

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	0.5%	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
Universal						
Customers (# of customers)	733,917	741,256	748,669	756,155	763,717	771,354
Usage per customer (annual MWh / customer)	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
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
Rates						
Energy Rate - variable portion (\$/MWh)	\$ 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
Total Energy Rate (\$/MWh)	\$ 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
Minimum bill (\$)	\$ 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
Fixed Revenues and Costs	\$ 457,493,524	\$ 462,068,459	\$ 466,689,144	\$ 471,356,035	\$ 476,069,596	\$ 480,830,292
Total Energy Rate Revenues and Costs	\$ 686,308,917	\$ 693,172,006	\$ 700,103,726	\$ 707,104,764	\$ 714,175,811	\$ 721,317,569
Customer Charge Revenues and Costs	\$ 52,842,024	\$ 53,370,444	\$ 53,904,149	\$ 54,443,190	\$ 54,987,622	\$ 55,537,498
Total Revenues and Costs	\$ 739,150,941	\$ 746,542,450	\$ 754,007,875	\$ 761,547,954	\$ 769,163,433	\$ 776,855,068
Percent of total costs that are "fixed"	69%	69%	69%	69%	69%	69%

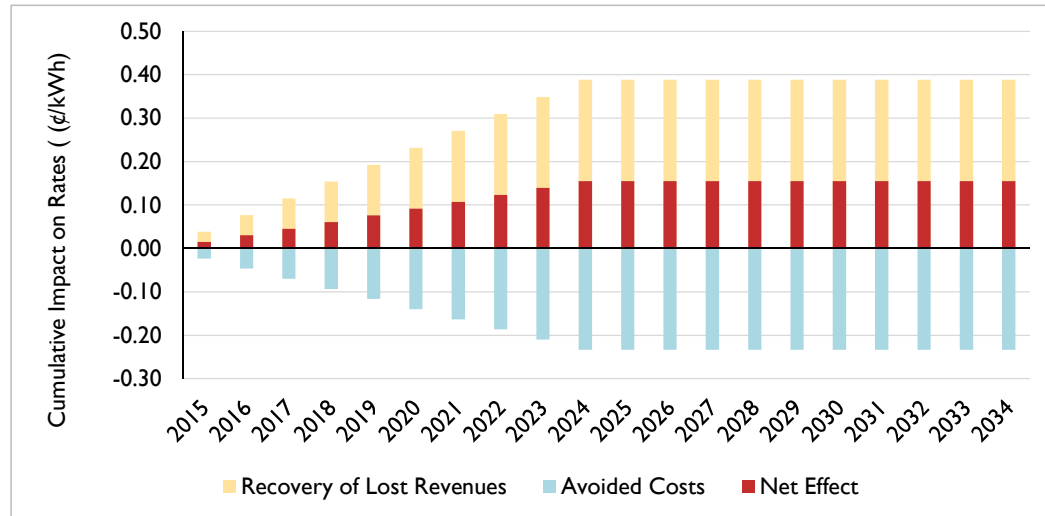
With DG PV							
Annual Sales							
Customers with PV (%)		0.5%	1.0%	1.5%	2.0%	2.5%	3.0%
Annual Customer PV Gen (MWh)		27,123	54,788	83,004	111,779	141,121	171,039
Net annual residential sales [after PV] (MWh)		6,949,635	6,991,737	7,033,986	7,076,381	7,118,921	7,161,604
Installed DG PV (MW)		18	37	56	76	95	116
Rates							
Energy Rate - variable portion (\$/MWh)	\$	32.6906	\$ 32.5836	\$ 32.4758	\$ 32.3671	\$ 32.2575	\$ 32.1471
Energy Rate - fixed portion (\$/MWh)	\$	65.8299	\$ 66.0878	\$ 66.3477	\$ 66.6098	\$ 66.8738	\$ 67.1400
Total Energy Rate (\$/kWh)	\$	98.5205	\$ 98.6714	\$ 98.8235	\$ 98.9769	\$ 99.1314	\$ 99.2872
Customer (\$/Month)	\$	6	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
Minimum bill (\$)	\$	8	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
Annual Revenues and Costs							
Avoided costs - variable	\$	1,627,379	\$ 3,287,305	\$ 4,980,266	\$ 6,706,759	\$ 8,467,283	\$ 10,262,347
Avoided costs - fixed	\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
Variable Revenues and Costs	\$	227,188,014	\$ 227,816,242	\$ 228,434,316	\$ 229,041,969	\$ 229,638,932	\$ 230,224,931
Fixed Revenues and Costs	\$	457,493,524	\$ 462,068,459	\$ 466,689,144	\$ 471,356,035	\$ 476,069,596	\$ 480,830,292
Total Energy Rate Revenues and Costs	\$	684,681,539	\$ 689,884,702	\$ 695,123,460	\$ 700,398,005	\$ 705,708,528	\$ 711,055,222
Customer Charge Revenues and Costs	\$	52,842,024	\$ 53,370,444	\$ 53,904,149	\$ 54,443,190	\$ 54,987,622	\$ 55,537,498
Total Revenues and Costs	\$	737,523,563	\$ 743,255,146	\$ 749,027,608	\$ 754,841,195	\$ 760,696,150	\$ 766,592,720
Percent of total costs that are "fixed"		69%	69%	70%	70%	70%	70%

