

High-Level NEM Rate Impact Analysis

Rocky Mtn Power - Utah

Model Structure

Sector / Rate Class	Residential
Base Year	2015
Study Period (Years)	20

System Parameters

Residential Sales (MWh)	6,976,758	EIA 86 I, 2013
Residential Revenues (\$)	758,356,800	EIA 86 I, 2013
Number of Residential Customers (count)	733,917	EIA 86 I, 2013
Sales per customer (MWh)	10	Residential Sales / # of Customers
Customer growth rate	1.0%	User input
Electricity usage per customer growth rate	0.0%	User input

Rate Structure Parameters

Energy Rate (\$/MWh)	98.37	Annual weighted average, RMP Residential rate tariff
Customer (\$/Month)	\$6	RMP Residential rate tariff
Minimum Bill (\$/Month)	\$8	RMP Residential rate tariff
Fixed Portion of Energy Rate (%)	67%	RMP Presentation See: MW

PV NEM System Parameters

Average PV installed capacity (MW, DC)	0.005	User input
Unit capacity factor (%)	17%	NREL PV Watts (SLC, UT)
Unit generation (MWh)	7	Calculation based on CF and Capacity
Percent of customers adding DG PV per year	1.0%	User input
Number of years with additional DG PV	10	User input

Levelized Avoided Cost Inputs

Avoided energy (\$/MWh)	\$60	Avoided fuel, variable O&M, and line losses.
Avoided generation capacity capital costs (\$/MWh)		Capital cost of generation to meet peak load.
Avoided transmission capital costs (\$/MWh)		Cost of money savings resulting from deferring T&D capacity additions.
Avoided distribution capital costs (\$/MWh)		Cost of money savings resulting from deferring T&D capacity additions. Default from CPR 2014 (assumes zero avoided distribution)
Avoided environmental Costs (\$/MWh)		Costs to comply with environmental regulations and policy objectives. Default from CPR 2014.
Fuel price guarantee/avoided risk (\$/MWh)		Cost of eliminating uncertainty in fuel price fluctuations. Default \$0.00
Variable Avoided Costs (\$/MWh)	\$60	Includes avoided energy, avoided environmental, and fuel price guarantee
Fixed Avoided Costs (\$/MWh)	\$0	Includes avoided capital costs associated with generation and T&D capacity
Total Avoided Costs (\$/MWh)	\$60	Sum of variable and fixed avoided costs

	2015	2016	2017	2018	2019	2020	2021	2022
Universal								
Customers (# of customers)	733,917	741,256	748,669	756,155	763,717	771,354	779,068	786,858
Usage per customer (annual MWh / customer)	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51
Total residential electricity usage (MWh)	6,976,758	7,046,526	7,116,991	7,188,161	7,260,042	7,332,643	7,405,969	7,480,029
No DG PV Case								
Annual Sales								
Annual residential sales (MWh)	6,976,758	7,046,526	7,116,991	7,188,161	7,260,042	7,332,643	7,405,969	7,480,029
Rates								
Energy Rate - variable portion (\$/MWh)	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8
Energy Rate - fixed portion (\$/MWh)	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6
Total Energy Rate (\$/MWh)	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4
Customer (\$/Month)	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
Minimum bill (\$)	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
Annual Revenues and Costs								
Variable Revenues and Costs	\$ 228,815,393	\$ 231,103,547	\$ 233,414,582	\$ 235,748,728	\$ 238,106,215	\$ 240,487,278	\$ 242,892,150	\$ 245,321,072
Fixed Revenues and Costs	\$ 457,493,524	\$ 462,068,459	\$ 466,689,144	\$ 471,356,035	\$ 476,069,596	\$ 480,830,292	\$ 485,638,595	\$ 490,494,981
Total Energy Rate Revenues and Costs	\$ 686,308,917	\$ 693,172,006	\$ 700,103,726	\$ 707,104,764	\$ 714,175,811	\$ 721,317,569	\$ 728,530,745	\$ 735,816,052
Customer Charge Revenues and Costs	\$ 52,842,024	\$ 53,370,444	\$ 53,904,149	\$ 54,443,190	\$ 54,987,622	\$ 55,537,498	\$ 56,092,873	\$ 56,653,802
Total Revenues and Costs	\$ 739,150,941	\$ 746,542,450	\$ 754,007,875	\$ 761,547,954	\$ 769,163,433	\$ 776,855,068	\$ 784,623,618	\$ 792,469,854
Percent of total costs that are "fixed"	69%	69%	69%	69%	69%	69%	69%	69%

