



Date: March 19, 2010

To: John Rush
Don Jones Jr.

From: Brian Hedman

Re: Utah Home Energy Savings 2009 Program Cost Effectiveness

The tables below present the cost effectiveness findings of the Utah Home Energy Savings program based on 2009 costs and savings estimates provided by PacifiCorp in Attachment M in the tab labeled 2009 cost effectiveness inputs. The Utility discount rate is from the 2008 PacifiCorp Integrated Resource Plan.

Cost effectiveness was tested using the 2008 IRP 46% east residential whole house load factor decrement. Table 1 lists modeling inputs.

The program is cost effective from the TRC, UCT and PCT perspectives. The benefit/cost ratio for the RIM test is less than 1, indicating the program will have an upward influence on rates.

Table 1: Home Energy Savings Inputs

Parameter	Value
Discount Rate	7.4%
Line Loss	9.72%
Residential Energy Rate (\$/kWh)	\$0.0857

Table 2: Home Energy Savings Annual Program Costs and Savings

	Program Costs	Utility Admin	Evaluation	Incentives	Total Utility Costs	Net Participant Incremental Cost
Lighting	\$949,212			\$2,290,120	\$3,239,332	\$6,965,867
Appliance	\$953,644			\$1,807,610	\$2,761,254	\$4,624,258
Shell	\$1,753,421			\$17,523,048	\$19,276,469	\$15,682,260
HVAC	\$39,382			\$122,986	\$162,368	\$173,800
Total	\$3,695,659	\$0	\$0	\$21,743,763	\$25,439,423	\$27,446,185

**Table 3: Home Energy Savings
 Savings by Measure Type**

	Gross kWh Savings	Realization Rate	Adjusted Gross Savings	Net to Gross Percentage	Net kWh Savings	Measure Life
Lighting	72,414,500	97%	70,242,065	82%	57,598,493	5
Appliance	4,707,990	100%	4,707,990	82%	3,860,552	14
Shell	8,656,368	76%	6,603,511	82%	5,414,879	30
HVAC	194,423	100%	194,423	82%	159,427	14
Total	85,973,282		81,747,989		67,033,351	

Table 4: IRP 46% Load Factor Decrement

All Measures	AC: IRP 46% LF Decrement				
	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	0.0730	\$31,141,844	\$28,238,721	(\$2,903,123)	0.907
Total Resource Cost Test (TRC) No Adder	0.0730	\$31,141,844	\$25,671,564	(\$5,470,280)	0.824
Utility Cost Test (UCT)	0.0597	\$25,439,423	\$25,671,564	\$232,142	1.009
Rate Impact Test (RIM)		\$55,175,097	\$25,671,564	(\$29,503,532)	0.465
Participant Cost Test (PCT)		\$5,702,421	\$38,400,590	\$32,698,168	6.734
Lifecycle Revenue Impacts (\$/kWh)				\$0.0009417172	
Discounted Participant Payback (years)				0.87	

Table 5: 2009 - Lighting

2009-Lighting	AC: IRP 46% LF Decrement			
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$7,915,079	\$14,201,194	\$6,286,116	1.794
Total Resource Cost Test (TRC) No Adder	\$7,915,079	\$12,910,177	\$4,995,098	1.631
Utility Cost Test (UCT)	\$3,239,332	\$12,910,177	\$9,670,845	3.985
Rate Impact Test (RIM)	\$23,993,140	\$12,910,177	(\$11,082,963)	0.538
Participant Cost Test (PCT)	\$4,675,747	\$25,581,710	\$20,905,963	5.471
Discounted Participant Payback (years)			0.83	

Table 6: 2009 - Appliance

2009-Appliance			AC: IRP 46% LF Decrement	
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$5,577,902	\$3,200,348	(\$2,377,554)	0.574
Total Resource Cost Test (TRC) No Adder	\$5,577,902	\$2,909,407	(\$2,668,494)	0.522
Utility Cost Test (UCT)	\$2,761,254	\$2,909,407	\$148,154	1.054
Rate Impact Test (RIM)	\$5,811,400	\$2,909,407	(\$2,901,993)	0.501
Participant Cost Test (PCT)	\$2,816,648	\$3,951,708	\$1,135,060	1.403
Discounted Participant Payback (years)			8.97	

Table 7: 2009 – Home Improvement

2009-Home Improvement			AC: IRP 46% LF Decrement	
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$17,435,681	\$10,655,921	(\$6,779,760)	0.611
Total Resource Cost Test (TRC) No Adder	\$17,435,681	\$9,687,201	(\$7,748,480)	0.556
Utility Cost Test (UCT)	\$19,276,469	\$9,687,201	(\$9,589,268)	0.503
Rate Impact Test (RIM)	\$25,085,559	\$9,687,201	(\$15,398,358)	0.386
Participant Cost Test (PCT)	(\$1,840,788)	\$8,703,980	\$10,544,769	NA
Discounted Participant Payback (years)			NA	

Table 8: 2009 – HVAC

2009-HVAC			AC: IRP 46% LF Decrement	
	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$213,182	\$181,257	(\$31,925)	0.850
Total Resource Cost Test (TRC) No Adder	\$213,182	\$164,779	(\$48,403)	0.773
Utility Cost Test (UCT)	\$162,368	\$164,779	\$2,411	1.015
Rate Impact Test (RIM)	\$284,997	\$164,779	(\$120,218)	0.578
Participant Cost Test (PCT)	\$50,814	\$163,191	\$112,377	3.212
Discounted Participant Payback (years)			3.47	