

Date: March 19, 2010
To: John Rush
 Don Jones Jr.
From: Brian Hedman
Re: Utah Home Energy Savings 2009 Program Cost Effectiveness – Using Planning Estimates

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	\$6,795,968
Appliance	\$953,644			\$1,807,610	\$2,761,254	\$4,511,471
Shell	\$1,753,421			\$17,523,048	\$19,276,469	\$15,299,765
HVAC	\$39,382			\$122,986	\$162,368	\$169,561
Total	\$3,695,659	\$0	\$0	\$21,743,763	\$25,439,423	\$26,776,766

**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	100%	72,414,500	80%	57,931,600	9
Appliance	4,707,990	100%	4,707,990	80%	3,766,392	14
Shell	8,656,368	100%	8,656,368	80%	6,925,095	45
HVAC	194,423	100%	194,423	80%	155,538	14
Total	85,973,282		85,973,282		68,778,626	

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	0.0696	\$30,472,425	\$49,628,140	\$19,155,715	1.629
Total Resource Cost Test (TRC) No Adder	0.0696	\$30,472,425	\$45,116,491	\$14,644,066	1.481
Utility Cost Test (UCT)	0.0581	\$25,439,423	\$45,116,491	\$19,677,069	1.773
Rate Impact Test (RIM)		\$71,997,604	\$45,116,491	(\$26,881,113)	0.627
Participant Cost Test (PCT)		\$5,033,002	\$60,388,739	\$55,355,736	11.999
Lifecycle Revenue Impacts (\$/kWh)				\$0.0004776176	
Discounted Participant Payback (years)				0.73	

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	\$7,745,180	\$30,839,666	\$23,094,487	3.982
Total Resource Cost Test (TRC) No Adder	\$7,745,180	\$28,036,060	\$20,290,881	3.620
Utility Cost Test (UCT)	\$3,239,332	\$28,036,060	\$24,796,729	8.655
Rate Impact Test (RIM)	\$37,782,962	\$28,036,060	(\$9,746,902)	0.742
Participant Cost Test (PCT)	\$4,505,848	\$43,458,531	\$38,952,683	9.645
Discounted Participant Payback (years)			0.78	

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	\$5,465,115	\$3,122,291	(\$2,342,824)	0.571
Total Resource Cost Test (TRC) No Adder	\$5,465,115	\$2,838,446	(\$2,626,669)	0.519
Utility Cost Test (UCT)	\$2,761,254	\$2,838,446	\$77,192	1.028
Rate Impact Test (RIM)	\$5,732,366	\$2,838,446	(\$2,893,920)	0.495
Participant Cost Test (PCT)	\$2,703,861	\$3,951,708	\$1,247,846	1.462
Discounted Participant Payback (years)			8.53	

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	\$17,053,187	\$15,489,347	(\$1,563,840)	0.908
Total Resource Cost Test (TRC) No Adder	\$17,053,187	\$14,081,224	(\$2,971,962)	0.826
Utility Cost Test (UCT)	\$19,276,469	\$14,081,224	(\$5,195,245)	0.730
Rate Impact Test (RIM)	\$28,200,542	\$14,081,224	(\$14,119,318)	0.499
Participant Cost Test (PCT)	(\$2,223,282)	\$12,815,309	\$15,038,591	NA
Discounted Participant Payback (years)			(3.22)	

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	\$208,943	\$176,836	(\$32,107)	0.846
Total Resource Cost Test (TRC) No Adder	\$208,943	\$160,760	(\$48,183)	0.769
Utility Cost Test (UCT)	\$162,368	\$160,760	(\$1,608)	0.990
Rate Impact Test (RIM)	\$281,734	\$160,760	(\$120,973)	0.571
Participant Cost Test (PCT)	\$46,575	\$163,191	\$116,616	3.504
Discounted Participant Payback (years)			3.16	