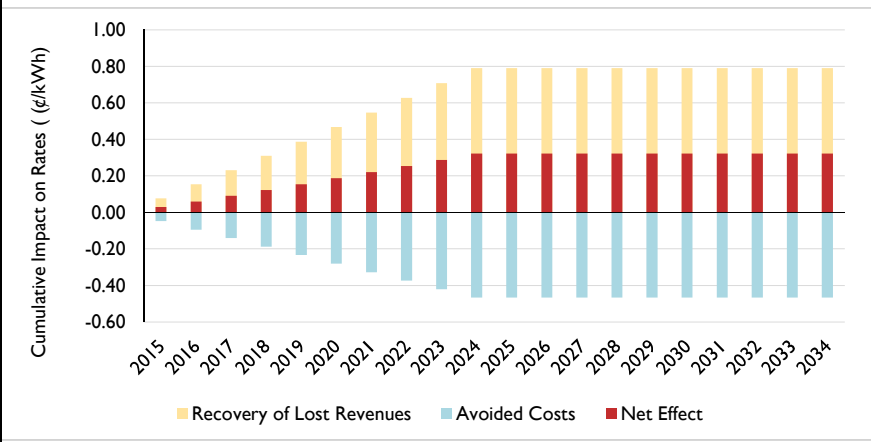
With DG PV										
Annual Sales										
Customers with PV (%)		1.0%	2.0%	3.0%	4.0%	5.0%	6.0%	7.0%	8.0%	
Annual Customer PV Gen (MWh)		54,246	109,577	166,009	223,559	282,243	342,078	403,082	465,272	
Net annual residential sales [after PV] (MWh)		6,922,512	6,936,949	6,950,982	6,964,602	6,977,800	6,990,565	7,002,887	7,014,757	
Installed DG PV (MW)		37	74	112	151	191	231	273	315	
Rates										
Energy Rate - variable portion (\$/MWh)	\$	32.5836	\$ 32.3671	\$ 32.1471	\$ 31.9236	\$ 31.6965	\$ 31.4656	\$ 31.2310	\$ 30.9925	
Energy Rate - fixed portion (\$/MWh)	\$	66.0878	\$ 66.6098	\$ 67.1400	\$ 67.6788	\$ 68.2263	\$ 68.7828	\$ 69.3483	\$ 69.9233	
Total Energy Rate (\$/kWh)	\$	98.6714	\$ 98.9769	\$ 99.2872	\$ 99.6024	\$ 99.9228	\$ 100.2484	\$ 100.5793	\$ 100.9158	
Customer (\$/Month)	\$	6	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	
Minimum bill (\$)	\$	8	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	
Annual Revenues and Costs										
Avoided costs - variable	\$	3,254,757	\$ 6,574,609	\$ 9,960,533	\$ 13,413,518	\$ 16,934,566	\$ 20,524,694	\$ 24,184,931	\$ 27,916,321	
Avoided costs - fixed	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Variable Revenues and Costs	\$	225,560,636	\$ 224,528,938	\$ 223,454,049	\$ 222,335,210	\$ 221,171,649	\$ 219,962,583	\$ 218,707,219	\$ 217,404,751	
Fixed Revenues and Costs	\$	457,493,524	\$ 462,068,459	\$ 466,689,144	\$ 471,356,035	\$ 476,069,596	\$ 480,830,292	\$ 485,638,595	\$ 490,494,981	
Total Energy Rate Revenues and Costs	\$	683,054,160	\$ 686,597,397	\$ 690,143,193	\$ 693,691,246	\$ 697,241,245	\$ 700,792,875	\$ 704,345,814	\$ 707,899,732	
Customer Charge Revenues and Costs	\$	52,842,024	\$ 53,370,444	\$ 53,904,149	\$ 54,443,190	\$ 54,987,622	\$ 55,537,498	\$ 56,092,873	\$ 56,653,802	
Total Revenues and Costs	\$	735,896,184	\$ 739,967,841	\$ 744,047,342	\$ 748,134,436	\$ 752,228,867	\$ 756,330,373	\$ 760,438,687	\$ 764,553,534	
Percent of total costs that are "fixed"		69%	70%	70%	70%	71%	71%	71%	72%	

