

ECONOMIC OPPORTUNITY STUDIES

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Demand Side Management Programs = Weatherization Partnership Opportunities

2005 (with 2007 update)

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Starting up or expanding Weatherization partnerships with utilities can be a challenge in states without a long history of significant ratepayer investment through the WAP network. One way to begin or ramp up is to make Weatherization a qualified participant in any established residential Demand Side Management programs, however modest.

Introducing DSM programs today: Demand Side Management, DSM, Programs are ratepayer funded utility programs, primarily electric utility programs, to reduce the need for new capacity. The first programs were developed in response to federal energy efficiency acts in the late 1970's. Many persist, while others have been replaced by system benefit/public benefit funds with more diverse and ambitious goals and activities. Utilities in states that did not attempt "competition" are most likely still to have these programs.

As the DOE charts at the end of this paper indicate, the scope of and funding for these programs has been dropping for a decade. Nevertheless, today's DSM programs spend nearly \$1 billion yearly on efficiency investments, and the residential sectors provides a third of their savings.

How they work: DSM programs must be approved by regulators; the programs value efficiency measures as some part of the estimated value of the power that would be needed if they were not installed. Through various mechanisms, like rebates, the utilities pay that amount for the installed measure - usually only a portion of full cost of the item. For example, the value of the additional savings from using a compact fluorescent light instead of an incandescent bulb, not the full value of the CFL.

Why they work in partnership with WAP: Every time Weatherizers install a measure that is on the DSM list, they are providing value for the utility by helping achieve its demand-side goal. So long as a measure that qualifies for a DSM rebate or subsidy was paid for from funds that were not provided by the utility, the utility is authorized to pay for the value it received.

While, for most homes, a utility would pay the rebate to the consumer who paid for the measure, a weatherized unit's savings were paid for by the program. This means the program has as strong a claim for the rebate as any other purchaser of demand reduction.

How, and where, DSM works in partnerships with WAP: The design of this partnership can be very simple and administratively efficient. Weatherizers establish a contractual or other formal agreement with their utility, or utilities, that provides a mechanism for them to submit proof that they installed the listed measures and a claim

for reimbursement. The utility needs to have a good system for processing these batches of claims.

In the beginning, utility executives may need an introduction to the program and its high level of fiscal accountability; the role of agency fiscal systems and of the state and federal oversight. They should soon realize that these reimbursement claims have as high or higher a level of reliability as any in the residential sector.

In Florida, Progress Energy and many of the Weatherizers in its territory have a long-standing system that all parties consider a win-win. According to the LIHEAP Clearinghouse, rebates of just over \$150,000 were leveraged in 2006. (PE contact: Mr. Vernon McQueen) Florida's largest supplier, Florida Power, is initiating similar partnerships.

Nevada has similar programs with documented successes. For more, see the index of utility partnerships at ww.weatherizationplus.org.

The Progress Energy reimbursement sheet shown below indicates the kinds of measures that are typical in these programs. The rebate amount is chosen by the Commission on the basis of the value of avoided power and will be different by state and power grid.

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Progress Energy Account Number:	Invoice Number:	General House Data:
Agency Name:		Square Footage _____
Client Intake Information:		Pre-CFM _____
Client Name:		Post-CFM _____
Service Address:	City/State/Zip	Structure Age _____

Unit Type: (check one) Single Family (frame) Single Family (masonry) Mobile Home Other

Completed Measures:	Circle Completions Only		Incentives	
Duct Leakage Test	Yes	No	\$ 30.00	\$ -
Duct Leakage Repair	Yes	No	\$125.00	\$ -
Infiltration Reduction	Yes	No	\$ 75.00	\$ -
HVAC Maintenance	Yes	No	\$ 40.00	\$ -

High Efficiency Heat Pump: Manufacturer's Name _____ SEER _____ HSPF _____

Heat Pump Replacing Heat Pump

Indoor Unit Model Number _____	Outdoor Unit Model Number _____		
	Must install 14.0 SEER and 7.8 HSPF or higher	\$100.00	\$ -
	Must install 15.0 SEER and 8.0 HSPF or higher	\$150.00	\$ -

Heat Pump Replacing Electric Resistance Heat

Indoor Unit Model Number _____	Outdoor Unit Model Number _____		
	Must install 14.0 SEER and 7.8 HSPF or higher	\$250.00	\$ -
	Must install 15.0 SEER and 8.0 HSPF or higher	\$350.00	\$ -

Insulation: *****Existing conditioned area must be greater than 100 sq.ft and insulation must be below R-12 to qualify for incentive.*****

Check One:

R-19	<input type="checkbox"/>	\$15.00 per 100 square foot \$75 maximum, plus 5¢ per sq foot over 1500 sq feet			
		(Over 1500 Sq Feet)	100 Sq Ft X _____	\$ 15.00	\$ -
			Sq Ft X \$0.05	=	\$ -
R-30	<input type="checkbox"/>	\$20.00 per 100 square foot \$100 maximum, plus 7¢ per sq foot over 1500 sq feet	100 Sq Ft X _____	\$ 20.00	\$ -
		(Over 1500 Sq Feet)	Sq Ft X \$0.07	=	\$ -

Water Heating:

