and freezers preventing the release of hazardous chemicals into the environment.

Eligibility Requirements:

- Must be a current APS customer and unit must be owned by customer
- Refrigerator/freezer must be operable (maintain a cold temperature)
- Refrigerator/freezer must be plugged in (cold inside) and empty
- Refrigerator/freezer must be a standard size (between 10 – 30 cubic feet as measured on the inside)
- There must be a clear pathway to pick up and remove appliance
- There is a maximum of two units per household per year
- Someone 18 years or older must be present to sign and release unit

Other Significant Information

- This program was approved in Decision No. 71444 by the ACC during the December 2009 Open Meeting. Primary focus has been on program implementation and start up.
- Upon receiving approval, Requests for Proposals were issued to the only two appliance recycling providers in the U.S.: JACO Environmental and ARCA Incorporated. Bid proposals were accepted from both companies and carefully reviewed. JACO Environmental was selected to become APS's implementing contractor for the program. Efforts toward program launch began right away.
- As a result of signing a three-year contract to recycle 30,000 appliances, JACO Environmental is establishing a recycling facility in Phoenix that will be dedicated to recycling all of the refrigerators/freezers throughout Arizona.

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PROGRAM: ENERGY WISE LOW INCOME WEATHERIZATION

Description

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 low 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 the following community action agencies located throughout APS' service territory:

- Arizona Community Action Association
2700 N. 3rd Street
Phoenix, AZ 85004
- Community Action Human Resources Agency
311 N. Main Street
Eloy, AZ 85231
- Coconino County Community Services Dept
2625 N. King Street
Flagstaff, AZ 86004
- Gila County Community Action Agency
PO Box 1254
Globe, AZ 85502
- City of Phoenix Neighborhood Services
200 W. Washington, 4th Floor
Phoenix, AZ 85004
- Maricopa County Human Services Department - Community Services
234 N. Central Ave, 3rd Floor
Phoenix, AZ 85004
- Southeastern Az Community Action Program
283 5th Street
Safford, AZ 85546
- Northern Arizona Council of Government
119 E. Aspen Ave.
Flagstaff, AZ 86001

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- Western Arizona Council of Government
224 S. Third Ave.
Yuma, AZ 85364-2224
- Inter Tribal Council of Arizona
2214 North Central Avenue, Suite 100
Phoenix, AZ 85004
- Navajo Nation
PO Box 3150
Window Rock, AZ 86515-3150

Program Modifications

In Decision No. 71444 (December 23, 2009), the ACC approved the following changes to the Low Income Weatherization program:

- APS will now make weatherization services available to customers between 150% and 200% of Federal poverty level.
- APS will allow conversions from evaporative cooling to air conditioning as part of program only for health and safety reasons, and when it results in saving energy.
- Non-profit 501c3 multi-family housing projects will be eligible for weatherization.
- APS will allow replacement of working refrigerators with new ones only when the energy savings over the life of the new refrigerator exceeds the cost.
- Weatherization kits will be offered to households who are waiting for weatherization of their homes. Content of the Kit will be determined in conjunction with local community action agencies.
- APS will increase the marketing and consumer education budget for weatherization by \$10,000.

Program Goals, Objectives, and Savings Targets

- To improve the energy efficiency of homes for customers whose income falls within the defined poverty guidelines.
- To provide customers information on energy management and conservation.
- To provide assistance in paying the electric bill for qualified customers in crisis situations.
- Decision No. 68647 acknowledged the estimates that the Weatherization component of the Energy Wise Program could serve 382 homes per year (based on APS's annual budget of \$705,000) and result in reduced energy consumption of 763 MWh per year and a demand reduction of 115 kW per year.

APS's analysis of this program, as filed on December 28, 2007 in the APS DSM Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Low Income Program could reduce peak demand by about 0.9 MW and 39,000 MWh over the life of the measures, which are expected to be installed between the years 2008 – 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

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Levels of Participation

A total of 793 households received assistance during the Reporting Period. A single household may have received more than one type of assistance.

Type of Assistance	Number of Households
Bill Assistance	678
Health and Safety	0
Repair and Replace	2
Weatherization	113
Total	793

Evaluation and Monitoring Activities and Results

Weatherization measures must pass the cost effectiveness test that is detailed in the federal government's Weatherization Assistance Program (WAP) rules. These rules allow certain prescriptive measures, which vary with the climate zone and type of housing construction. Measures not on the prescriptive list must be assessed by a computer analysis to determine the economic feasibility.

The Arizona Department of Commerce Energy Office ("AEO"), with information from APS, is analyzing the electric energy used in weatherized homes before and after the weatherization measures are implemented. It takes a year of data before the weatherization and another year of data after the weatherization to get an accurate gauge of the impact of the measures. As the data base grows over time, a more accurate picture of the impact of the weatherization activities will emerge.

Information from the AEO report for fiscal year 2009 is provided below:

Utility Bill Analysis

An analysis of 185 homes has been completed from July 2007 through December 2009, utilizing APS, Tucson Electric Power, Unisource Gas and Electric and Southwest Gas utility data. This analysis will be ongoing, and new data will be added and reported in the future reports.

Provided are Savings to Investment Ratios ("SIR") for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measures only (diagnostics and energy measures).

Assumptions

Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

Results Summary

The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.16. Health and saving represented 15% of expenditures.

The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.37.

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The average saving per home reviewed was 2,650 kWh and 30 therms of natural gas (gas therms average includes all electric homes).

Gross kW and kWh Savings

Of the 793 households participating in the program, a total of 113 homes received weatherization services that contributed to the energy savings.

No. of Homes	Annual kW Savings	Annual kWh Savings	Lifetime kWh Savings
113	38.0	299,450	5,240,375

The final savings are adjusted for line losses (Energy 7.8%, Demand 11.7%).

The kW factor used to calculate the savings are based on data from the AEO study of 150 weatherized homes. The study normalized electric and gas savings into dollars with gas savings equaling about 10% of the total. The present value of the dollar savings was converted to "equivalent kWh" at 8 cents per kWh. The annual energy demand savings per home in this study are estimated to be 0.3 kW. A 17.5 years measure life and kWh savings factor of 2650kWh, based on the current AEO report, has been utilized to determine the appropriate kWh savings.

Benefits and Net Benefits/Performance Incentive Calculation

The net benefits for this program are provided in Tables 7, 8, and 9. The Performance Incentive calculation does not include the Energy Wise Program because, as indicated in Decision No. 68647, this program has a zero net benefit. Consequently, the net benefits for the Energy Wise Program for this Reporting Period as shown in Table 7 are \$0. However, the spending on the Energy Wise Low Income Weatherization Program is included in the total spending, on which the performance incentive is calculated.

Problems Encountered and Proposed Solutions

The American Recovery and Renewal Act ("ARRA") weatherization funding has caused a temporary slowdown in the weatherization program activities as the agencies ramp-up to spend the ARRA funds.

Since ARRA funds must be leveraged with existing funds, APS funds should continue to be expended.

Costs Incurred

Costs incurred for this program during the current Reporting Period are listed below:

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Activity	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Bill Assistance	\$72,389	-	-	-	-	-	\$72,389
Health & Safety	-	-	-	-	-	-	\$0
Repair and Replace	\$1,226	-	-	-	-	-	\$1,226
Weatherization	\$627,763	\$10,000	\$1,477	\$0	-	-	\$639,240
3rd Party Manager - Arizona Community Action Association	-	-	-	\$31,870	-	-	\$31,870
APS Program Support	-	\$2,100	\$500	\$9,093	\$2,991	\$63,572	\$78,256
Total	\$701,379	\$12,100	\$1,977	\$40,963	\$2,991	\$63,572	\$822,982

This Table displays all Energy Wise Program costs, including Health and Safety, and Repair and Replace. However, these categories are not included in Table 1.

Measures: Health and Safety, Repair and Replace Components

Measure	Health and Safety	Repair and Replace
Air Conditioner	0	0
Heat Pump	0	0
Evaporative Cooler	0	0
Refrigerators	0	1
Water Heaters	0	1

Findings from All Research Projects

NA

Other Significant Information

APS held a Limited Income Summit in November with a number of local social service agencies. This Limited Income Summit was designed to share information about APS's Limited Income Assistance Programs, which includes weatherization and bill assistance.

APS continues to support the City of Phoenix Low Income Weatherization Multifamily Housing Project, which includes weatherization and renewable technology in the form of solar water heaters and photovoltaic's.

Additional weatherization program marketing events included Congressman Pastors' Go Green Event, Festival Telemundo, Maricopa County Emergency Preparedness & Univision Emergency Expo, and Chicanos Por La Causa Angeles del Barrio event.

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PROGRAM: NON-RESIDENTIAL PROGRAM FOR LARGE EXISTING FACILITIES

Description

The Large Existing Facilities Program provides prescriptive incentives for owners and operators of large (over 100 kW aggregated monthly demand) non-residential facilities for energy-efficiency improvements in lighting, HVAC, motors and refrigeration applications. For energy efficiency applications not covered through the prescriptive incentives, the program provides custom efficiency incentives to implement energy-efficiency measures that are evaluated on a case-by-case basis. The program also provides incentives for covering a portion of the cost of an energy study that identifies energy saving opportunities. The program provides educational and promotional pieces designed to assist facility and business owners and operators in making decisions to improve the energy efficiency of their facilities. The Direct Install family of measures; were integrated into the programs during this Reporting Period for facilities which are individually metered with a peak demand of 100 kW and less.

Program Modifications

No program changes were made during this Reporting Period.

Program Goals, Objectives and Savings Targets

- Promote and support energy efficiency opportunities for existing large non-residential customers.
- Promote the installation of high-efficiency technologies including, but not limited to lighting, HVAC equipment, motors, and refrigeration systems.
- Increase the efficiency of existing facilities through the testing and retro-commissioning of large central HVAC systems, as well as other end-use measures.

APS's analysis of this program, as filed on December 28, 2007 in the APS DSM Program Portfolio Plan Update 2008-2010, estimated that the energy efficiency savings expected to result from the Large Existing Program could reduce annual peak demand by about 25 MW and 2,464,000 MWh over the life of the measures that are expected to be installed from 2008 – 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

The Large Existing Facilities Program remains the strongest performing Non-Residential program since its inception. A total of 441 active applications for large existing incentives were received this Reporting Period, from 195 unique customers. Applications from school districts comprise 55 of the 441 applications. During this Reporting Period, APS paid \$2,265,403 in Large Existing program incentives. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed after the project is completed and all required documentation is submitted and approved.

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Incentive Status by Fund for Active Applications	Incentives Paid
Large Existing – Prescriptive & Custom	\$2,108,233
Large Existing – Studies	\$157,170
Total Large Existing Funds	\$2,265,403

In Decision No. 70637, the ACC approved APS's request to continue to track DSM applications resulting from studies for which incentives have been paid, and report the semi-annual and cumulative results of its program to date tracking efforts. During this Reporting Period, there were 27 study incentives, from 12 separate customers, paid for a total of \$157,170. Two of the applications have already resulted in implementation of the associated measures. Eighteen of the 27 studies were paid in December, resulting in little time for an associated project implementation application to arrive. There have been 57 studies completed since program inception. Of those 57 studies, 37 have resulted in energy efficiency projects applications to date.

