

## **Appendix A: Tables**



**SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2020**  
**Otter Tail Power Company**  
**Net Benefits**

	Approved Savings, Costs, and Benefits				Acutal Savings, Costs, and Benefits			
	Energy Savings (kWh)	Proposed Budget	Total Benefits	Utility Net Benefits	Energy Savings (kWh)	Actual Expenses	Total Benefits	Utility Net Benefits
<b>Residential</b>								
Air Conditioning Control	20,126	\$14,000	\$60,111	\$46,111	19,940	\$5,883	\$59,555	\$53,672
Air Source Heat Pumps	298,204	\$20,000	\$207,899	\$187,899	692,612	\$106,386	\$453,869	\$347,483
Geothermal Heat Pumps	321,779	\$30,000	\$271,257	\$241,257	124,848	\$16,523	\$112,584	\$96,061
Lighting	33,209	\$11,000	\$22,172	\$11,172	56,903	\$3,580	\$28,451	\$24,872
<b>Total - Residential</b>	673,318	\$75,000	\$561,438	\$486,438	894,303	\$132,372	\$654,460	\$522,088
<b>Commercial</b>								
Air Source Heat Pumps	291,112	\$18,000	\$180,145	\$162,145	211,606	\$39,371	\$119,036	\$79,665
Custom Efficiency Projects	4,274,737	\$168,000	\$2,876,469	\$2,708,469	252,195	\$32,174	\$191,107	\$158,932
Drive Power	4,207,940	\$201,000	\$2,826,807	\$2,625,807	6,998,269	\$284,850	\$5,226,758	\$4,941,909
Geothermal Heat Pumps	730,265	\$73,000	\$593,765	\$520,765	585,153	\$86,168	\$508,469	\$422,302
Lighting	957,826	\$127,000	\$734,180	\$607,180	1,967,655	\$152,708	\$1,351,822	\$1,199,114
<b>Total - Commercial</b>	10,461,880	\$587,000	\$7,211,367	\$6,624,367	10,014,878	\$595,271	\$7,397,192	\$6,801,921
<b>Total - Direct Impact</b>	11,135,198	\$662,000	\$7,772,804	\$7,110,804	10,909,182	\$727,643	\$8,051,652	\$7,324,010
<b>Indirect Impact</b>								
Advertising & Education		\$12,000	\$0	(\$12,000)		\$10,142	\$0	(\$10,142)
EEP Development - 2020		\$25,000	\$0	(\$25,000)		\$22,806	\$0	(\$22,806)
<b>Total - Indirect Impact</b>		\$37,000	\$0	(\$37,000)		\$32,948	\$0	(\$32,948)
<b>Total - All Programs (Including Development)</b>	11,135,198	\$699,000	\$7,772,804	\$7,073,804	10,909,182	\$760,590	\$8,051,652	\$7,291,062

**Benefit/Cost Results**  
**2020 SD EEP**

<b>Data discounted to 2020</b>	<b>AS FILED Utility Test</b>	<b>ACTUAL 2020 Utility Test</b>
NPV Method: Midyear		
Discount Rates:	7.09%	7.09%
Benefit/Cost Ratio	11.12	10.59
Total Costs	\$699,000	\$760,590
Total Benefits	\$7,772,804	\$8,051,652
Net Benefits	\$7,073,804	\$7,291,062
Total Benefits:		
Utility Elec. Production Cost Decr	\$4,474,539	\$4,382,072
Utility Ancillary	\$0	\$0
Utility Generation Cap. Credit	\$2,080,367	\$2,330,485
Utility Transmission & Distrib. Credit	\$1,217,898	\$1,339,096
Total Benefits	\$7,772,804	\$8,051,652
Total Costs:		
Utility Rebates Paid	\$507,744	\$627,207
Utility Fixed Admin Cost	\$191,256	\$133,384
Total Costs	\$699,000	\$760,590

**SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2020**  
**Otter Tail Power Company**  
**Benefit/Cost Ratios**

	Approved Budget Benefit / Cost Test Results					Actual Benefit / Cost Test Results				
	Utility Test	Total Resource Test	Ratepayer Impact Test	Societal Test	Participant Test	Utility Test	TRC Test	RIM Test	Societal Test	Participant Test
<b>Residential</b>										
Air Conditioning Control	4.29	4.29	3.75	4.29	inf.	10.12	10.12	7.84	10.12	inf.
Air Source Heat Pumps	10.39	2.22	0.53	3.20	6.77	4.27	2.34	0.54	3.37	6.86
Geothermal Heat Pumps	9.04	1.92	0.63	2.73	4.75	6.81	1.47	0.76	2.09	2.90
Lighting	2.02	5.22	0.46	7.07	inf.	7.95	13.81	0.50	18.73	70.47
<b>Total - Residential</b>	<b>7.49</b>	<b>2.22</b>	<b>0.63</b>	<b>3.07</b>	<b>5.82</b>	<b>4.94</b>	<b>2.35</b>	<b>0.62</b>	<b>3.28</b>	<b>5.98</b>
<b>Commercial</b>										
Air Source Heat Pumps	10.01	1.97	0.59	2.66	3.73	3.02	2.80	0.54	3.80	6.10
Custom Efficiency Projects	17.12	16.57	0.86	22.46	23.60	5.94	2.42	1.21	3.16	2.38
Drive Power	14.06	4.62	0.82	6.26	6.52	18.35	6.10	1.03	8.27	6.41
Geothermal Heat Pumps	8.13	1.61	0.74	2.17	2.38	5.90	1.07	0.85	1.44	1.33
Lighting	5.78	2.01	0.87	2.68	2.57	8.85	8.49	0.91	11.50	12.19
<b>Total - Commercial</b>	<b>12.29</b>	<b>4.47</b>	<b>0.82</b>	<b>6.05</b>	<b>6.21</b>	<b>12.43</b>	<b>4.58</b>	<b>0.98</b>	<b>6.20</b>	<b>5.17</b>
<b>Indirect Impact</b>										
Advertising & Education										
EEP Development - 2020										
<b>Total - Indirect Impact</b>										
<b>Total - All Programs</b>	<b>11.12</b>	<b>4.09</b>	<b>0.80</b>	<b>5.54</b>	<b>6.16</b>	<b>10.59</b>	<b>4.18</b>	<b>0.94</b>	<b>5.67</b>	<b>5.28</b>

**SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2020**  
**Otter Tail Power Company**  
**Lifetime Savings**

	Energy Savings			Demand Savings		
	Proposed Energy Savings (kWh)	Actual Energy Savings (kWh)	% of Goal	Proposed Summer Coincident kW Savings	Actual Summer Coincident kW Savings	% of Goal
<b>Residential</b>						
Air Conditioning Control	20,126	19,940	99%	479.9	475.5	99%
Air Source Heat Pumps	5,367,667	12,467,021	232%	28.3	52.6	186%
Geothermal Heat Pumps	5,792,020	2,247,263	39%	23.9	10.2	43%
Lighting	498,136	853,546	171%	3.9	1.8	47%
<b>Total - Residential</b>	11,677,949	15,587,770	133%	536.0	540.1	101%
<b>Commercial</b>						
Air Source Heat Pumps	4,366,686	3,174,088	73%	25.6	13.8	54%
Custom Efficiency Projects	64,121,052	16,293,098	25%	598.5	56.0	9%
Drive Power	63,119,095	104,974,042	166%	589.6	1,246.2	211%
Geothermal Heat Pumps	10,953,976	8,777,288	80%	93.0	70.2	76%
Lighting	11,717,502	29,305,158	250%	210.0	298.2	142%
<b>Total - Commercial</b>	154,278,311	162,523,674	105%	1,516.7	1,684.4	111%
<b>Total - Direct Impact</b>	165,956,260	178,111,444	107%	2,052.7	2,224.6	108%
<b>Indirect Impact</b>						
Advertising & Education						
<b>Total - Indirect Impact</b>						
<b>Total - Without Development Costs</b>	165,956,260	178,111,444	107%	2,052.7	2,224.6	108%
<b>Development</b>						
EEP Development						
<b>Total - Development</b>						
<b>Total - All Programs (Including Development)</b>	165,956,260	178,111,444	107%	2,052.7	2,224.60	108%

**SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2020**  
**Otter Tail Power Company**  
**Incentive Calculation**

**Calculated Incentive Based on Pre-Year Inputs**

1	Original EEP Expense Budget	\$699,000
2	Original EEP Expense Budget multiplied by 30%	\$209,700

**Calculated Incentive Based on Post-Year Inputs**

3	Actual EEP Expenses	\$760,590
4	Actual EEP Expenses multiplied by 30%	\$228,177

5	<b>Financial Incentive:</b> lesser of lines 2 and 4.	<b>\$209,700</b>
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**SOUTH DAKOTA ENERGY EFFICIENCY PLAN - 2020**  
**Otter Tail Power Company**  
**EEP Tracker Account / Cost Recovery**