<input type="checkbox"/>	Water Heater Wrap/Water Heater Replacement		\$ 25.00	\$ -
<input type="checkbox"/>	Heat Recovery		\$100.00	\$ -
<input type="checkbox"/>	Dedicated Heat Pump Water Heater (HPWH)		\$200.00	\$ -

Miscellaneous Items:	Requirements:				
Low Flow Showerheads	Maximum of 2.5 gallon per minute flow - Max. 2 per household	\$18 per showerhead	X	\$18.00	\$ -
Compact Fluorescent Light Bulbs	15 or 18 watt Compact Fluorescent replacing incandescent lamp greater than or equal to 60 watts - Max. 3 per household	\$4 per lamp	X	\$4.00	\$ -
Faucet Aerators	Max. 3 per household	\$2 per Aerator	X	\$2.00	\$ -
Refrigerator Coil Brush	Max. 1 per household			\$7.00	\$ -

Supplemental Incentive Bonus:

High efficiency electric heat pump and either ceiling insulation or duct leakage repair.		\$ 25.00		\$ -
High efficiency electric heat pump and ceiling insulation and duct leakage repair.		\$ 50.00		\$ -
Total Incentives:				\$ -

Appendix: from US Department of Energy Tables "Annual Electric Power Industry Report

Table 9.4. Demand-Side Management Program Annual Effects by Sector, 1996 through 2005										
Item	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Actual Peak Load Reductions (MW)										
Large Utilities										
Residential	9,432	8,870	9,431	9,137	9,619	9,446	9,976	9,327	10,799	11,471
Commercial	7,926	7,194	6,774	6,839	8,210	6,987	7,777	9,482	8,174	8,678
Industrial	8,343	7,454	6,594	6,500	6,553	6,141	6,360	7,927	5,812	9,083
Transportation	9	14	105	NA	NA	NA	NA	NA	NA	NA
Other	NA	NA	NA	460	573	327	2,342	495	498	661
Total	25,710	23,532	22,904	22,936	24,955	22,901	26,455	27,231	25,284	29,893
Potential Peak Load Reductions (MW)										
Large Utilities										
Residential	12,097	11,967	12,525	12,072	12,274	12,970	12,812	13,022	16,662	14,697
Commercial	10,214	9,624	8,943	9,298	10,469	9,114	8,868	12,210	12,896	12,452
Industrial	14,260	13,665	17,298	18,321	17,344	18,775	17,237	15,512	11,035	20,275
Transportation	62	14	105	NA	NA	NA	NA	NA	NA	NA
Other	NA	NA	NA	617	670	510	4,653	686	644	921
Total	36,633	35,270	38,871	40,308	40,757	41,369	43,570	41,430	41,237	48,344
Energy Savings (Thousand MWh)										
Large Utilities										
Residential	19,255	17,763	13,469	15,438	16,027	16,287	16,263	16,564	17,830	20,585
Commercial	28,416	24,624	25,089	24,391	24,217	25,660	23,375	25,125	27,898	29,186
Industrial	12,178	12,273	11,156	11,339	10,487	9,160	8,156	3,347	8,684	10,493
Transportation	48	51	551	NA	NA	NA	NA	NA	NA	NA
Other	NA	NA	NA	2,907	3,206	2,593	2,770	831	1,694	1,578
Total	59,897	54,710	50,265	54,075	53,936	53,701	50,563	49,167	56,406	61,842
NA = Not available.										
Notes: • See Technical Notes for the Demand-Side Management definitions located within the Form EIA-861 section. • Totals may not equal sum of components because of independent rounding.										
Table 9.7. Demand-Side Management Program Direct and Indirect Costs, 1996 through 2005										
(Thousand Dollars)										
Item	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996
Direct Cost[1]	\$ 1,794,809	\$ 1,425,172	\$ 1,159,540	\$ 1,420,937	\$ 1,455,602	\$ 1,384,232	\$ 1,250,689	\$ 1,233,018	\$ 1,347,245	\$ 1,623,588
Energy Efficiency	\$ 1,169,241	\$ 910,115	\$ 807,403	\$ 1,007,323	\$ 1,097,504	\$ 938,666	\$ 820,108	\$ 766,384	\$ 892,468	\$ 1,051,922
Load Management	\$ 625,568	\$ 515,057	\$ 352,137	\$ 413,614	\$ 358,098	\$ 445,566	\$ 430,581	\$ 466,634	\$ 454,777	\$ 571,666
Indirect Cost[2]	\$ 126,543	\$ 132,294	\$ 137,670	\$ 204,600	\$ 174,684	\$ 180,669	\$ 172,955	\$ 187,902	\$ 288,775	\$ 278,609
Total DSM Cost[3]	1,921,352	1,557,466	1,297,210	1,625,537	1,630,286	1,564,901	1,423,644	1,420,920	1,636,020	1,902,197
[1] Reflects electric utility costs incurred during the year that are identified with one of the demand-side program categories.										
[2] Reflects costs not directly attributable to specific programs.										
[3] Reflects the sum of the total incurred direct and indirect cost for the year.										
Notes: • Includes expenditures reported by large electric utilities, only. See the data files for DSM expenditures of small utilities. • Totals may not equal sum of components because of independent rounding.										
Source: Energy Information Administration, Form EIA-861, "Annual Electric Power Industry Report."										

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