Direct Install

While Direct Install measures, which were launched in April of 2009, are targeted to small businesses, program rules also allow small facilities (under 100 kW demand) of large customers to participate. K-12 school buildings of any size can also participate with Direct Install measures. In this Reporting Period, 19 Direct Install projects for Large Existing Facilities were paid for a total of \$36,076. Program development and outreach for Direct Install are described in the Small Business section of this Progress Report.

Evaluation and Monitoring Activities and Results

The Large Existing Facilities program MER research data collection and analysis activities for this Reporting Period included:

- Conducted ongoing review and analysis of the Solutions for Business participation database.
- Continued to review and update detailed program analysis database and calculation algorithms.
- Conducted ongoing primary and secondary research of key factors and performance variables affecting savings and cost-effectiveness of a wide range of program measures.
- Completed a field measurement and monitoring study of the performance of variable-speed drive measures. Results will be included in the 2009 MER analysis.
- Completed the initial phase of a non-residential lighting runtime hour and coincidence factor study. This study will be completed in 2010.
- Completed measure cost update for multiple measures promoted in the program.
- Conducted field inspections and monitoring of the performance of water pumping plant energy use, as part of the pump test and repair initiative.

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- Conducted ongoing updates to the Measure Analysis Spreadsheets including performance assumptions, incremental cost, cost-effectiveness tests and overall documentation of assumptions.
- Currently assessing the savings resulting from actions taken by participants in APS's training and education programs.
- Conducting customer and trade ally research to determine net-to-gross effects and assess process efficiency of the program.

MER Adjusted Gross kW and kWh Savings

The following Table reflects the MER adjusted total energy and demand saving achievements in this Reporting Period for the Large Existing Facilities. Only savings from projects that were completed and incentives paid are counted in this report.

MER Adjusted kW and kWh Savings¹

kW SAVINGS ²	ANNUAL kWh SAVINGS	LIFETIME kWh SAVINGS
4,645	37,575,314	498,334,804

1. Includes adjustments to savings as described in the Solutions for Business Impact and Evaluation MER Report.
2. kW Savings is coincident peak.

The final savings are adjusted for line losses of 7.8 % for energy and 11.7% for demand.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits are provided in Tables 7, 8, and 9, along with the MER adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

There are no new problems to report.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Large Existing Facilities	\$2,265,403	\$101,904	\$49,689	\$696,339	\$271,946	\$149,585	\$3,534,866

A breakdown of all implementation contractor expenses for this Reporting Period and program is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Large Existing Facilities	\$677,424	\$251,954	\$17,322	\$37,145	\$983,845

Findings from all Research Projects

NA

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Other Significant Information

The focal point of program development activities centered on conveying program value to increase participation and leveraging program experience by developing technical resources and advertisements to engage and educate the public. These activities include the following:

1. Trade Ally Development: The Trade Ally program experienced another period of significant growth during this Reporting Period. Increased interest from industry professionals was a key factor and provided a variety of opportunities to present program information to potential trade ally companies. During this Reporting Period, trade ally training was provided to 67 companies through bi-weekly training meetings, one-on-one meetings, and special event training sessions.

Recruitment efforts through strategic partnerships with professional associations within the energy and contracting industry, trade show and event participation and program advertisements are ongoing and continue to be effective methods for trade ally outreach.

Program trade allies received two quarterly editions of the Solutions for Business Trade Ally Newsletter during this reporting period. Newsletter articles highlighted trade ally projects, provided information on program updates, and included links to useful program information, and upcoming events and training opportunities.

Additional Trade Ally development opportunities centered on providing support to new and existing trade allies with enhanced focus on encouraging program participation, increasing program knowledge and improving the quality of trade ally-submitted incentive applications. Efforts to develop and leverage the existing trade ally network included program training opportunities, technical training classes, trade ally events, and participation in trade ally hosted events.

As a result of the program's focus on trade ally development and recruiting efforts, 44 new trade allies were approved, and at the end of this Reporting Period the program had a total of 147 trade allies.

Program and Technical Training Opportunities:

A total of 18 in-depth training sessions were held with potential trade allies.

Strategic partnerships continue to play an important role in program outreach. During this Reporting Period APS worked closely with the Arizona Chapter of the Association of Energy Engineers ("AEE") to help promote and manage registration of the APS Technical Training series. In addition to providing access to their membership to promote both the trainings and the Solutions for Business program, the local chapter of AEE provided APS with turnkey registration support for the five trainings that occurred during this Reporting Period.

APS continued to work with the Air Conditioning Contractors' Association ("ACCA") board on the ACCA Professional Air Conditioning Contractor Certification Program. APS supported the program financially through tuition reimbursement for those contractors who became Trade Allies.

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Trade Ally Events

In November, the Solutions for Business program, hosted a 1-day workshop for potential and approved program trade allies. The workshop was attended by 120 industry professionals from across the state. Attendees were provided detailed program information, program marketing materials and several interactive "tools" developed to assist trade allies as they work with APS customers to identify incentive opportunities and apply for program incentives.

Agenda topics included sessions on rates and how they impact energy savings and calculations, common issues with applications which hold up processing, selling energy efficiency, and Energy Information Services (EIS). The day concluded with breakout sessions by equipment type and a new trade ally training session. In conjunction with this event, the program also conducted several Trade Ally focus groups which provided valuable insights on operational enhancements for the program.

Participation in Trade Ally Hosted Events

The Solutions for Business program information was provided at the following trade ally-hosted events:

- Tolin Mechanical Systems – Energy Sustainability Meeting
- Phillips Lighting – Key Account and Distributor Seminar

2. Customer Awareness and Advertising: One-on-one meetings were held with 407 customers to identify potential projects, and help them move forward with existing ones. In addition to meetings in the Phoenix metro area, meetings were held with customers in Parker, Quartzsite, Yuma, and Flagstaff.

Outreach efforts focused on finding high-value opportunities to provide the public with program information and energy efficiency education. This was accomplished with the purchase of advertising and editorial space in a number of publications.

Several print advertisements and articles were developed to promote the value of energy efficient projects. Advertisements and article placements for the APS Solutions for Business Program included the following publications:

- ACCA (Air Conditioning Contractors of America) Product Directory
- AIA (American Institute of Architects, Arizona) catalog
- AZRE (Arizona Commercial Real Estate) Magazine
- Commercial Executive magazine
- Electric Times
- HVACR Today
- Phoenix Business Journal
- Phoenix Business Journal – sustainability insert
- Phoenix Business Journal – Book of Lists
- Chamber of Commerce magazines in Phoenix, Scottsdale, Tempe, Casa Grande and Flagstaff
- Arizona Republic
- SBA Small Business Resource Guide

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- Program information was provided in five issues of APS's Success Newsletter billing insert during this Reporting Period.
- Arizona Highways calendars were branded and distributed to all program participants, and through Key Account and Community Development Managers.
- The APS Solutions for Business program ran three full page ads in the Arizona Republic in November. Two of the ads were Thank-you ads, listing participating customers in one and trade allies in the other. The third was a general seasonal ad.
- During this Period, the program also used radio and movie screen advertising.
 - Two movie screen ads were developed and ran both in Metro Phoenix, Yuma and Flagstaff during April, July and August.
 - Radio ads were developed on three topics and ran during August and October.

3. **Generate Program Awareness through key events:** Trade shows and conferences included the following:

- AASBO Conference in July
- AZ City Manager's Conference (materials only) in July
- Governor's Rural Economic Development Conference in August
- Hispanic Chamber of Commerce in August
- Arizona League of Cities and Towns in September
- ASU Alumni/GIOS Go Green Series September, October, and November
- ACE Public Private Partnership Conference in October
- Commercial Executive Magazine Architect Roundtable in October
- APS Stimulus Conference for Schools in October
- USGBC Greenbuild in November
- Arizona Farm Bureau Conference in November
- Arizona School Board Association Conference in December

4. **Expanding Technical and Training Resources:**

APS's Technical Training Series offered five classes during the second half of 2009. Materials were developed for each training session, including class notebooks for participants, class evaluations, invitation fliers, and certificates of completion. Class fliers and registrations forms were sent out to the Program's contact list as well as through the AEE member list and Key Account Managers.

The Solutions for Business program was presented at each of these programs. Program staff members were available to answer questions and provide guidance on potential projects.

Classes held in this Reporting Period included 183 total attendees in the following courses:

- **Benchmarking Government Buildings with ENERGY STAR**, three half day classes on July 14th & 15th
- **Energy Studies and Building Simulation** on August 19th
- **Benchmarking Government Buildings with ENERGY STAR (BOMA)** on September 10th
- **Lighting Fundamentals** on October 21st

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Training organizations and the related classes that were sponsored by the Solutions for Business program included:

- Green Ideas - LEED Trainings and Sustainable Building Advisor certification
- BOMA – Benchmarking with ENERGY STAR®
- ACCA – Professional Air Conditioning Technician Certification
- CEM – Certified Energy Manager

APS will continue to search out educational efforts which will support market transformation among both the public and the trades.

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PROGRAM: NON-RESIDENTIAL NEW CONSTRUCTION AND MAJOR RENOVATIONS

Description

The Non-Residential New Construction and Major Renovations program includes three components: design assistance/feasibility studies, custom efficiency, and prescriptive measures. Design assistance involves efforts to integrate energy-efficiency into a customer's design process to influence equipment/systems selection and specification as early in the design process as possible. Incentives are also available for feasibility studies that help assess savings opportunities from complex applications. Prescriptive incentives are available for energy-efficiency improvements in lighting, HVAC, motors and refrigeration applications. Custom efficiency incentives for non-residential customers are also available.

Program Modifications

No modifications for this Reporting Period.

Program Goals, Objectives and Savings Targets

- Promote integrated design and integrated analysis of alternative high-efficiency design packages through design assistance in new construction and major renovation applications.
- Assist the customer design team in examining alternative high-efficiency design packages through the provision of the design incentive.
- Encourage facility-specific efficiency improvements through custom incentives that are otherwise difficult to cover in a prescriptive program.
- Encourage the integrated systems approach to incorporating energy-efficiency improvements in new construction and major renovation projects.
- Promote integrated energy efficiency solutions where possible to capture interactive effects and synergistic savings opportunities.

APS's analysis of this program, as filed on December 28, 2007 in the APS DSM Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Non-Residential New Construction Program could reduce annual peak demand by about 5 MW and 489,000 MWh over the life of the measures that are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

While the impact of the economy is driving significantly fewer new construction starts, the program is still seeing robust participation for buildings that were started before the economic downturn and are now finishing construction. A total of 55 applications for New Construction incentives have been received, from 31 unique customers. Eight of the 55 applications are from school districts. In this Reporting Period, \$586,856 in New Construction incentives were paid. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed after the project is completed and all required documentation is submitted and approved.

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Incentive Status for Active Applications	Incentives Paid
Large New Construction – Prescriptive, Custom & Design Assistance	\$576,856
Large New Construction – Studies	\$10,000
Total Large New Construction Funds	\$586,856

In Decision No. 70637, the Commission ordered APS to continue tracking DSM customer applications resulting from studies for which incentives have been paid, and report the semi-annual and cumulative results of its program-to-date tracking efforts. During this Reporting Period, there were seven design assistance incentives paid for a total of \$63,716. Two of these applications have resulted in energy efficiency projects to date.