Differences																
Rates																
Change in Energy Rate - variable portion (\$/MWh)	\$	(0.2132)	\$	(0.4297)	\$	(0.6497)	\$	(0.8732)	\$	(1.1003)	\$	(1.3312)	\$	(1.5658)	\$	(1.8043)
Change in Energy Rate - fixed portion (\$/MWh)	\$	0.5138	\$	1.0358	\$	1.5661	\$	2.1049	\$	2.6524	\$	3.2088	\$	3.7744	\$	4.3494
Change in Total Energy Rate (\$/MWh)	\$	0.3007	\$	0.6061	\$	0.9164	\$	1.2317	\$	1.5520	\$	1.8776	\$	2.2086	\$	2.5450
Change in Customer (\$/Month)	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Change in Minimum bill (\$)	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Change in Energy Rate - variable portion (%)		-0.65%		-1.31%		-1.98%		-2.66%		-3.36%		-4.06%		-4.77%		-5.50%
Change in Energy Rate - fixed portion (%)		0.78%		1.58%		2.39%		3.21%		4.04%		4.89%		5.76%		6.63%
Change in Total Energy Rate (%)		0.31%		0.62%		0.93%		1.25%		1.58%		1.91%		2.25%		2.59%
Energy Rate impact due to AC ($\text{\$/kWh}$)		(0.0467)		(0.0933)		(0.1400)		(0.1866)		(0.2333)		(0.2799)		(0.3266)		(0.3732)
Energy rate impact due to lost revenues ($\text{\$/kWh}$)		0.0767		0.1539		0.2316		0.3098		0.3885		0.4677		0.5474		0.6277
Energy rate impact of both ($\text{\$/kWh}$)		0.0301		0.0606		0.0916		0.1232		0.1552		0.1878		0.2209		0.2545
		Averages														
		10 yrs		20 yrs												
Change in Energy Rate - variable portion (\$/MWh)		-\$1.2308		-\$1.7621												
Change in Energy Rate - fixed portion (\$/MWh)		\$2.9668		\$4.2476												
Change in Total Energy Rate (\$/MWh)		\$1.7360		\$2.4855												
Customer (\$/Month)		\$0.0000		\$0.0000												
Minimum bill (\$)		\$0.0000		\$0.0000												
Change in Energy Rate - variable portion (%)		-3.75%		-5.37%												
Change in Energy Rate - fixed portion (%)		4.52%		6.48%												
Total Energy Rate (%)																
Energy Rate impact due to AC ($\text{\$/kWh}$)		(0.2566)		(0.3615)												
Energy rate impact due to lost revenues ($\text{\$/kWh}$)		0.4302		0.6101												
Energy rate impact of both ($\text{\$/kWh}$)		0.1736		0.2485												