Differences												
Rates												
Change in Energy Rate - variable portion (\$/MWh)	\$	(0.1062)	\$	(0.2132)	\$	(0.3210)	\$	(0.4297)	\$	(0.5393)	\$	(0.6497)
Change in Energy Rate - fixed portion (\$/MWh)	\$	0.2559	\$	0.5138	\$	0.7738	\$	1.0358	\$	1.2999	\$	1.5661
Change in Total Energy Rate (\$/MWh)	\$	0.1498	\$	0.3007	\$	0.4528	\$	0.6061	\$	0.7606	\$	0.9164
Change in Customer (\$/Month)	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Change in Minimum bill (\$)	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
Change in Energy Rate - variable portion (%)		-0.32%		-0.65%		-0.98%		-1.31%		-1.64%		-1.98%
Change in Energy Rate - fixed portion (%)		0.39%		0.78%		1.18%		1.58%		1.98%		2.39%
Change in Total Energy Rate (%)		0.15%		0.31%		0.46%		0.62%		0.77%		0.93%
Energy Rate impact due to AC (¢/kWh)		(0.0233)		(0.0467)		(0.0700)		(0.0933)		(0.1166)		(0.1400)
Energy rate impact due to lost revenues (¢/kWh)		0.0383		0.0767		0.1153		0.1539		0.1927		0.2316
Energy rate impact of both (¢/kWh)		0.0150		0.0301		0.0453		0.0606		0.0761		0.0916
		Averages										
		10 yrs		20 yrs								
Change in Energy Rate - variable portion (\$/MWh)		-\$0.5980		-\$0.8492								
Change in Energy Rate - fixed portion (\$/MWh)		\$1.4415		\$2.0469								
Change in Total Energy Rate (\$/MWh)		\$0.8435		\$1.1978								
Customer (\$/Month)		\$0.0000		\$0.0000								
Minimum bill (\$)		\$0.0000		\$0.0000								
Change in Energy Rate - variable portion (%)		-1.82%		-2.59%								
Change in Energy Rate - fixed portion (%)		2.20%		3.12%								
Total Energy Rate (%)												
Energy Rate impact due to AC (¢/kWh)		(0.1283)		(0.1808)								
Energy rate impact due to lost revenues (¢/kWh)		0.2126		0.3006								
Energy rate impact of both (¢/kWh)		0.0843		0.1198								

	2021	2022	2023	2024	2025	2026	2027	2028
	779,068	786,858	794,727	802,674	810,701	818,808	826,996	835,266
	9.51	9.51	9.51	9.51	9.51	9.51	9.51	9.51
	7,405,969	7,480,029	7,554,829	7,630,377	7,706,681	7,783,748	7,861,586	7,940,201
	7,405,969	7,480,029	7,554,829	7,630,377	7,706,681	7,783,748	7,861,586	7,940,201
\$	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
\$	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
\$	8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
\$	242,892,150	\$ 245,321,072	\$ 247,774,283	\$ 250,252,025	\$ 252,754,546	\$ 255,282,091	\$ 257,834,912	\$ 260,413,261
\$	485,638,595	\$ 490,494,981	\$ 495,399,930	\$ 500,353,930	\$ 505,357,469	\$ 510,411,044	\$ 515,515,154	\$ 520,670,306
\$	728,530,745	\$ 735,816,052	\$ 743,174,213	\$ 750,605,955	\$ 758,112,015	\$ 765,693,135	\$ 773,350,066	\$ 781,083,567
\$	56,092,873	\$ 56,653,802	\$ 57,220,340	\$ 57,792,543	\$ 58,370,469	\$ 58,954,174	\$ 59,543,715	\$ 60,139,152
\$	784,623,618	\$ 792,469,854	\$ 800,394,553	\$ 808,398,498	\$ 816,482,483	\$ 824,647,308	\$ 832,893,781	\$ 841,222,719
	69%	69%	69%	69%	69%	69%	69%	69%