Evaluation and Monitoring Activities and Results

During this Reporting Period the Non-Residential New Construction program MER research data collection and analysis activities included:

- Conducted ongoing review and analysis of the Solutions for Business participation database.
- Continued to review and update detailed program analysis database and calculation algorithms.
- Completed a field measurement and monitoring study of the performance of variable-speed drive measures. Results will be included in the 2009 MER analysis.
- Completed the initial phase of a non-residential lighting runtime hour and coincidence factor study. This study will be completed in 2010.
- Completed measure cost update for multiple measures promoted in the program.
- Conducted ongoing updates to the Measure Analysis Spreadsheets including performance assumptions, incremental cost, cost-effectiveness tests and overall documentation of assumptions.
- Conducting customer and trade ally research to determine net-to-gross effects and assess process efficiency of the program.

MER Adjusted Gross kW and kWh Savings

The following Table reflects the MER Adjusted total energy and demand saving achievements in this Reporting Period for the Large New Construction Program. Only savings from projects that were completed and incentives paid are counted in this report.

MER Adjusted kW and kWh Savings¹

kW SAVINGS ²	ANNUAL KWH SAVINGS	LIFETIME KWH SAVINGS
1,057	22,567,455	261,852,458

1. Includes adjustments to savings as described in the Solutions for Business Program Impact and Evaluation MER Report.
2. kW Savings is coincident peak.

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The final savings are adjusted for line losses of 7.8 % for energy and 11.7% for demand.

Benefits and Net Benefits/Performance Incentive Calculation

The MER adjusted net benefits are provided in Tables 7, 8, and 9, along with the MER adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

No new problems are reported for this Reporting Period.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Non Res New Const	\$586,856	\$8,016	\$2,720	\$208,165	\$120,919	\$35,427	\$962,103

A breakdown of all implementation contractor expenses for this Reporting Period and program is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Non Res New Const	\$205,690	\$120,784	\$2,357	\$7,754	\$336,585

During the Reporting Period, APS exercised the budget flexibility that was granted in Decision No. 68488 by shifting 22.4% of the Small Business program to the New Construction program. This shift helped to increase the rebate availability for the New Construction Program. This was needed because APS experienced a 78% increase in rebates for New Construction.

Findings from all Research Projects

NA

Other Significant Information

During this Reporting Period, program development activities focused on follow up with projects in progress and increasing program participation. Specific activities are highlighted below.

Market Outreach:

In addition to many of the marketing outreach activities described for the Large Existing program, marketing activities associated with the New Construction program continue to focus on educating potential program participants from the following customer segments: Owner-occupied buildings, government buildings (schools, county, city, state), and signature projects.

New Construction projects have been identified and approached on a number of fronts. During this Reporting Period, the Solutions for Business program made significant contacts with the contractor community, and worked with developers and contractors throughout the project

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development cycle, and have been actively engaged in a pipeline list of 39 new construction projects. Some specific examples of New Construction outreach include:

- Monthly networking at construction industry association meetings, including the Central Arizona Society of Healthcare Engineers (CASHE), the Alliance for Construction Excellence (ACE), the Arizona chapter of the US Green Building Council, and Building Owners and Managers Association ("BOMA") meetings. This attendance is an important part of lead development for future projects which could participate in the program. It also helps to identify and recruit potential trade allies into the program.
- Solutions for Business participation in trade events and conferences including:
 - AIA Annual Awards Ceremony- the Solutions for Business program sponsored the energy efficiency award which was presented to an audience of approximately 250 architects.
 - Commercial Executive's Architect Roundtable Oct 6th – APS sponsored this exclusive meeting of 8 of the top valley architecture firms to discuss the current new construction market.
 - Solutions for Business was in attendance at the ACE Public Private Partnership Conference Oct 22.
 - GreenBuild – USGBC national conference, Solutions for Business program staff shared program information at the APS booth and provided attendees with informational handouts.

Project specific meetings with architecture and engineering firms, developers, contractors and customers continue to occur for projects at all stages of completion. In addition, industry professionals were provided with program updates and program-related support. In this Reporting Period, APS Solutions for Business program staff held approximately 100 meetings to discuss program details and identify potential incentive opportunities.

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PROGRAM: SMALL BUSINESS PROGRAM

Description

The Small Non-Residential Program provides prescriptive incentives for small non-residential customers (≤ 100 kW of aggregated demand) for energy-efficiency improvements in lighting, HVAC (heating, ventilation, and air conditioning), motors, and refrigeration applications through a simple and straightforward mechanism for program participation. In addition, Small Business customers are eligible for custom efficiency incentives to implement energy-efficiency measures. The program provides incentives for covering a portion of the cost of an energy study that identifies energy saving opportunities. The program also provides educational and promotional materials designed to assist building owners and lease-holders in making decisions to improve the energy-efficiency of their facilities. Direct Install measures were also introduced to the Small Business market in April 2009.

Program Modifications

No program changes were made during this Reporting Period.

Program Goals, Objectives and Savings Targets

- Promote and support energy efficiency opportunities for small non-residential customers.
- Promote the installation of high-efficiency lighting, packaged HVAC equipment, motors, and refrigeration systems.
- Provide customers with direct energy saving opportunity identification and implementation services through the Direct Install family of measures.
- Promote cross-training and energy-efficiency assessment and referral opportunities among lighting and refrigeration contractors.

APS's analysis of this program, as filed on December 28, 2007 in its Demand Side Management Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Small Business Program could reduce annual peak demand by about 4.9 MW and 227,000 MWh over the life of the measures which are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

A total of 33 applications for Small Business incentives were received from 30 unique customers. In this Reporting Period, \$192,630 in Small Business program incentives were paid. These incentives were paid through the Classic measures as well as the Direct Install measures. While the program offers a pre-notification process to reserve incentive funds, final applications are only processed after the project is completed and all required documentation is submitted and approved.

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Incentive Status for Active Applications	Incentives Paid
Small Business – Prescriptive	\$192,630
Small Business – Commissioning Studies	\$0
Total Small Business Funds	\$192,630

In Decision No. 70637, the Commission ordered APS to continue to track DSM applications resulting from studies for which incentives have been paid, and report the semi-annual and cumulative results of its program-to-date tracking efforts. There were no study incentives paid in the Small Business program during this Reporting Period. However, there have been three studies completed since program inception; and two project applications have resulted in energy efficiency projects.

Direct Install

Direct install incentives were paid on 65 projects for Small Business customers during this Reporting Period. While small businesses are the primary target for the Direct Install offering, some large customers qualify for their smaller facilities, and schools of any size can participate. In addition to the 65 projects paid to small businesses, an additional 21 Direct Install projects for Large Businesses and Schools were paid. The breakdown of Direct Install incentives and paid projects is listed in the second table, under item seven below.

1. Active number of contractors and contractor identification:

During this Reporting Period, the following nine approved contractors actively participated in the Direct Install measure program.

- AEC Electric
- ATS Electric
- Bland Family Electric
- DECA Southwest
- Eco Power LLC
- Inline Electric
- JFK Electrical Co.
- The Signary
- US Energy Services
- Wilson Electric

Outreach efforts included several training meetings held for potential direct install contractors. Five (5) contractor training meetings were held and attended by 18 companies interested in becoming approved to participate in the Direct Install measure. Each training meeting provided attendees with an in-depth review of the Direct Install measure software and included a “hands-on” approach that allowed participants to input sample projects into the direct install software. Sixteen (16) new companies were approved for Direct Install measure participation during this Reporting Period.

Training opportunities for approved Direct Install measure contractors included:

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- Three approved Direct Install measure contractors requested and received Direct Install contractor training for new employees.
- A “Lunch and Learn” training meeting focused on providing information on how to identify refrigeration incentive opportunities and included them in their project scope. The meeting was attended by program staff and six Direct Install contractors that had primarily focused on lighting retrofit projects.

2. Number of Direct Install jobs completed:

Eighty-six (86) Direct Install projects were completed during this Reporting Period.

3. Dollar Value of the Direct Install incentives paid to Contractors:

During this Reporting Period, \$185,462 in Direct Install incentives were paid to contractors. This represents 66% of the total project costs.

4. Dollar value of the Direct Install jobs paid by the customer:

The total amount of customer upfront cost for projects paid under the Direct Install measure during this Reporting Period was \$96,216.

5. Number of each Direct Install measures for which incentives were paid:

Direct Install Measures	
All other lighting retrofits	22
Delamping	344
Exit Signs (LED)	22
Fluorescent	319
Hardwired CFL	114
Screw-In CFL	84
Other	39

6. Number of instances when incentives were reduced because of eligibility for incentives paid by other entities:

Does not apply to Direct Install measures

7. Spending and savings numbers attributable to Direct Install for the period and year-to-date and program-to-date:

No Direct Install incentives were paid prior to this Reporting Period.

kw SAVINGS	ANNUAL NET KWH SAVINGS	LIFETIME NET KWH SAVINGS
433	1,819,550	29,409,072

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Direct Install Incentives by Fund	Number of Paid Projects	Incentives Paid
Large Existing Funds	19	\$36,076
New Construction Funds	0	\$0
Small Business Funds	65	\$136,523
School Funds	2	\$12,863
Total Direct Install Incentives	86	\$185,462

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Direct Install	\$185,462	\$2,602	\$684	\$181,997	\$65,652	\$21,314	\$457,711

A breakdown estimate of all implementation contractor expenses for this Reporting Period is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Direct Install	\$113,059	\$65,652	\$684	\$2,602	\$181,997

A breakdown estimate of all implementation contractor expenses for Year to Date and also Program to Date is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Direct Install	\$185,662	\$75,000	\$917	\$6,585	\$268,164

8. Descriptions of the types of businesses participating in Direct Install:

The retail sector participated in the Direct Install measure at the highest rate of frequency and accounted for 49% of Direct Install projects paid during this Reporting Period.

Participation in the Direct Install measure included the following:

- 42 retail,
- 14 office,
- 3 restaurant,
- 1 grocery,
- 1 hotel/motel,
- 2 medical,
- 3 process industrial,
- 2 schools; and
- 18 miscellaneous projects

9. Estimate of avoided marketing or other program or administration costs:

The costs to implement and market the Small Business program prior to implementing the Direct Install measures were high on a \$/kWh basis. This is because low participation resulted in low kWh on which to spread implementation costs. From the program inception through 2008,

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implementation and marketing costs for Small Business were \$1.41M (excluding incentives). Program net annual savings achieved were 5,544,000 kWh. This resulted in program costs of \$.25/kWh for the Small Business program. In this Reporting Period, estimated Direct Install implementation and marketing costs reduced to \$.122/kWh, due to increased kWh savings. Reduced program costs are therefore $(\$0.25 - \$0.122) \times 1,491,742$ net annual savings achieved in this Reporting Period, which is \$190,943. Since Direct Install measures are ramping up, costs per kWh are expected to continue to decrease over the next year.

Evaluation and Monitoring Activities and Results

MER research data collection and analysis activities conducted specifically for the Small Business market include:

- Conducted ongoing review and analysis of Solutions for Business participation database.
- Continued to review and update detailed program analysis database and calculation algorithms.
- Conducted ongoing primary and secondary research of key factors and performance variables affecting savings and cost-effectiveness of a wide range of measures.
- Conducted ongoing updates to the Measure Analysis Spreadsheets including performance assumptions, incremental cost, cost-effectiveness tests and overall documentation of assumptions.
- Completed the initial phase of a non-residential lighting runtime hour and coincidence factor study. This study will be completed in 2010.
- Conducting customer and trade ally research to determine net-to-gross effects and assess process efficiency of the program.