2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
794,727	802,674	810,701	818,808	826,996	835,266	843,619	852,055	860,575	869,181
9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51
7,554,829	7,630,377	7,706,681	7,783,748	7,861,586	7,940,201	8,019,603	8,099,799	8,180,797	8,262,605
7,554,829	7,630,377	7,706,681	7,783,748	7,861,586	7,940,201	8,019,603	8,099,799	8,180,797	8,262,605
\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8
\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6
\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4
\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
\$ 247,774,283	\$ 250,252,025	\$ 252,754,546	\$ 255,282,091	\$ 257,834,912	\$ 260,413,261	\$ 263,017,394	\$ 265,647,568	\$ 268,304,043	\$ 270,987,084
\$ 495,399,930	\$ 500,353,930	\$ 505,357,469	\$ 510,411,044	\$ 515,515,154	\$ 520,670,306	\$ 525,877,009	\$ 531,135,779	\$ 536,447,137	\$ 541,811,608
\$ 743,174,213	\$ 750,605,955	\$ 758,112,015	\$ 765,693,135	\$ 773,350,066	\$ 781,083,567	\$ 788,894,402	\$ 796,783,346	\$ 804,751,180	\$ 812,798,692
\$ 57,220,340	\$ 57,792,543	\$ 58,370,469	\$ 58,954,174	\$ 59,543,715	\$ 60,139,152	\$ 60,740,544	\$ 61,347,949	\$ 61,961,429	\$ 62,581,043
\$ 800,394,553	\$ 808,398,498	\$ 816,482,483	\$ 824,647,308	\$ 832,893,781	\$ 841,222,719	\$ 849,634,946	\$ 858,131,296	\$ 866,712,609	\$ 875,379,735
69%	69%	69%	69%	69%	69%	69%	69%	69%	69%

	9.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
	528,665	593,280	599,213	605,205	611,257	617,370	623,543	629,779	636,076	642,437
	7,026,164	7,037,098	7,107,468	7,178,543	7,250,329	7,322,832	7,396,060	7,470,021	7,544,721	7,620,168
	358	401	405	409	413	418	422	426	430	435
\$	30.7500	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034
\$	70.5079	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023
\$	101.2579	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057
\$	6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
\$	8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
\$	31,719,919	\$ 35,596,798	\$ 35,952,766	\$ 36,312,294	\$ 36,675,417	\$ 37,042,171	\$ 37,412,593	\$ 37,786,719	\$ 38,164,586	\$ 38,546,232
\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$	216,054,363	\$ 214,655,227	\$ 216,801,779	\$ 218,969,797	\$ 221,159,495	\$ 223,371,090	\$ 225,604,801	\$ 227,860,849	\$ 230,139,457	\$ 232,440,852
\$	495,399,930	\$ 500,353,930	\$ 505,357,469	\$ 510,411,044	\$ 515,515,154	\$ 520,670,306	\$ 525,877,009	\$ 531,135,779	\$ 536,447,137	\$ 541,811,608
\$	711,454,294	\$ 715,009,157	\$ 722,159,248	\$ 729,380,841	\$ 736,674,649	\$ 744,041,396	\$ 751,481,810	\$ 758,996,628	\$ 766,586,594	\$ 774,252,460
\$	57,220,340	\$ 57,792,543	\$ 58,370,469	\$ 58,954,174	\$ 59,543,715	\$ 60,139,152	\$ 60,740,544	\$ 61,347,949	\$ 61,961,429	\$ 62,581,043
\$	768,674,634	\$ 772,801,700	\$ 780,529,717	\$ 788,335,014	\$ 796,218,364	\$ 804,180,548	\$ 812,222,354	\$ 820,344,577	\$ 828,548,023	\$ 836,833,503
	72%	72%	72%	72%	72%	72%	72%	72%	72%	72%

\$	(2.0468)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)	\$	(2.2934)		
\$	4.9339	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284	\$	5.5284
\$	2.8871	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349	\$	3.2349
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	-6.24%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%		-6.99%
	7.52%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%		8.43%
	2.93%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%		3.29%
	(0.4199)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)		(0.4665)
	0.7086		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900		0.7900
	0.2887		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235		0.3235



2033		2034	
	877,873		886,652
	9.51		9.51
	8,345,231		8,428,684
	8,345,231		8,428,684
\$	32.8	\$	32.8
\$	65.6	\$	65.6
\$	98.4	\$	98.4
\$	6.00	\$	6.00
\$	8.00	\$	8.00
\$	273,696,955	\$	276,433,924
\$	547,229,724	\$	552,702,021
\$	820,926,679	\$	829,135,945
\$	63,206,854	\$	63,838,922
\$	884,133,532	\$	892,974,868
	69%		69%