	3.5%	4.0%	4.5%	5.0%	5.0%	5.0%	5.0%	5.0%
	201,541	232,636	264,333	296,640	299,606	302,602	305,628	308,685
	7,204,428	7,247,393	7,290,497	7,333,737	7,407,075	7,481,146	7,555,957	7,631,517
	136	157	179	201	203	205	207	209
\$	32.0358	\$ 31.9236	\$ 31.8105	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965
\$	67.4083	\$ 67.6788	\$ 67.9515	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263
\$	99.4442	\$ 99.6024	\$ 99.7620	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228
\$	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
\$	12,092,466	\$ 13,958,160	\$ 15,859,960	\$ 17,798,399	\$ 17,976,383	\$ 18,156,147	\$ 18,337,709	\$ 18,521,086
\$	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$	230,799,685	\$ 231,362,912	\$ 231,914,323	\$ 232,453,626	\$ 234,778,162	\$ 237,125,944	\$ 239,497,204	\$ 241,892,176
\$	485,638,595	\$ 490,494,981	\$ 495,399,930	\$ 500,353,930	\$ 505,357,469	\$ 510,411,044	\$ 515,515,154	\$ 520,670,306
\$	716,438,279	\$ 721,857,892	\$ 727,314,253	\$ 732,807,556	\$ 740,135,631	\$ 747,536,988	\$ 755,012,358	\$ 762,562,481
\$	56,092,873	\$ 56,653,802	\$ 57,220,340	\$ 57,792,543	\$ 58,370,469	\$ 58,954,174	\$ 59,543,715	\$ 60,139,152
\$	772,531,153	\$ 778,511,694	\$ 784,534,593	\$ 790,600,099	\$ 798,506,100	\$ 806,491,161	\$ 814,556,073	\$ 822,701,634
	70%	70%	70%	71%	71%	71%	71%	71%

\$	(0.7610)	\$	(0.8732)	\$	(0.9863)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)
\$	1.8344	\$	2.1049	\$	2.3775	\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524
\$	1.0734	\$	1.2317	\$	1.3912	\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	-2.32%		-2.66%		-3.01%		-3.36%		-3.36%		-3.36%		-3.36%		-3.36%		-3.36%
	2.80%		3.21%		3.63%		4.04%		4.04%		4.04%		4.04%		4.04%		4.04%
	1.09%		1.25%		1.41%		1.58%		1.58%		1.58%		1.58%		1.58%		1.58%
	(0.1633)		(0.1866)		(0.2099)		(0.2333)		(0.2333)		(0.2333)		(0.2333)		(0.2333)		(0.2333)
	0.2706		0.3098		0.3491		0.3885		0.3885		0.3885		0.3885		0.3885		0.3885
	0.1073		0.1232		0.1391		0.1552		0.1552		0.1552		0.1552		0.1552		0.1552



	<u>2029</u>	<u>2030</u>	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>
	843,619	852,055	860,575	869,181	877,873	886,652
	9.51	9.51	9.51	9.51	9.51	9.51
	8,019,603	8,099,799	8,180,797	8,262,605	8,345,231	8,428,684
	8,019,603	8,099,799	8,180,797	8,262,605	8,345,231	8,428,684
\$	32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8	\$ 32.8
\$	65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6	\$ 65.6
\$	98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4	\$ 98.4
\$	6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
\$	8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
\$	263,017,394	\$ 265,647,568	\$ 268,304,043	\$ 270,987,084	\$ 273,696,955	\$ 276,433,924
\$	525,877,009	\$ 531,135,779	\$ 536,447,137	\$ 541,811,608	\$ 547,229,724	\$ 552,702,021
\$	788,894,402	\$ 796,783,346	\$ 804,751,180	\$ 812,798,692	\$ 820,926,679	\$ 829,135,945
\$	60,740,544	\$ 61,347,949	\$ 61,961,429	\$ 62,581,043	\$ 63,206,854	\$ 63,838,922
\$	849,634,946	\$ 858,131,296	\$ 866,712,609	\$ 875,379,735	\$ 884,133,532	\$ 892,974,868
	69%	69%	69%	69%	69%	69%