MER Adjusted Gross kW and kWh Savings

The following Table reflects the total energy and demand saving achievements in this Reporting Period for Small Businesses. Only savings from projects that were completed and incentives paid are counted in this Progress Report.

MER Adjusted kW and kWh Savings¹

KW SAVINGS²	ANNUAL KWH SAVINGS	LIFETIME KWH SAVINGS
497	2,161,157	31,749,191

1. Includes adjustments to savings as described in the Solutions for Business Program Impact and Evaluation MER Report.
2. kW Savings is coincident peak.

The final savings are adjusted for line losses of 7.8 % for energy and 11.7% for demand.

Benefits and Net Benefits/Performance Incentive Calculation

The net benefits are provided in Tables 7, 8, and 9, along with the MER adjusted Performance Incentive calculation.

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Problems Encountered and Proposed Solutions

The ACC's Decision No.70637 (December 11, 2008) resolved previously reported problems of low small business participation by approving Direct Install measures. While the second half of 2009 resulted in a large increase in participation, the overall level of participation was below expectations.

APS is continuing to aggressively develop this program to make it more attractive to both small businesses and contractors; however, contractor and small business feedback provided some insights into the slower than expected growth of small business participation:

1. **The economy:** Contractors are indicating that many small businesses do not know if they will be in business over the next year. Even projects with paybacks in the six months to one year time frame are not attractive to these customers.
2. **“Corporate” Phoenix area:** While smaller communities have small business proprietors working in the business, contractors have indicated that many Phoenix-area small business decision makers are not physically at the business when they conduct their door to door selling.
3. **Lower Incentives:** The incentive structure for the Solutions for Business program includes a 90% measure-based capping rule. Overall, incentives have paid for 66% of the project costs. Successful Direct Install programs in other markets have incentives cover an average of 70% - 85%. As contractors become more experienced with the program, many can structure projects that offer a higher incentive. Those contractors are more successful.

Costs Incurred

Costs incurred for the Small Business Program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Small Business	\$192,630	\$10,983	\$1,107	\$160,682	\$97,064	\$26,643	\$489,109

A breakdown of all implementation contractor expenses for this period and program is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Small Business	\$159,238	\$92,467	\$964	\$3,664	\$256,334

Spending in the Small Business program remains lower than expected for this Reporting Period. Efforts to focus on small business participation through the direct install program through contractor training, direct mailings and direct install advertisements in Chamber of Commerce newsletters. Customer participation in the direct install measure has increased throughout this Reporting Period and small business participation is expected to continue to gain momentum in the first half of 2010.

During the reporting period, APS exercised the budget flexibility that was granted in Decision No. 68488 by shifting 22.4% of the Small Business Program to the New Construction Program. This

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shift helped to increase the rebate availability for the New Construction Program. This was needed because APS experienced a 78% increase in rebates for New Construction.

Findings from all Research Projects

- In conjunction with Opinion Dynamics, APS held three focus groups: one with medium and two with small business owners and managers to provide feedback on marketing and outreach efforts. Results will be incorporated into 2010 marketing efforts.

The primary objectives of these three focus groups were to:

- Determine more effective methods and approaches to reach these customer markets
- Explore customer perception of program messaging
- Gauge awareness and interest in program offerings
- Explore barriers to participating in programs.

Other Significant Information

In addition to many of the marketing outreach activities described for the Large Existing program, marketing activities associated with the Small Business program leveraged small business associations, such as Chambers of Commerce, and developed program education and information to assist small businesses:

- APS sent a letter in the fall of 2009 to more than 34,000 small and medium sized businesses which encouraged them to utilize the APS Solutions for Business Direct Install measures. This letter generated more than 200 phone calls to the program for more information about how to participate.
- Placement of advertisements in Chamber newsletter ads, the Phoenix Business Journal and the SBA Small Business Resource Magazine;
- Hispanic Chamber of Commerce Annual Conference presentation in August;
- APS attended a number of meetings of the Phoenix Green Chamber of Commerce
- Produced a number of promotional efforts for Direct Install, including a brochure and ad.

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PROGRAM: SCHOOLS PROGRAM

Description

The Schools program includes a set-aside budget for schools and provides assistance in reducing the energy used in school buildings, including public, private and charter schools (K – 12). The incentives available for schools include the same DSM measures that are available for all non-residential customers, including Direct Install measures for K-12 schools of any size.

Program Modifications

ACC Decision No. 71444 (December 23, 2009), approved a goal for APS to serve, the installation of energy saving measures through the Solutions for Business program of at least 100 schools by December 31, 2010. Decision No. 71444 also approved raising the customer cap for the schools program from \$25,000 to \$100,000 per district.

Program Goals, Objectives and Savings Targets

- Maximize the energy savings that can be attained with available DSM funds by providing schools incentives to upgrade lighting, HVAC, refrigeration, and any other energy consuming systems.
- Provide educational and training materials to facility managers and trade allies in order to aid schools in other energy conservation projects.
- Provide design assistance, commissioning, retro commissioning, and energy feasibility incentives to aid schools in identifying energy savings opportunities.
- Provide incentives for other cost effective DSM projects by allowing schools to participate in any Non-Residential DSM Program including Direct Install.

APS's analysis of this program, as filed on December 28, 2007 in the APS Demand Side Management Program Portfolio Plan Update 2008-2010, estimates that the energy efficiency savings expected to result from the Schools Program could reduce annual peak demand by about 2.8 MW and 212,000 MWh over the life of the measures which are expected to be installed from 2008 - 2010.

Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

In this Reporting Period, a total of 76 applications from schools were received, representing 19 unique school districts and 56 unique schools. To date, schools have had a healthy level of participation in the program. While school districts comprise less than 8% of APS's non-residential energy use, to date they have received 23% of the paid program incentive funds for their non-residential energy efficiency projects.

The self-reported size of the school entity, based on the number of students as submitted on approved applications received in this Reporting Period is:

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Division	Size	Programs	# of Applications	# of Students
Metro	>200	Prescriptive Measures - New Construction	1	38,000
Metro	>200	Custom Measures – Retrofit, Prescriptive Measures - Retrofit	5	37,500
Metro	>200	Prescriptive Measures - New Construction	1	37,382
Metro	>200	Custom - Retrofit, Prescriptive - New Construction, Retrofit	12	33,321
Metro	>200	Custom - New Construction Prescriptive - New Construction	3	29,909
Metro	>200	Prescriptive Measures - Retrofit	4	25,645
Metro	>200	Prescriptive Measures - Retrofit,	5	14,749
Non-Metro	>200	Prescriptive Measures - Retrofit	1	10,102
Non-Metro	>200	Prescriptive Measures - Retrofit	3	7,090
Metro	>200	Prescriptive Measures - New Construction, Retrofit	4	4,770
Metro	>200	Prescriptive Measures - New Construction	2	4,700
Non-Metro	>200	Prescriptive Measures - Retrofit	3	1,494
Metro	>200	Prescriptive Measures - Retrofit	1	1,050
Non-Metro	>200	Prescriptive Measures - Retrofit,	3	950
Metro	>200	Prescriptive Measures - New Construction	1	752

When an incentive application is received from a school district and deemed eligible, funding is first allocated from the Schools budget up to, a maximum of \$25,000 or \$15/student cap. Any additional funding required to cover the application is then allocated from the appropriate Large Existing, New Construction or Small Business program budget.

During this Reporting Period, \$406,711 in incentives were paid to schools. The Schools Program incentives of \$125,561 were paid under the Schools Program. The remaining \$281,150 in incentives was paid to schools under the other non-residential programs (see table below).

Incentive Status by Fund for Active Applications	Incentives Paid
Schools Budget – Prescriptive, Custom, & Direct Install	\$125,561
Schools Budget – Feasibility, Commissioning and Retro-commissioning Studies	
Total School Funds	\$125,561
Schools – School Funds	\$125,561
Schools – Large Existing Funds	\$255,259
Schools – New Construction Funds	\$25,891
Schools – Small Business Funds	\$0
Total Paid to Schools	\$406,711

In Decision No. 70637, the Commission ordered APS to continue to track DSM applications resulting from studies for which incentives have been paid, and report the semi-annual and cumulative results of its program-to-date tracking efforts. No schools received study incentives during this Reporting Period. There have been 13 studies completed since program inception. Of

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those 13 studies, 24 project applications, Program-to-Date; have resulted in energy efficiency projects, as multiple projects are often identified within a given study.

Schools Direct Install

Direct install incentives were paid on two school projects during this Reporting Period. Direct install activities for this period are described in the Small Business Program report.

Evaluation and Monitoring Activities and Results

During this Reporting Period the Schools program MER research data collection and analysis activities included:

- Conducted ongoing review and analysis of Solutions for Business participation database.
- Continued to review and update detailed program analysis database and calculation algorithms.
- Conducted ongoing primary and secondary research of key factors and performance variables affecting savings and cost-effectiveness of a wide range of measures.
- Conducted ongoing updates to the Measure Analysis Spreadsheets including performance assumptions, incremental cost, cost-effectiveness tests and related resource documentation.
- Completed the initial phase of a non-residential lighting runtime hour and coincidence factor study. This study will be completed in 2010.

MER Adjusted Gross kW and kWh Savings

The following Table reflects the total energy and demand saving achievements in this Reporting Period for schools projects. Only actual savings from projects that are completed and incentives paid will be counted in this Progress Report.

MER Adjusted kW and kWh Savings¹

	kW SAVINGS²	ANNUAL KWH SAVINGS	LIFETIME KWH SAVINGS
Schools – School Funds	176	1,495,816	21,694,773
Schools – Large Existing Funds	260	4,757,525	63,993,652
Schools – New Construction Funds	47	177,397	3,222,519
Schools – Small Business Funds	0	0	0
Total Attributable to Schools	483	6,430,738	88,910,944

1. Includes adjustments to savings as described in the Solutions for Business Program Impact and Evaluation MER Report.
2. kW is coincident peak.

All final saving values are adjusted for line losses of 7.8 % for energy and 11.7% for demand.

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Benefits and Net Benefits/Performance Incentive Calculation

The net benefits are provided in Tables 7, 8, and 9, along with the MER adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

No problems to report for this Reporting Period.

Costs Incurred

Program costs incurred during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement*	Program Marketing	Planning & Admin	Program Total Cost
Schools	\$125,561	\$10,174	\$2,024	\$79,707	\$104,961	\$19,337	\$341,764

A breakdown of all implementation contractor expenses for this period and program is:

DSM Program	IC - Implementation	IC - Marketing	IC - Education	IC - Technical Services	IC - Total Cost
Schools	\$79,139	\$94,453	\$1,683	\$10,403	\$185,678

Findings from all Research Projects

There were no findings from any Research Projects during this Reporting Period.

