



**MEMORANDUM**

To: Eli Morris  
From: Brian Hedman and Byron Boyle  
Subject: 2016-2018 UT Wattsmart Business – Small Business Direct Install – Cost-Effectiveness  
Date: July 12, 2016

The tables below present the cost-effectiveness findings for the 2016-2018 UT Wattsmart Business – Small Business Direct Install (SBDI) program, based on costs and savings estimates provided by PacifiCorp in the spreadsheet entitled “wSB C-E Inputs.xlsx”; and in an email from Eli Morris on June 20, 2016. The utility discount rate is from the 2015 PacifiCorp Integrated Resource Plan.

For all program scenarios, cost-effectiveness was tested using the 2015 IRP *East Commercial Lighting 53% Load Factor Decrements*. Table 1 lists modeling inputs. Table 2 list the costs and incentives and Table 3 lists the annual energy savings for each year and scenario. Table 4 to Table 6 show the complete cost-effectiveness results for each of the SBDI program scenarios. All the SBDI program scenarios are cost-effective from all test perspectives except the RIM.

**Table 1. 2016-18 UT Wattsmart Business SBDI Program Financial Inputs**

Parameter	Value
Discount Rate	6.66%
Commercial Line Loss	8.71%
Commercial Energy Rate (\$/kWh) - 2014 base rate	\$0.0838
Inflation Rate	1.90%

**Table 2. 2016-18 UT Wattsmart Business SBDI Program Costs**

<b>Program</b>	<b>Year</b>	<b>Admin</b>	<b>Delivery</b>	<b>Incentives</b>	<b>Total Utility Costs</b>	<b>Participant Incremental Cost</b>
Small Business – Base Case	2016	\$22,633	\$453,234	\$287,000	\$762,867	\$382,500
Small Business – Base Case	2017	\$48,282	\$1,041,819	\$3,587,500	\$4,677,601	\$4,781,250
Small Business – Base Case	2018	\$51,497	\$1,041,819	\$3,587,500	\$4,680,816	\$4,781,250
Small Business -10% Participation	2016	\$22,633	\$453,234	\$258,300	\$734,167	\$344,250
Small Business -10% Participation	2017	\$48,282	\$1,041,819	\$3,228,750	\$4,318,851	\$4,303,125
Small Business -10% Participation	2018	\$51,497	\$1,041,819	\$3,228,750	\$4,322,066	\$4,303,125
Small Business +10% Participation	2016	\$22,633	\$453,234	\$315,700	\$791,567	\$420,750
Small Business +10% Participation	2017	\$48,282	\$1,041,819	\$3,946,250	\$5,036,351	\$5,259,375
Small Business +10% Participation	2018	\$51,497	\$1,041,819	\$3,946,250	\$5,039,566	\$5,259,375

**Table 3. 2016-18 UT Wattsmart Business SBDI Program Annual Savings**

Program	Year	Gross KWh Savings	Realization Rate	Adjusted KWh Savings	Net-to-Gross Percentage	Net KWh Savings	Measure Life
Small Business – Base Case	2016	1,000,000	87%	870,000	90%	783,000	12.0
Small Business – Base Case	2017	12,500,000	87%	10,875,000	90%	9,787,500	12.0
Small Business – Base Case	2018	12,500,000	87%	10,875,000	90%	9,787,500	12.0
Small Business -10% Participation	2016	900,000	87%	783,000	90%	704,700	12.0
Small Business -10% Participation	2017	11,250,000	87%	9,787,500	90%	8,808,750	12.0
Small Business -10% Participation	2018	11,250,000	87%	9,787,500	90%	8,808,750	12.0
Small Business +10% Participation	2016	1,100,000	87%	957,000	90%	861,300	12.0
Small Business +10% Participation	2017	13,750,000	87%	11,962,500	90%	10,766,250	12.0
Small Business +10% Participation	2018	13,750,000	87%	11,962,500	90%	10,766,250	12.0

**Table 4. 2016-18 UT Wattsmart Business SBDI Program Base Case – Cost-Effectiveness**

Cost-Effectiveness Test	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.061	\$10,620,141	\$13,091,457	\$2,471,316	1.23
Total Resource Cost Test (TRC) No Adder	\$0.061	\$10,620,141	\$11,901,325	\$1,281,183	1.12
Utility Cost Test (UCT)	\$0.053	\$9,262,905	\$11,901,325	\$2,638,420	1.28
Rate Impact Test (RIM)		\$24,944,412	\$11,901,325	(\$13,043,087)	0.48
Participant Cost Test (PCT)		\$9,067,998	\$24,227,858	\$15,159,860	2.67
Discounted Participant Payback (years)					2.88
Lifecycle Revenue Impact (\$/KWh)					\$0.00004861

**Table 5. 2016-18 UT Wattsmart Business SBDI Program -10% Participation – Cost-Effectiveness**

Cost-Effectiveness Test	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.063	\$9,804,022	\$11,782,311	\$1,978,290	1.20
Total Resource Cost Test (TRC) No Adder	\$0.063	\$9,804,022	\$10,711,192	\$907,171	1.09
Utility Cost Test (UCT)	\$0.055	\$8,582,509	\$10,711,192	\$2,128,683	1.25
Rate Impact Test (RIM)		\$22,695,865	\$10,711,192	(\$11,984,673)	0.47
Participant Cost Test (PCT)		\$8,161,198	\$21,805,073	\$13,643,874	2.67
Discounted Participant Payback (years)					2.88
Lifecycle Revenue Impact (\$/KWh)					\$0.00004467

**Table 6. 2016-18 UT Wattsmart Business SBDI Program +10% Participation – Cost-Effectiveness**

Cost-Effectiveness Test	Levelized \$/kWh	Costs	Benefits	Net Benefits	Benefit/Cost Ratio
Total Resource Cost Test (PTRC) + Conservation Adder	\$0.060	\$11,436,261	\$14,400,603	\$2,964,342	1.26
Total Resource Cost Test (TRC) No Adder	\$0.060	\$11,436,261	\$13,091,457	\$1,655,196	1.14
Utility Cost Test (UCT)	\$0.052	\$9,943,301	\$13,091,457	\$3,148,156	1.32
Rate Impact Test (RIM)		\$27,192,959	\$13,091,457	(\$14,101,502)	0.48
Participant Cost Test (PCT)		\$9,974,798	\$26,650,644	\$16,675,847	2.67
Discounted Participant Payback (years)					2.88
Lifecycle Revenue Impact (\$/KWh)					\$0.00005256