**EEP AUTOMATIC RECOVERY MECHANISM**

	FILING DATE												
	2008/09 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	
1	May 1												
1	Estimated EEP Tracker Account Balance - end of prior year	\$27,487	(\$43,107)	(\$31,900)	\$45,767	\$134,194	\$110,115	\$111,762	\$77,456	(\$15,484)	\$24,284	(\$215)	\$70,604
2	Accounting Adjustments	\$0	(\$45)	\$45	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	True up from Previous Year (sum of lines 1 and 2)	\$27,487	(\$43,152)	(\$31,855)	\$45,767	\$134,194	\$110,115	\$111,762	\$77,456	(\$15,484)	\$24,284	(\$215)	\$70,604
4													
5	EEP Program expenditures	\$252,677	\$243,816	\$272,093	\$309,911	\$281,549	\$351,483	\$371,902	\$362,330	\$463,357	\$493,353	\$715,984	\$760,590
6	Previous Year EEP Financial Incentives	\$0	\$47,130	\$73,145	\$78,900	\$84,000	\$84,000	\$105,445	\$105,900	\$105,900	\$134,700	\$134,700	\$209,700
7	EEP Carrying Charge	(\$726)	(\$6,503)	(\$4,286)	\$6,412	\$7,950	\$7,195	\$11,110	\$3,485	\$6,166	\$4,285	(\$2,275)	\$11,042
8	EEP Cost Recovery through EE Adjustment Factor	(\$322,545)	(\$273,190)	(\$263,330)	(\$306,796)	(\$397,578)	(\$441,030)	(\$522,763)	(\$564,655)	(\$535,655)	(\$656,837)	(\$777,590)	(\$847,625)
9	Recoverable Tracker Balance (Line 3 Plus Lines 5 thru 8)	(\$43,107)	(\$31,900)	\$45,767	\$134,194	\$110,115	\$111,762	\$77,456	(\$15,484)	\$24,284	(\$215)	\$70,604	\$204,311
10													
11	SD Sales (KWH budget)												
12	Conservation Surcharge (1)	\$0.00063	\$0.00063	\$0.00063	\$0.00088	\$0.00103	\$0.00103	\$0.00152	\$0.00114	\$0.00138	\$0.00155	\$0.00164	\$0.00195
13	Estimated EEP Tracker Account Balances												

(1) Effective for 12-month period July 1 through June 30

	2021 Budget Financial Incentive	
1	Estimated EEP Tracker Account Balance - end of prior year	\$204,311
2	Accounting Adjustments	\$0
3	True up from Previous Year (sum of lines 1 and 2)	\$204,311
4		
5	EEP Program expenditures	\$699,000
6	Previous Year EEP Financial Incentives	\$209,700
7	Projected EEP Carrying Charge	\$18,665
8	EEP Cost Recovery through EE Adjustment Factor	(\$950,867)
9	Recoverable Tracker Balance (Line 3 Plus Lines 5 thru 8)	\$180,808
10		
11	SD Sales (KWH budget)	493,964,187
12	Conservation Surcharge (1)	\$0.00195
13	Estimated EEP Tracker Account Balances	

(1) Effective for 12-month period July 1 through June 30



Otter Tail Power Company  
EEP TRACKER AND CALCULATION OF PROPOSED EEP

	January 2021	February 2021	March* 2021	April 2021	May 2021	June 2021	Total
1 Beginning of Period Balance	\$204,311	\$125,827	\$357,258	\$368,769	\$308,655	\$260,520	
2 Monthly Carrying Charge rate	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	
3 Monthly Carrying Charge	\$1,207	\$743	\$2,111	\$2,179	\$1,824	\$1,539	\$9,603
4 EEP Program Charges	\$12,548	\$314,813	\$91,876	\$17,373	\$22,821	\$15,933	\$475,364
5 EEP Incentive	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7 Less: Energy Efficiency Adjustment (EEP Revenue)	(\$92,239)	(\$84,126)	(\$82,476)	(\$79,665)	(\$72,780)	(\$71,755)	(\$483,042)
8 End of Period Balance	\$125,827	\$357,258	\$368,769	\$308,655	\$260,520	\$206,237	
9 <b>CURRENT EEP FACTOR (\$/kWh)</b>	<b>\$0.00195</b>						
10 Projected sales (kWh)				40,239,756	35,392,247	34,673,033	

1. EEP TRACKER PROPOSED \$/kWh Method

	July 2021	August 2021	September 2021	October 2021	November 2021	December 2021	January 2022	February 2022	March 2022	April 2022	May 2022	June 2022	Total
1 Beginning of Period Balance	\$206,237	\$358,108	\$296,822	\$270,459	\$231,563	\$170,498	\$180,809	\$93,360	\$215,937	\$192,866	\$123,415	\$66,337	
2 Monthly Carrying Charge Rate	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	0.59%	
3 Monthly Carrying Charge	\$1,219	\$2,116	\$1,754	\$1,598	\$1,368	\$1,007	\$1,068	\$552	\$1,276	\$1,140	\$729	\$392	\$14,218
4 EEP Program Charges	\$16,707	\$14,862	\$48,291	\$31,033	\$17,737	\$95,006	\$8,707	\$218,432	\$63,748	\$12,054	\$15,834	\$11,055	\$553,466
5 EEP Incentive	\$209,700	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$209,700
7 Less: Energy Efficiency Adjustment (EEP Revenue)	(\$75,754)	(\$78,264)	(\$76,408)	(\$71,527)	(\$80,171)	(\$85,702)	(\$97,224)	(\$96,407)	(\$88,095)	(\$82,644)	(\$73,641)	(\$72,541)	(\$978,378)
8 End of Period Balance	\$358,108	\$296,822	\$270,459	\$231,563	\$170,498	\$180,809	\$93,360	\$215,937	\$192,866	\$123,415	\$66,337	\$5,244	
9 <b>PROPOSED EEP FACTOR (\$ / kWh)</b>	<b>\$0.00195</b>												
12 Projected sales (kWh)	38,848,059	40,135,349	39,183,666	36,680,626	41,113,177	43,949,643	49,858,309	49,439,308	45,177,125	42,381,665	37,764,832	37,200,365	

\*Actual data was used through March 2020