Other Significant Information

In addition to many of the marketing outreach activities described for the large existing program, marketing activities associated with the Schools program consisted of five areas of focus:

- 1. Trade Ally Development:** Trade Ally recruitment and support efforts focused on improving program knowledge by providing opportunities for development and training. Outreach efforts continue to focus on building collaborative relationships with ESCO's and providing them support in identifying incentive opportunities for school projects.
- 2. Customer awareness and project generation:** Nine one-on-one meetings were held with districts to identify potential projects. In addition, many more districts were casually contacted through the AASBO and ASBA conferences.
- 3. School Education to improve Energy Efficiency: Schools ARRA Workshop October 1.** The Solutions for Business program hosted a 1-day workshop for Arizona school districts to help them with the School Facilities Board's (SFB) application for ARRA funds. The workshop had over 200 participants representing 66 school districts from across the state. The event, which had very good response by attendees, was held at the Tempe Mission Palms. An article on the event appeared on the front page of the Oct. 2 *Valley and State* section of the *AZ Republic*.
- 4. Coordination with the Schools Facility Board:** While the program has coordinated with the Schools Facility Board ("SFB") since the program launch, briefings were held with the Arizona SFB during this Reporting Period on Direct Install and federal stimulus funding to

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maximize school use of both programs. This culminated in the Oct 1 workshop and program staff is working with SFB to track and facilitate stimulus funded projects. This coordination will continue for districts that both receive and are denied SFB funds.

5. Coordination with the Arizona School Board Association: The program exhibited at the ASBA annual conference, has joined as an affiliate member, and will advertise in 2010. There also may be opportunities to present at association educational seminars.

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PROGRAM: ENERGY INFORMATION SERVICES ("EIS") PROGRAM

Description

The EIS Program, which was made available to APS customers on November 16, 2006, helps large customers (>100 kW) save energy by giving them a better understanding and control of their facilities' electric use. EIS provides data not only regarding usage and demand, but also identifies when, where and how much power is used in specific areas of each facility. This detailed information allows customers to fine-tune equipment use and operations and to document the impact of those changes. Participating customers monitor their electric usage through a web-based energy information system that allows them to receive historical (up to previous day) 15 minute usage and demand graphics. This information can be used to improve or monitor energy usage patterns, reduce energy use, reduce demands during on-peak periods and better manage their overall energy operations.

APS is encouraging customers to take advantage of EIS by providing a one-time incentive of up to a maximum of \$12,000 or 75% of the cost of installing metering and communications equipment necessary to participate in the program.

Program Modifications

ACC Decision No.70637, dated December 11, 2008, approved the DSM Non-Residential Program (Solutions for Business). As a result of this Decision, the incentive cap was changed to 75 percent of the incremental cost up to a maximum of \$12,000 per customer per year and will only be paid on meters with a monthly billing demand of over 100 kW.

Program Goals, Objectives and Savings Targets

- Provide monthly energy usage information to participating large non-residential customers.
- Participants identify strategies to lower energy cost by reducing energy usage and demand.
- Educate EIS program participants about utility rate concepts and how managing or reducing their energy consumption through energy-efficiency measures and operational practices can reduce their energy expenses.
- Teach participants how to download billing history information and create spreadsheets to chart and graph their energy use, as well as identify consumption trends and savings opportunities.
- Educate EIS participants about creating reports for management that justify energy-efficient capital expenses intended to produce operations and maintenance ("O&M") savings; and
- Facilitate analysis of what-if scenarios to help large facility managers assess the benefits of capital improvements or operating adjustments to improve energy-efficiency.
- Ultimately save electric (kWh) energy through simple changes in operations and maintenance (low/no cost savings measures).

APS's analysis of this program, as filed on December 28, 2007 in the APS Demand Side Management Program Portfolio Plan Update 2008 - 2010, estimates that the energy efficiency savings expected to result from the EIS Program installations could reduce annual peak demand by about 0.4 MW and save 50,000 MWh of electricity over the life of the EIS systems which are expected to be installed from 2008 - 2010.

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Programs Terminated

No programs were terminated during this Reporting Period.

Levels of Participation

For this Reporting Period the EIS Program added six customers with 35 installed meters. These meters will gather data to be utilized on the web-based energy information system. For 2009, EIS added a total of 11 customers with 85 installed meters.

The incentive level for participation was \$17,279. The incentive value is reported on the customer invoice as a discount to the initial cost of setting up the EIS System.

Evaluation and Monitoring Activities and Results

- Conducted ongoing tracking and review of program participation data.
- Currently planning detailed participant research including possible field inspections and data collection activities to assess savings achieved by the program.

MER Adjusted Gross kW and kWh Savings¹

Meters	Est. Measure Life (yrs)	kWh Savings per Year**	Lifetime kWh Savings	kW Demand Savings ²
EIS = 35	15	425,104	6,376,559	55

1. To date, there are no adjustments to the EIS savings since the MER impact evaluation is under review.

2. kW savings is coincident peak.

The final savings are adjusted for line losses of 7.8 % for energy and 11.7% for demand.

Benefits and Net Benefits/Performance Incentive Calculation

The net benefits are provided in Tables 7, 8, and 9, along with the MER adjusted Performance Incentive calculation.

Problems Encountered and Proposed Solutions

No problems to report for this Reporting Period.

Costs Incurred

Costs incurred for this program during this Reporting Period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implement	Program Marketing	Planning & Admin	Program Total Cost
Energy Information Services	\$17,279	\$1,810	\$0	\$32,603	\$2,712	\$18	\$54,422

Findings from all Research Projects

NA

Other Significant Information

NA

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PORTFOLIO PLANNING: DSM MEASUREMENT, EVALUATION AND RESEARCH

Description

On April 12, 2006 in Decision No. 68648, the ACC approved funding for Measurement, Evaluation, and Research ("MER") activities to assist in verifying the impact and cost effectiveness of APS's DSM programs. As required per Decision No. 68648, APS filed MER program plans for Staff's review on August 16, 2007, with the exception of the Energy Information Services ("EIS") MER research plan that was filed on June 24, 2008.

Navigant Consulting (formerly Summit Blue Consulting) provides MER Services for the DSM programs. These Measurement and Evaluation activities include, but are not limited to:

- Performing process evaluation research to indicate how well programs are working to achieve their objectives;
- Performing impact evaluation research to verify that energy-efficient measures are installed as expected; measuring savings on installed projects to monitor the actual program savings that are achieved; and conducting research activities to refine savings and cost benefit models and identify additional opportunities for energy efficiency;
- Tracking savings measurement to monitor the actual program savings that are achieved; and
- Researching additional opportunities for energy efficiency.

The approach for measurement and evaluation of the DSM programs is to integrate data collection and tracking activities directly into the program implementation process.

Program Modifications

Per ACC Decision No. 69663, APS is required to "use measured savings obtained from APS customers by the MER contractor beginning no later than July 1, 2007; and that the averages of actual measured usage, for both standard and upgraded equipment, should be recalculated by the MER from usage samples for each prescriptive measure based on new measurements from the field no less frequently than every two years."

MER adjusted MW and MWh savings estimates are included throughout this Progress Report for the Reporting Period, as well as Year-To-Date and Program-To-Date results.

Program Goals, Objectives and Savings Targets

NA

Programs Terminated

NA

Levels of Participation

NA

Evaluation and Monitoring Activities and Results

Refer to each program section for this information

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kW and kWh Savings

See MER adjusted savings results in each program section, and in Tables 4, 5, and 6 above.

Benefits and Net Benefits/ Performance Incentive Calculation

See MER adjusted Net Benefits in Table 7, 8, and 9 above.

Problems Encountered and Proposed Solutions

NA

Costs Incurred

Total costs incurred for measurement and evaluation during this Reporting Period were \$395,045. The MER budget for 2009 was \$1,300,000 and MER spending for calendar year 2009 was \$1,345,860.

Findings from all Research Projects

NA

Other Significant Information

NA

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AMERICAN RECOVERY AND REINVESTMENT ACT (“ARRA”)

ARRA is a federal legislation passed by Congress in February 2009 to stimulate investment, create jobs, and speed economic recovery. ARRA provides for over \$18 billion in energy efficiency funding. The primary objectives of the energy efficiency funding are to build jobs, save energy, and build energy efficiency infrastructure for the long term. The State Energy Program (“SEP”) was allocated \$3.1 billion nationally.

The Arizona Energy Office filed an application for \$55 million of the \$3.1 billion SEP funding and they were awarded the funds; The plan includes \$10 million for the State Building Energy Performance Contracting Program and \$20 million for the Energy Efficiency and Renewable Energy in Schools Grant Program, the remaining \$25 million will be distributed to a agriculture grant, 21 Century Grant and utility renewable programs.

Another type of energy efficiency funding from ARRA is the Energy Efficiency and Conservation Block Grants (“EECBG”), which will provide \$64 million directly to Arizona cities and counties. Cities and counties in APS’s service territory are eligible for approximately two-thirds of these funds. The majority of these funds have been awarded and we are meeting with the decision makers to ensure our program is leveraged to the fullest extent. Projects have up to three years to be completed and all monies spent.

On December 11, 2008, the Commission issued Decision No. 70637, which approved five of APS’s non-residential DSM programs. Decision No. 70637 also included the following provision:

“APS shall continually research and monitor other energy-efficiency rebates and incentives, including tax credits, that may be available to its Non-Residential DSM program participants throughout its service territory; and that the Company shall limit its incentive payments to program participants to ensure that the sum of all known monetary incentives, either paid or available to APS program participants from other entities for the same measure is limited to APS’s established measure cap (such as 50 percent or 75 percent of incremental cost) unless a different cap is ordered by the Commission.”

APS filed for clarification with the Commission on May 8, 2009, as to whether ARRA funds needed to be considered a “known monetary incentive” under Decision No. 70636 or not. The Commission decided in Decision No. 71243 that ARRA funds should not be subject to the existing DSM incentive caps, but that the sum of all incentives, including ARRA, should not exceed 100 percent of the incremental cost of the measure.

ARRA Related Items:

- Talking with the State Energy Office to establish what cities will be awarded grants and what type projects they will be implementing.
- Meeting and calling cities and counties that have received ARRA dollars to establish what type of energy efficient projects they are doing and the project timeline.

Incentives Paid Out

None at this time.

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**DSM SEMI-ANNUAL PROGRESS REPORT FOR THE PERIOD:
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**CERTIFICATION BY APS
OF
DSM SEMI-ANNUAL PROGRESS REPORT
FOR THE PERIOD:
JULY THROUGH DECEMBER 2009**

Pursuant to Decision No. 67744 (April 7, 2005), I certify that to the best of my knowledge and based on the information made available to me, the DSM Semi-Annual report is complete and accurate in all material respects.

2/25/2010
Date

Tammy McLeod
Tammy McLeod
Vice President and Chief Customer
Officer

SAMPLE ADVERTISEMENTS

AC Rebate Fact Sheet

Why get a new air conditioner or heat pump?

Save money on your energy bills – New electric heat pumps and air conditioning (AC) units are about 40% to 50% more efficient than units installed 15 years ago. And since summer cooling costs can account for up to 40% of your annual electric bill, an old AC can mean you're spending far more than you should.

Improve the comfort of your home – You'll cool down faster with a new, high efficiency AC unit.

Peace and quiet – Today's AC equipment is typically quieter than older units.

Peace of mind – Less chance of summer breakdowns.

Benefits to the environment – Saving energy helps preserve our natural resources and reduces pollution.

How the rebate works.

You can save up to \$525 when you have an APS Qualified Contractor replace your older AC system or heat pump with a new, energy-efficient system installed in accordance with APS Quality Installation standards.