	10.0%		10.0%
	648,862		655,350
	7,696,370		7,773,334
	439		443
\$	30.5034	\$	30.5034
\$	71.1023	\$	71.1023
\$	101.6057	\$	101.6057
\$	6.00	\$	6.00
\$	8.00	\$	8.00
\$	38,931,694	\$	39,321,011
\$	-	\$	-
\$	234,765,260	\$	237,112,913
\$	547,229,724	\$	552,702,021
\$	781,994,984	\$	789,814,934
\$	63,206,854	\$	63,838,922
\$	845,201,838	\$	853,653,856
	72%		72%

\$	(2.2934)	\$	(2.2934)
\$	5.5284	\$	5.5284
\$	3.2349	\$	3.2349
\$	-	\$	-
\$	-	\$	-
	-6.99%		-6.99%
	8.43%		8.43%
	3.29%		3.29%
	(0.4665)		(0.4665)
	0.7900		0.7900
	0.3235		0.3235

		2015	2016	2017	2018	2019	2020
No DG PV Case							
Rates							
Energy Rate - variable portion (\$/MWh)	\$	32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968
Energy Rate - fixed portion (\$/MWh)	\$	65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739
Total Energy Rate (\$/MWh)	\$	98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708
Customer (\$/Month)	\$	6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
Minimum bill (\$)	\$	8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
With DG PV							
Rates							
Energy Rate - variable portion (\$/MWh)	\$	32.5836	\$ 32.3671	\$ 32.1471	\$ 31.9236	\$ 31.6965	\$ 31.4656
Energy Rate - fixed portion (\$/MWh)	\$	66.0878	\$ 66.6098	\$ 67.1400	\$ 67.6788	\$ 68.2263	\$ 68.7828
Total Energy Rate (\$/MWh)	\$	98.6714	\$ 98.9769	\$ 99.2872	\$ 99.6024	\$ 99.9228	\$ 100.2484
Customer (\$/Month)	\$	6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
Minimum bill (\$)	\$	8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
Year-to-Year Impacts							
Rates - Change from Previous Year							
Energy Rate - variable portion (\$/MWh)	----	\$ (0.2165)	\$ (0.2200)	\$ (0.2235)	\$ (0.2271)	\$ (0.2308)	
Energy Rate - fixed portion (\$/MWh)	----	\$ 0.5220	\$ 0.5303	\$ 0.5388	\$ 0.5475	\$ 0.5564	
Total Energy Rate (\$/MWh)	----	\$ 0.3054	\$ 0.3103	\$ 0.3153	\$ 0.3204	\$ 0.3256	
Customer (\$/Month)	----	\$ -	\$ -	\$ -	\$ -	\$ -	
Minimum bill (\$)	----	\$ -	\$ -	\$ -	\$ -	\$ -	
Energy Rate - variable portion (%)	----	-0.66%	-0.68%	-0.70%	-0.71%	-0.73%	
Energy Rate - fixed portion (%)	----	0.79%	0.80%	0.80%	0.81%	0.82%	
Total Energy Rate (%)	----	0.31%	0.31%	0.32%	0.32%	0.33%	

2021	2022	2023	2024	2025	2026	2027
\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968
\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739
\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708
\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
\$ 31.2310	\$ 30.9925	\$ 30.7500	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034
\$ 69.3483	\$ 69.9233	\$ 70.5079	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023
\$ 100.5793	\$ 100.9158	\$ 101.2579	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057
\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
\$ (0.2346)	\$ (0.2385)	\$ (0.2425)	\$ (0.2466)	\$ -	\$ -	\$ -
\$ 0.5656	\$ 0.5750	\$ 0.5846	\$ 0.5944	\$ -	\$ -	\$ -
\$ 0.3310	\$ 0.3364	\$ 0.3421	\$ 0.3478	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-0.75%	-0.76%	-0.78%	-0.80%	0.00%	0.00%	0.00%
0.82%	0.83%	0.84%	0.84%	0.00%	0.00%	0.00%
0.33%	0.33%	0.34%	0.34%	0.00%	0.00%	0.00%

