



**Date:** February 15, 2010  
**To:** Don Jones Jr.  
**From:** Brian Hedman  
**Re:** Utah Self Direction Cost Effectiveness

The tables below present the assumptions and cost effectiveness findings for the Utah portfolio based on costs and saving contained in a spreadsheet titled “SD cost recovered - comm and industrial Jan 2003 - Dec 2009 + CE inputs rev 111809+ rev 021310” . This cost effectiveness analysis was conducted with the eastside system IRP decrement and load shape.

### Cost Effectiveness Assumptions

The discount rate is the system average used in the 2008 IRP. PacifiCorp also provided the values for line losses and the residential retail energy rate.

**Table 1: Inputs**

Parameter	Value
Discount Rate	7.4%
Line Loss	9.72%
Industrial Energy Rate (\$/kWh)	\$0.0441
Net to Gross Ratio	80%
Measure Life	10 years

**Table 2: Self Direction Measure Costs and Savings**

Measure	Savings	Customer Incentive	Administrative Cost	Measure Cost
2003-December 2009	57,361,094	\$9,597,155	\$1,088,642	\$11,996,448
2010-2011	22,477,635	\$4,210,668	\$532,500	\$5,263,335
Total	79,838,729	\$13,807,823	\$1,621,142	\$17,259,783

### Results

The cost-effectiveness of the residential insulation measures was calculated using Cadmus’ Demand Impact and Cost Effectiveness model. The model distributes the assumed annual kWh savings across the year based on hourly system load shapes for Utah. Each of these hourly saving values is multiplied by the associated hourly avoided-costs from PacifiCorp’s IRP decrement values. The products are then compared on a net present value basis. This approach accurately

captures the hourly differences in the value of a kWh during the year.

**Table 3: 2003-December 2009 (65% 2008 IRP Decrement)**

	Costs	Benefits	Net Benefit	Ratio
Total Resource Cost Test (TRC) + Conservation Adder	\$10,685,799.95	\$27,540,910.69	\$16,855,110.74	2.577
Total Resource Cost Test (TRC) No Adder	\$10,685,799.95	\$25,037,191.53	\$14,351,391.58	2.343
Utility Cost Test (UCT)	\$10,685,797.00	\$24,612,031.11	\$13,926,234.11	2.303
Rate Impact Test (RIM)	\$27,235,245.84	\$24,612,031.11	(\$2,623,214.73)	0.904
Participant Cost Test (PCT)	\$2.95	\$19,261,462.80	\$19,261,459.85	n/a

**Table 4: 2010-2011 (65% 2008 IRP Decrement)**

	Costs	Benefits	Net Benefit	Ratio
Total Resource Cost Test (TRC) + Conservation Adder	\$4,743,168.00	\$10,792,237.30	\$6,049,069.30	2.275
Total Resource Cost Test (TRC) No Adder	\$4,743,168.00	\$9,811,124.81	\$5,067,956.81	2.068
Utility Cost Test (UCT)	\$4,743,168.00	\$9,644,520.59	\$4,901,352.59	2.033
Rate Impact Test (RIM)	\$11,228,268.69	\$9,644,520.59	(\$1,583,748.11)	0.859
Participant Cost Test (PCT)	\$0.00	\$7,547,836.00	\$7,547,836.00	n/a

**Table 5: Total 2003-2011 (65% 2008 IRP Decrement)**

	Costs	Benefits	Net Benefit	Ratio
Total Resource Cost Test (TRC) + Conservation Adder	\$15,428,967.95	\$38,333,147.98	\$22,904,180.03	2.484
Total Resource Cost Test (TRC) No Adder	\$15,428,967.95	\$34,848,316.35	\$19,419,348.40	2.259
Utility Cost Test (UCT)	\$15,428,965.00	\$34,256,551.70	\$18,827,586.70	2.220
Rate Impact Test (RIM)	\$38,463,514.54	\$34,256,551.70	(\$4,206,962.84)	0.891
Participant Cost Test (PCT)	\$2.95	\$26,809,298.81	\$26,809,295.86	n/a