Minimum Efficiency Levels		APS Quality Installation Required for Rebate?*	APS Rebate Amount
SEER	EER		
13	10.8	Yes	\$175
14-16	10.8	Yes	\$425
17 and above	10.8	Yes	\$525

* Rebates available only to APS customers when installed by an APS Qualified Contractor with Quality Installation.

Why is Quality Installation important?

Improperly installed AC systems waste energy – An analysis of 75,000 field tests revealed that over 75% of installed cooling equipment fails to meet manufacturer specifications for airflow and refrigerant charge.

Bigger is not always better. Studies show that over half of home heat pumps and AC units are oversized, often by as much as 60% to 80%. Oversized cooling units rarely run long enough to reach their rated efficiency level and turn on and off more frequently, which can lead to higher maintenance and energy costs.

The APS Quality Installation standards require that the air flow and refrigeration charge are correct and that a sizing calculation (called a Manual J calculation) is completed to ensure that the higher efficiency equipment being installed will provide the performance and comfort that it was designed to deliver.

APS Qualified Contractors engage in on-going training in these practices and are able to install the equipment to meet the Quality Installation standards.



**Get up to
\$525 in rebates
— then save all
summer long.**

APS

A better tomorrow starts today.



Here's what you need to do:

- » Your unit(s) must be installed by an APS Qualified Contractor licensed in the State of Arizona.
- » You must install a new unit(s) that replaces an existing heat pump or AC in an existing home served by APS.
- » A dated contractor invoice will be required as proof of purchase and installation date. Your invoice must include:
 - Manufacturer
 - SEER and EER efficiency levels
 - Model numbers
 - Proof of installation at your address
 - AHRI reference number
 - Proof of payment
 - Unit size (tons)
 - Your contractor's license number
- » Window AC units and mini-splits do not qualify for a rebate.
- » Incentive amounts are per unit, at a maximum of 5 units per home.
- » Your unit(s) must be installed before the end date of the program to be eligible for a rebate. The program will end when rebate funds expire.
- » A Residential AC Rebate Application must be submitted to APS within 6 months of your installation date. You must fill out a separate application form for each unit.


Why use an APS Qualified Contractor?

APS Qualified Contractors are licensed, bonded, insured and committed to rigorous on-going training to ensure your new, energy-efficient AC system will:

Save money – Qualified Contractors can ensure the airflow and refrigerant charge are correct which will save you money.

Lower maintenance costs – Qualified Contractors will do a sizing calculation to determine the proper equipment size for your home and lifestyle.

Increase your comfort – A properly sized and installed unit offers better humidity and temperature control in your home, which increases your comfort.



How to apply for your AC rebate

- » Make sure that the SEER and EER rating of the unit you are considering is high enough to qualify for the rebate. Go to aps.com for tips that can help you confirm SEER and EER ratings.
- » Please be aware that a high SEER rating does not guarantee that a unit will qualify for the rebates. Ask your contractor to verify the SEER and EER ratings in the AHRI Unitary Directory of Certified Products.
- » Have a qualifying heat pump or AC unit installed by an APS Qualified Contractor.
- » Fill out a Residential AC Rebate Application. Your contractor will fill out the Quality Installation Test Results part of the application form.
- » Mail your completed rebate application and invoice from an APS Qualified Contractor showing proof of installation and payment to:

APS AC Rebate Program
2001 N. 3rd Street, Suite 106
Phoenix, AZ 85004

- » Your information will be verified prior to issuing a rebate check. We conduct on-site inspections at a random sample of homes prior to issuing a rebate check.
- » Once your application has been approved, we will mail your rebate check. Please allow 6 to 8 weeks for your rebate application to be processed.

For more information about the APS Residential AC Rebate Program, help completing your rebate application form, or for a free referral to an APS Qualified Contractor, call the APS Energy Answer Line at 602-371-3636. If outside Phoenix, call 888-890-9730.

The Residential AC Rebate program is funded by APS customers and is approved by the Arizona Corporation Commission.



A better tomorrow starts today.

SOLAR IS A GREAT FIT FOR HOMEOWNERS AND ARIZONA

Arizona enjoys 300 days of free sunshine a year. Today's advanced solar technology, combined with financial incentives from APS and federal and state tax credits makes now the perfect time to go solar.

Solar power offers many benefits:

- Reduced energy costs
- Reduced monthly utility bill
- Energy independence
- A cleaner environment
- Investment in our future
- Higher resale value for your home

Save money on your utility bills, and enjoy peace of mind by investing in solar for your new home. It is a feature that will deliver dividends for years to come.



The sun is Arizona's greatest energy asset — why not put it to work for you? Power your home with a clean, reliable and free energy resource.

With today's incentives, the technology is more affordable than ever.

Visit www.aps.com/solarhomes to find all the information you need to get started today.

APS ENERGY STAR® and Solar Homes



Solar Makes Sense for Arizona

APS

ENERGY STAR®
Homes DISCOUNT



APS

APS ENERGY STAR® and Solar Homes

By incorporating the latest energy efficient products and technologies, ENERGY STAR homes are built to help save on energy costs. APS ENERGY STAR and Solar Homes are also designed to be solar-ready, giving you even more potential to significantly reduce your monthly energy costs.

Solar-ready homes have been designed and constructed to incorporate technologies like solar photovoltaic (PV) panels and solar water heaters. The roof, plumbing and electrical systems are engineered for future solar installation, which will save you time and money should you decide to install solar equipment in the future.

Your builder may also choose to incorporate solar technologies as a standard feature or option. Ask your builder for more information.

**To learn more, or for a list
of participating builders,
please visit www.aps.com/solarhomes.**

SOLAR HOMES



Harness the Sun's Energy with Solar Panels

Today's PV panel technology is designed to complement your home.

How solar PV systems work:

1. PV panels absorb sunlight and convert it to direct current (DC) electricity
2. An inverter transforms DC into alternating current (AC) electricity
3. The AC electricity is used to power your home

You're still connected to the APS grid, so you still have complete access to power at night or on cloudy days. If your system generates more electricity than you use, it flows back to the power grid and you accrue energy credit.

PV panels are an investment that pays off every time the sun shines – and in sunny Arizona, that's a big payoff!

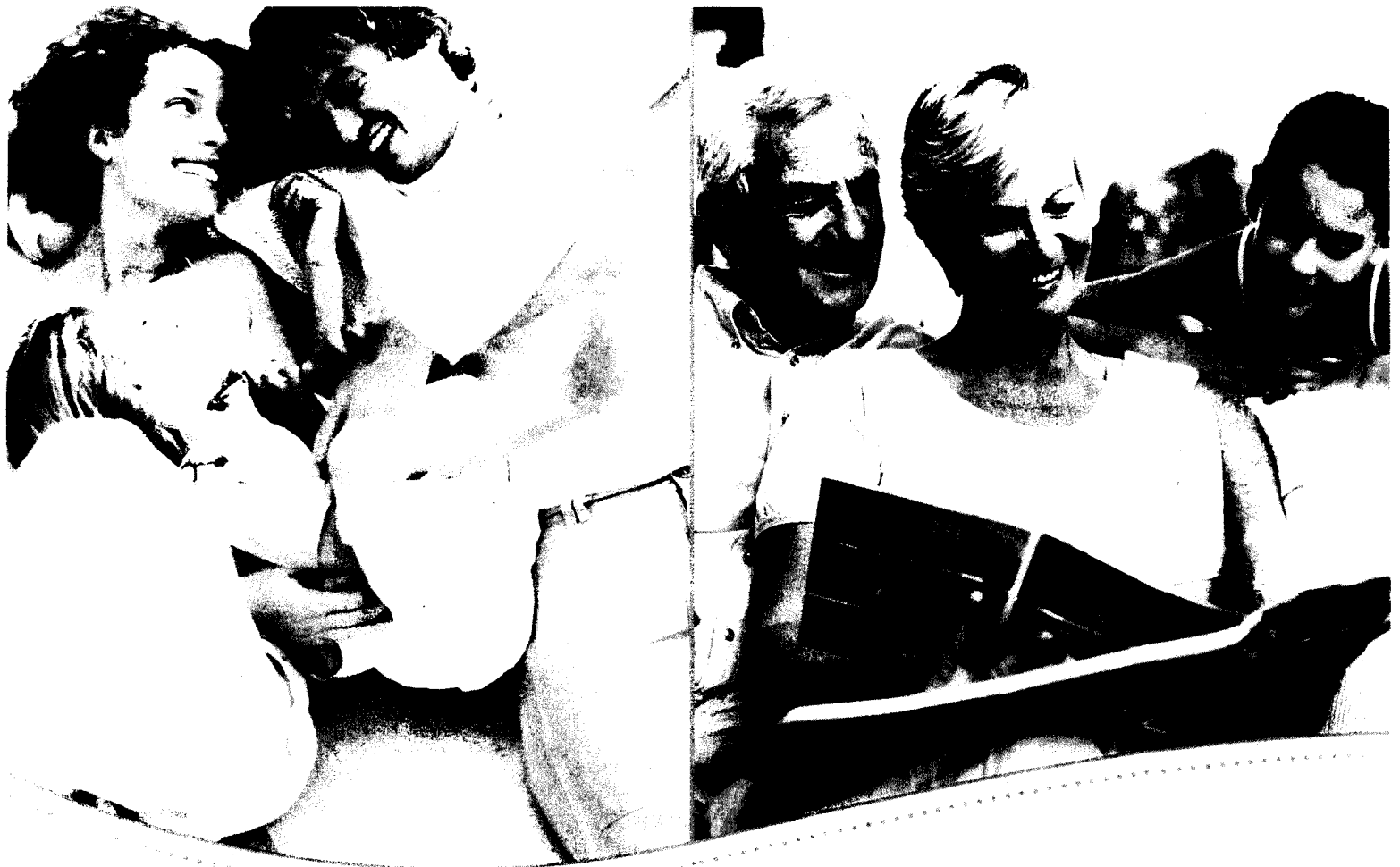
Get Into Hot Water with Solar Power

About 15% of your energy costs can come just from heating water. Investing in a solar water heater can nearly eliminate that portion of your bill.

How a typical solar water heater works:

1. Sunlight hits a collector on the roof, warming water inside the system
2. The heated water is piped to a holding tank and is kept ready for use
3. Unused water is circulated back through the system, keeping it hot

The result: your solar system provides hot water for you just like your current water heater. It will even work on cloudy or cold days and includes an electric or gas back-up so you always have hot water.



Save money in the comfort of your own home.

Choose an ENERGY STAR® Home for maximum energy efficiency.

When you buy a home in the APS ENERGY STAR® Homes Program, you'll be living in a home that's designed and built to save energy.

These homes are built to meet strict EPA ENERGY STAR® high efficiency standards. The result is a home designed to keep you comfortable and save money on your monthly utility bills.

All ENERGY STAR® Homes are subject to random inspections and testing to ensure they perform efficiently.

Homes in the APS ENERGY STAR® Program feature:

- Improved insulation
- High-efficiency air conditioning systems
- Energy-efficient appliances
- Energy-efficient low-E windows
- Tight construction
- Fresh air ventilation

This program was approved by the Arizona Corporation Commission and is funded by APS customers.