2028	2029	2030	2031	2032	2033	2034
\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968	\$ 32.7968
\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739	\$ 65.5739
\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708	\$ 98.3708
\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034	\$ 30.5034
\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023	\$ 71.1023
\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057	\$ 101.6057
\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0	\$ 6.0
\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0	\$ 8.0
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Table 1: RMP Residential Tariff

https://www.rockymountainpower.net/content/dam/rocky_mountain_power/doc/About_Us/Rates_and_Regulation/Utah/Approved_Tariffs/Rate_Schedules/Residential_Service.pdf

Customer Charge

Single Phase		6 per customer month	
Three phase		12 per customer month	
Energy Charge	cents per kwh	usage block	
Summer Block 1	8.8498	400 kWh	5 moths of the year
Summer Block 2	11.5429	600 kWh	5 moths of the year
Summer Block 3	14.4508	all remainir	5 moths of the year
Winter Block 1	8.8498	400	7 months of the year
Winter Block 2	10.3111	600 all remainir	7 months of the year
Summer Average	10.19635	Synapse Calculation	
Winter Average	9.58045	Synapse Calculation	
Annual Weighted Average	9.837075	Synapse Calculation	

Minimum Bill

Single Phase	8 per customer month
Three phase	16 per customer month

Table 2: Utah Solar Generation Profile

Available online at: www.pvwatts.nrel.gov

PVWatts: Monthly PV Performance Data

Requested Location:	Salt Lake City Utah
Location:	SALT LAKE CITY, UT
Lat (deg N):	40.77
Long (deg W):	111.97
Elev (m):	1288
DC System Size (kW):	5
Module Type:	Standard
Array Type:	Fixed (roof mount)
Array Tilt (deg):	20
Array Azimuth (deg):	180
System Losses:	14
Invert Efficiency:	96
DC to AC Size Ratio:	1.1
Average Cost of Electricity Purchased from Utiliti	0.1
Initial Cost	3.3
Cost of Electricity Generated by System (\$/kWh)	0.18

Month	AC System Output(kWh)	Solar Radi	Plane of A	DC array C	Value (\$)
1	362.8890076	2.756125	85.43987	381.1025	37.41
2	455.8474121	3.898676	109.1629	477.0622	47
3	608.9019165	4.835629	149.9045	636.7689	62.78
4	678.0981445	5.717371	171.5211	708.8629	69.91
5	836.8475952	7.018649	217.5781	873.9233	86.28
6	802.8485107	7.256892	217.7068	838.452	82.77
7	840.4923706	7.551991	234.1117	877.5559	86.65
8	812.5726318	7.217674	223.7479	848.5435	83.78
9	698.034729	6.16008	184.8024	728.7742	71.97
10	594.208374	4.935166	152.9901	620.8773	61.26
11	401.7036743	3.314213	99.42639	421.0105	41.42
12	298.8479309	2.268929	70.3368	314.5163	30.81
Total	7391.292297	62.93139	1916.729	7727.45	762.04

Table 3: Avoided Costs in Utah

Value of Solar in Utah Clean Power Research 2014.

Available online: http://www.psc.utah.gov/utilities/electric/13docs/13035184/255147Exhibit%20A%20to%20Wright%20Testimony%20-%20UCE%20_1%20DT%20-%20Value%20of%20Solar%20in%20Utah%205-22-2014

Fuel Value	0.043 (\$/kWh)	43 \$/MWh
Plant O&M Value	0.013 (\$/kWh)	13 \$/MWh
Generation Capacity Value	0.014 (\$/kWh)	14 \$/MWh
Avoided T&D Capacity Cost	0.011 (\$/kWh)	11 \$/MWh
Avoided Environmental Cost	0.009 (\$/kWh)	9 \$/MWh
Fuel Price Guarantee Value	0.026 (\$/kWh)	26 \$/MWh

Table 4: Conversion factors

kWh per MWh	1000
cents per dollar	100