ENERGY STAR®
Homes
Program



PARTICIPATING BUILDERS
For more information visit aps.com



AB Builders
928-627-0808
- Valle del Sol
- Venezia

Ashton Woods
877 609-1187
- Estrella Mountain Ranch
- Marley Park
- Verrado
- Vistancia

Cachet Homes
480-556-7000
- Grayhawk
- Verrado

Centex Homes
480-747-6800
- Cibola Vista
- Desert Oasis
- Oasis at Canyon Trails
- Verrado

Chaffey Arizona Inc.
480-949-5981
- Tranquil Trail Estates

Columbia Communities
623-566-4612
- Riverstone Estates

Copper State Custom
623-465-5882
- Placeholder text for now

Countrywalk Homes
520-876-0503
- Countrywalk Estates

David Weekley Homes
602-267-0004
- Estrella Mountain Ranch

Del Webb
866-340-Webb
- Sun City Anthem at Merrill Ranch
- Arroyo Grande
- Fireside at Desert Ridge
- Fireside at Norterra
- Sun City Festival

Doucette Flagstaff
928-774-1076
- Presidio in the Pines

Elite Communities
623-537-5331
- Sundero

EnviroGreen Solar Homes
623-734-3480
- Placeholder text for now

Equus Development Corporation
602-956-1117
- Las Piedras Townhomes

Ericksen Homes
928-708-9232
- Custom Homes

**Habitat for Humanity
Valley of the Sun**
602-268-9022
- Placeholder text for now

Hope Construction
928-527-3159
- Custom Homes

Jacobson Homes
928-782-1801
- Cielo Verde

John Laing Homes
480-951-2700
- Morada at Palm Valley
- Sereno at Palm Valley

Keystone Homes
520-421-0999
- Ironwood Village

Meritage Active
623-386-8371
- Sundance

Monterey Homes
480-998-8700
- Mirabel Village
- Sera Brisa

**Perricone
Development Group**
928-329-1360
- Terra Bella

Pulte Homes
866-to-Pulte
- Anthem at Merrill Ranch
- Cabrillo Point
- Canyon Trails
- Festival Foothills
- Fireside at Norterra
- Lone Mountain

- Northgate
- Red Rock Village (Tucson)
- Stetson Valley
- Tartesso
- Verrado
- Vista De Montana
- White Tank Foothills

Richmann Construction
928-635-1511
- Custom Homes

Robson Communities
623-935-6700
- PebbleCreek

Rosewood Homes
480-922-6366
- DC Ranch
- Estrella Mountain Ranch
- Vistancia

SunCor Homes
623-536-5731
- Palm Valley

Sun Pine Homes
800-778-6604
- Canyons at Granite Park

T&M Mohave Properties
480-325-8100
- Pine Knoll Village

Talas Homes
623-327-0709
- Buckeye Ranch
- Ranchettes
- Sun Valley Ranch

Taylor Morrison
623-386-9327
- Montecito at Estrella

Trilogy by Shea Homes
623-215-6315
- Trilogy at Vistancia

William Ryan Homes
866-608-1468
- Estrella Mountain Ranch

For specific community information,
please visit www.aps.com/homes

Pulte Homes Continued...▶



I've saved a lot of money.

**I didn't have to submit
any paperwork!**

**APS made it
easy to save energy.**

**Now I can afford to
be energy efficient.**

Things you might hear from a small business owner.

The APS Solutions for Business program has a new "direct install" feature that **cuts the hassle and cost** for APS small business customers interested in energy efficiency.

- A qualified program contractor completes the paperwork and installs the equipment.
- APS pays up to 90% of the project cost directly to the contractor.
- You enjoy energy savings and lower operating costs.

Sound good? Can we quote you on that?

 **Solutions for
Business**

www.aps.com/businessrebates

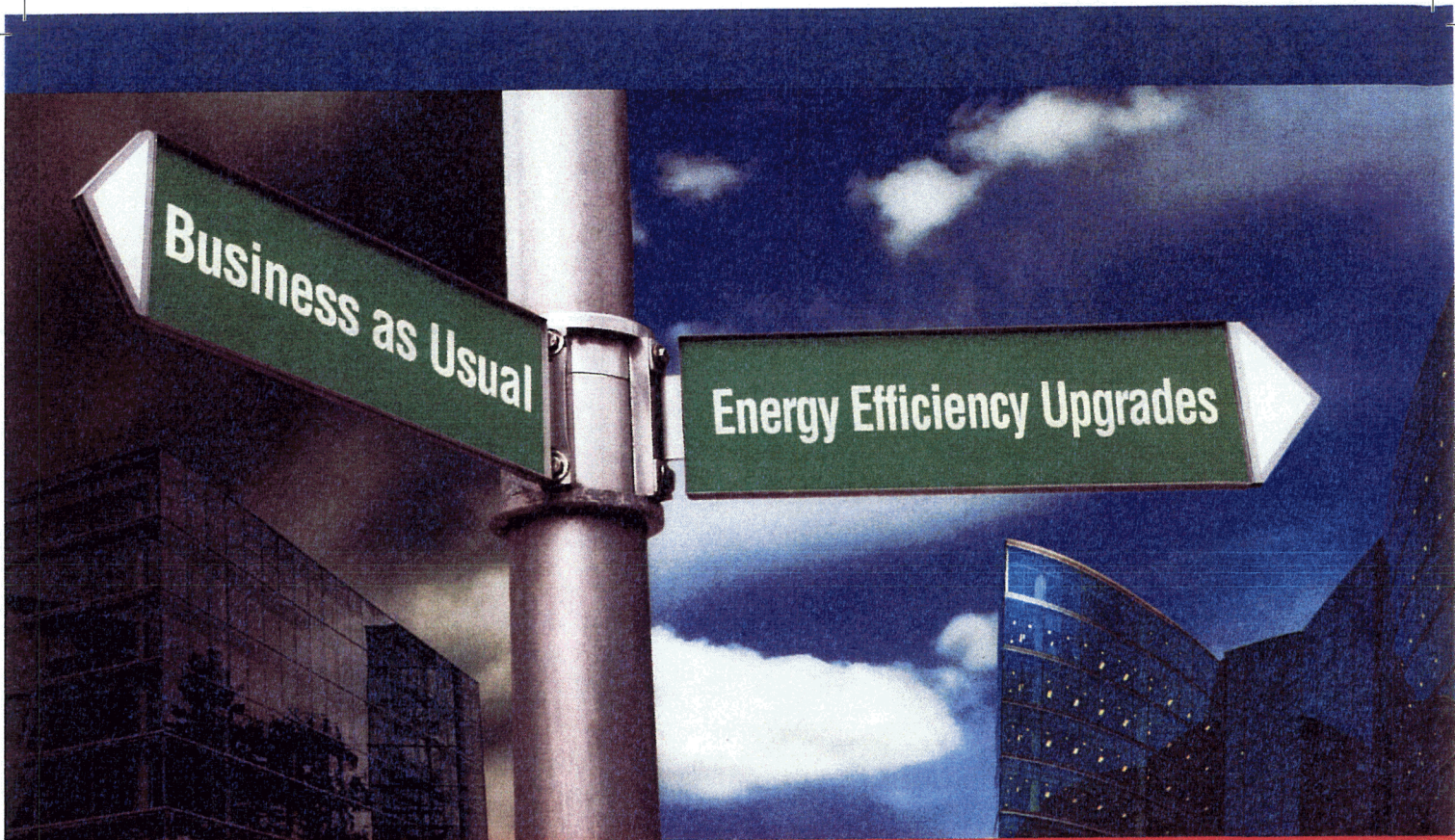
The Solutions for Business program is funded by APS customers and is approved by the Arizona Corporation Commission.



More house.
Less energy bill.

www.aps.com/newhomes





Is Your Business Headed In The **Right Direction?**

APS can make your investment decision easier. The Solutions for Business program offers cash rebates, training workshops and information tools to help APS business customers increase their energy efficiency and decrease their energy costs.

Energy efficiency upgrades can:

- Reduce energy bills and operating costs
- Cut maintenance demands
- Increase tenant satisfaction and decrease turnover
- Save water and reduce CO₂ emissions
- Fund your business growth through long-term savings

How much can your business save?



www.aps.com/businessrebates

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They're serious about saving energy. Are you?



The APS Solutions for Business program helps business customers implement energy efficiency projects and cut energy costs. These projects produce serious results.

Since 2006, the Solutions for Business program has paid **\$17 million in rebates to 605 Arizona businesses**. As a result, these businesses will save \$312 million in energy costs. By cutting energy use they will also save one billion gallons of water and cut two million tons of greenhouse gas emissions.

These results would not be possible without an experienced network of industry professionals. From architects and engineers to electrical and mechanical contractors, the professionals on the Solutions for Business Trade Ally list recognize the value of energy efficiency. They know how the rebate program works and understand the importance of leveraging every resource to help businesses increase energy efficiency. If you are serious about saving energy, the Solutions for Business Trade Ally list is a good place to start.

APS extends its appreciation to the following Solutions for Business Trade Allies for helping APS business customers save energy and for helping to ensure that *a better tomorrow starts today*.

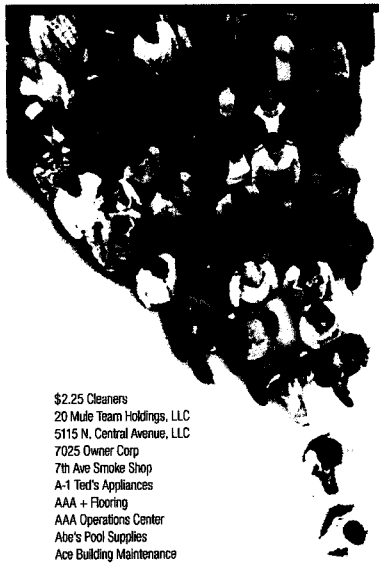
A.B.T. Electric	Grainger	RDS Electric
AEC Electric	Graybar Electric	Red Dog Lighting & Signs
APS Energy Services	H & E Equipment Services, Inc.	Red Mountain Lighting
Arizona Energy Services	Hansberger Refrigeration	Ryan Lighting
Atlas Copco	Harris Mechanical Southwest	Sabino Electric, Inc.
ATS Electric	HD Supply – Electrical	Siemens Building Technologies
Bamber Electric	Hobaica Services Inc.	Siglers
Bland Family Solar & Electric	Honeywell Building Solutions	Smith Seckman Reid
Canyon State Electric Co. Inc.	IES Commercial	Source Refrigeration & HVAC
Carrier Commercial Services	IMCOR	SSRCx Facilities
Chas Roberts Air Conditioning	Ingersoll Rand	Commissioning
Chelsea Group, Ltd	InLine Electrical Resources	Sunstate Energy
Climatec, BTG	JFK Electrical Contracting	Supermarket Energy
Coleman Hines	Kitchell Corporation	Technologies
Cool Ace Air, LLC	Lamp Finders, Inc.	The Signery
Corbins Service Electric	Laron, Inc.	three-sixty design and
CORE Construction AZ	Lime Energy	energy lighting group
DAK Electric	LSW Engineers Arizona Inc.	Thunderbird Mountain Facilities
DECA Southwest	Mechanical Maintenance Inc.	Performance Services
DLT&V Systems Engineering	Mechanical Products BAS	Tinman LLC
Eco Power, LLC	North Coast Electric	TMCx Arizona
Electric Supply Inc.	Orion Energy Systems of AZ	Tolin Mechanical Systems
Energy Design & Consulting	Pearson Engineering	Tri City Mechanical
Energy Savings Group	Associates, Inc.	US Energy Services, Inc.
Enovity Inc	Power Management, Inc.	Wespac Construction
Fluoresco Lighting & Signs	Premier Mechanical	West-Lite Supply Co.
G & S Electric	Pueblo Mechanical	Wilson Electric

For more information on the Solutions for Business program and to find Trade Ally contact information visit www.aps.com/businessrebates

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APS Solutions for Business

www.aps.com/businessrebates



Looking for a sound business investment? Take their lead.

Take it from the 605 APS business customers who are counting their energy savings: energy efficiency investments pay. Since 2006, the APS Solutions for Business program has paid \$17 million in rebates to help 605 savvy Arizona businesses implement energy efficiency projects. These projects will **save \$312 million in energy costs** for the businesses. By reducing their energy use, they will also save 1 billion gallons of water and cut 2 million tons of greenhouse gas emissions. APS commends these leaders for investing in projects that will strengthen their companies and benefit the community.

APS extends its appreciation to the following business customers who participated in the Solutions for Business program in 2010. Thank you for helping us ensure that a better tomorrow starts today.

\$2.25 Cleaners
 20 Mule Team Holdings, LLC
 5115 N. Central Avenue, LLC
 7025 Owner Corp
 7th Ave Smoke Shop
 A-1 Ted's Appliances
 AAA + Flooring
 AAA Operations Center
 Abe's Pool Supplies
 Ace Building Maintenance
 Acura of North Scottsdale
 Advanced Urgent Care
 AG/FP Siete Square, LLC
 Agua Fria Union High School District #216
 American Express
 American Multi-Cinema, Inc.
 Anred, Inc.
 Arizona Commercial Management, LLC
 Arizona Dept of Health Services
 Arizona Dept of Transportation
 Arizona Food Marketing Alliance
 Arizona Republic
 Arizona State Retirement
 Arizona State University
 Arizona Western College
 AT&T
 Audi of North Scottsdale
 Avondale Elementary School District
 AZ Apparel
 B&B Appliances
 B&D Restaurants dba McDonald's
 B&L Pools
 Bank of America
 Bank of the West
 Banner Health
 Barnett Management Co. dba Burger King
 Bashas' Supermarkets
 Bed, Bath & Beyond, Inc.
 Bell Lock & Safe
 Bell Plaza Holdings, LLC
 Berry Plastics
 Berry Realty & Associates
 Best Western International, Inc.
 Bethany Bible Church
 Big 5 Corp.
 Blockbuster Video
 BPOE Payson
 Brass Armadillo Phoenix, Inc.
 Brinker International, Inc.
 Bruce Brown & Co. Catering
 Cabot Industrial Properties, L.P.
 Cancer Treatment Center of America
 Canyon State Oil
 Capstone Development
 Cardsmart
 Casa Grande Elementary School
 District #4
 CB Richard Ellis
 CB Richard Ellis- Asset Services
 CB Richard Ellis, Inc. (Managing Agent
 for Collier Center PT, LLC)
 Chaparral Suites Hotel
 Cholla Custom Cabinets
 Christ's Church of the Valley
 City of Chandler
 City of Coolidge: Community Center,
 Fire House, Women's Club, Vehicle
 Maintenance and Public Works Building
 City of Cottonwood
 City of Peoria
 City of Scottsdale
 City of Tempe
 Coca-Cola Enterprises
 Cocoonino County Community College
 Cocoonino County Facilities Management
 Community Bible Church of Cordes Lake
 Cooper's Auto
 Coulter Cadillac
 Cox Communications
 Crescent Crown Distributing, LLC
 CSB Industries
 CVS Pharmacy, Inc.
 Dad's Catering
 Daniel C. Forsite

Data Sales Co.
 Deer Valley Hotel Investors II, LLC
 Deer Valley Lodging Investors, LLC
 Deer Valley Plumbing Contractors, Inc.
 Deer Valley Unified School District #97
 Del Taco, LLC
 Dept. of Emergency and Military Affairs
 Desert Springs Senior Living
 Dimco Communications
 Diocese of Phoenix
 Dollar Store
 Dollar Tree Stores Inc.
 Don Mellon dba McDonald's
 Double G Shea Medical Plaza, LP
 Downtown Phoenix Hotel Corp
 DS Waters, Inc.
 Dysart Unified School District 89
 Earth Grains Baking Co., Inc.
 eBay Inc.
 Einstein Noah Restaurant Group
 Eloy Elementary District
 Eunice's Pet Grooming
 Fairmount Office, LLC
 Family Dollar Stores, Inc.
 Fascination Store
 Fireside at Norterra Community
 Association
 Food for the Hungry
 Four Seasons Resort Scottsdale
 Frazee Paint
 Fresh & Easy Neighborhood Markets, Inc.
 Fry's Food and Drug Stores
 General Mills Restaurants, Inc.
 George's Wash N Dry
 Gila Bend Unified School District
 Gilbert Historical Museum
 GMRJ, Inc.
 GrandView Terrace Partnership
 Granny's Attic
 Grayhawk Golf LLC
 Green Scene Solar
 Hair Fantasy Salon, LLC
 Hamilton Sundstrand
 Harkins Theatres
 Harmony House
 Herman Quiroga Law Office
 Hines One Renaissance Square LP
 Hines Two Renaissance Square LP
 Hobby Lobby Stores, Inc.
 Holsum Bakery, Inc.
 Home Depot, Inc.
 Honey Designs, LLC
 Honeywell Aerospace
 Honeywell, Inc.
 Hot Tacos, Inc.
 Humboldt Unified School District #22
 Indianola Partners, LLP
 Inline Electric Resources
 InterContinental Montelucia Resort & Spa
 Interfaith Community Care
 JAG Development
 JAI AMBE Phoenix, LLC
 JB Signs and Displays
 JEMB Scottsdale, LLC
 John A. Montano, DC dba A-1
 Chiropractic Clinic
 John C. Lincoln North Mountain Hospital
 Joseph City Unified School District
 Joy Cone Co.
 JP Morgan Chase Bank, N.A.
 Koll/PER Black Canyon, LLC
 Kral Inc. dba Burger King

Liberty Property Trust
 Litchfield Elementary School District
 LO Tempe Hotel Inc.
 Lowe's HW, Inc.
 M&J Bank
 Madison School District #38
 Mammoth San Manuel Unified
 School District
 Marga Dry Cleaner
 Maricopa County Community Colleges
 Maricopa County Facilities Management
 Marine Corps Air Station, Yuma
 Mark IV Capital Properties, Inc.
 Marriot International, Inc.
 Mayer Unified School District #43
 Mayo Foundation
 McCarthy Cook & Co
 MechoShade Systems West
 Metal Improvement Company
 Metz Tax Service
 MI Windows and Doors
 Mile High Animal Hospital
 Minute Man Printers, Inc.
 Mission de los Arroyos
 Mitek Industries, Inc.
 MMR Orthodontic Lab
 Monterrey Tile Co.
 Moor Products, Inc. dba Greenleaf Paper
 MDR Furniture for Less Inc
 Morgan Trail Executive Suites
 Motel 6
 Moto Photo and Portrait Studio
 MotoHouse
 Murphy Elementary School District
 Museum of Northern Arizona
 NAPA Auto Parts
 National Bank of Arizona
 Nghiep C Doan
 Nissan Technical Center, North
 America, Inc.
 Nofsinger Mfg. Co., Inc.
 NPG Cable
 Office Max
 Osborn School District #8
 Palm Lane Professional Plaza
 Paradise Valley Unified School District #69
 Paradise Valley Associates NF, LLC
 Parker Hannifin
 Parkway Realty Services, LLC
 Party People
 Payless Shoe Source
 Payson Fire Station #11 and #12
 Payson Senior Center and Thrift Shop
 Payson Town Hall
 Payson Unified School District
 Peoria Cleaners & Laundry
 PETCO Animal Supplies Inc.
 Peter Piper Pizza
 PetSmart, Inc.
 PFFJ, LLC
 Phoenix Convention Center
 Phoenix Farms Super Mercado
 Phoenix Greyhound Park
 Phoenix High Building, LLC
 Phoenix High Residential, LLC
 Phoenix Indian Medical Center
 Phoenix Renaissance Apartments, LLC
 Phoenix Union High School District
 Phoenix VA Health Care System
 Pinal County Facilities Management
 Pinnacle Property Management
 PMB Real Estate Services
 Precision Intricast
 Price Industries
 Procter and Gamble Phoenix
 Prudential Real Estate Investors
 Pueblo Norte
 OSC Restaurants, Inc.
 QuikTrip Corporation
 R.C. Taylor Inc.
 Ram Jet Racing
 Ray's ASU Barber Shop
 Recreation Centers of Sun City West
 Red Development

Red Robin Gourmet Burgers
 Redeemed Christian Fellowship
 Rehab Pro
 Ron's Auto Repair
 Rose Court
 Ross Stores Inc.
 Roy Daniels, DDS
 Russell Wagner
 Safeway, Inc.
 Salt River Materials Group
 San Manuel Hardware
 SCA Tissue, LLC
 Scottsdale Healthcare Hospital
 Scottsdale Mini-Mart
 Scottsdale Shadows Regime #6
 Sears Holding Corporation
 Sedona Springs Resort Home
 Owner Association
 Sedona-Oak Creek Unified School District
 Shamrock Farms
 Simis Elementary School
 Snyders of Hanover
 Southwest Autism Research &
 Resource Center
 Southwest Inn at Sedona
 Southwest Jet Corporate Center, LLC
 St. Mary's Food Bank
 Staples, Inc.
 Starwood Vacation Ownership
 State of Arizona 2 State Laboratory
 Sub-Zero Freezer Co., Inc.
 Summer Winds Nursery
 Sun Motors, LLC dba BMW
 North Scottsdale
 Sun Village Community Association
 Sunstate Mechanical Services
 T.O.P. Legal Department
 Temple Beth Israel
 The 2700 Group LLC
 The Church of Jesus Christ of
 Latter-Day Saints
 The Container Store
 The Doll House
 The Pool People
 The Realty Associates Fund VIII, LP
 The Tech Group
 The Woodmark at Sun City
 Third Ave Lofts Unit Owners
 Thunderbird School of Global
 Management
 Tiarna Real Estate Services
 Today's Pool & Patio
 Tono Enterprises, LLC
 Town of Buckeye
 Town of Florence
 Town of Paradise Valley
 Town of Payson Community Development
 Transwestern
 TriPlus Partners
 Truck Recyclers
 TVI, Inc.
 U-Haul International, Inc.
 Upper Crust Bakery
 UPS
 US Food Service
 Valley of the Sun School and
 Habilitation Center
 VANS Golf Pro Shop
 Visions Fine Art Gallery
 VJ Black Canyon, LLC
 Walgreens, Inc.
 Wal-Mart Stores, Inc.
 Washington School District
 Watkins Shelter
 Westaco, Inc.
 Westbrook Village Association
 Whiffle Tree, Inc.
 Whisper Rock Golf, LLC
 Wood Expressions Fine Custom Cabinetry
 Wood Tech Restoration
 World at Work
 Yavapai Prescott Indian Tribe
 Yuma Elementary School District
 Yusuf's Grocery, Deli & Restaurant

APS would like to add your name to our list of program participants. Contact us to learn how you can start saving energy and cutting costs in your business.



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