	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
	311,772	314,889	318,038	321,219	324,431	327,675
	7,707,832	7,784,910	7,862,759	7,941,387	8,020,801	8,101,009
	211	213	215	217	219	222
\$	31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965
\$	68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263
\$	99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228
\$	6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00	\$ 6.00
\$	8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00	\$ 8.00
\$	18,706,296	\$ 18,893,359	\$ 19,082,293	\$ 19,273,116	\$ 19,465,847	\$ 19,660,506
\$	-	\$ -	\$ -	\$ -	\$ -	\$ -
\$	244,311,097	\$ 246,754,208	\$ 249,221,750	\$ 251,713,968	\$ 254,231,108	\$ 256,773,419
\$	525,877,009	\$ 531,135,779	\$ 536,447,137	\$ 541,811,608	\$ 547,229,724	\$ 552,702,021
\$	770,188,106	\$ 777,889,987	\$ 785,668,887	\$ 793,525,576	\$ 801,460,832	\$ 809,475,440
\$	60,740,544	\$ 61,347,949	\$ 61,961,429	\$ 62,581,043	\$ 63,206,854	\$ 63,838,922
\$	830,928,650	\$ 839,237,936	\$ 847,630,316	\$ 856,106,619	\$ 864,667,685	\$ 873,314,362
	71%	71%	71%	71%	71%	71%

\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)	\$	(1.1003)
\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524	\$	2.6524
\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520	\$	1.5520
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
\$	-	\$	-	\$	-	\$	-	\$	-	\$	-
	-3.36%		-3.36%		-3.36%		-3.36%		-3.36%		-3.36%
	4.04%		4.04%		4.04%		4.04%		4.04%		4.04%
	1.58%		1.58%		1.58%		1.58%		1.58%		1.58%
	(0.2333)		(0.2333)		(0.2333)		(0.2333)		(0.2333)		(0.2333)
	0.3885		0.3885		0.3885		0.3885		0.3885		0.3885
	0.1552		0.1552		0.1552		0.1552		0.1552		0.1552

		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)	\$ 32.6906	\$ 32.5836	\$ 32.4758	\$ 32.3671	\$ 32.2575	\$ 32.1471
	Energy Rate - fixed portion (\$/MWh)	\$ 65.8299	\$ 66.0878	\$ 66.3477	\$ 66.6098	\$ 66.8738	\$ 67.1400
	Total Energy Rate (\$/MWh)	\$ 98.5205	\$ 98.6714	\$ 98.8235	\$ 98.9769	\$ 99.1314	\$ 99.2872
	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)	----	\$ (0.1070)	\$ (0.1078)	\$ (0.1087)	\$ (0.1096)	\$ (0.1104)
	Energy Rate - fixed portion (\$/MWh)	----	\$ 0.2579	\$ 0.2600	\$ 0.2620	\$ 0.2641	\$ 0.2662
	Total Energy Rate (\$/MWh)	----	\$ 0.1509	\$ 0.1521	\$ 0.1533	\$ 0.1545	\$ 0.1558
	Customer (\$/Month)	----	\$ -	\$ -	\$ -	\$ -	\$ -
	Minimum bill (\$)	----	\$ -	\$ -	\$ -	\$ -	\$ -
	Energy Rate - variable portion (%)	----	-0.33%	-0.33%	-0.33%	-0.34%	-0.34%
	Energy Rate - fixed portion (%)	----	0.39%	0.39%	0.39%	0.40%	0.40%
	Total Energy Rate (%)	----	0.15%	0.15%	0.16%	0.16%	0.16%

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
\$ 32.0358	\$ 31.9236	\$ 31.8105	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965
\$ 67.4083	\$ 67.6788	\$ 67.9515	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263
\$ 99.4442	\$ 99.6024	\$ 99.7620	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228
\$ 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
\$ (0.1113)	\$ (0.1122)	\$ (0.1131)	\$ (0.1140)	\$ -	\$ -	\$ -
\$ 0.2683	\$ 0.2705	\$ 0.2726	\$ 0.2749	\$ -	\$ -	\$ -
\$ 0.1570	\$ 0.1583	\$ 0.1595	\$ 0.1608	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
-0.35%	-0.35%	-0.35%	-0.36%	0.00%	0.00%	0.00%
0.40%	0.40%	0.40%	0.40%	0.00%	0.00%	0.00%
0.16%	0.16%	0.16%	0.16%	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
\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965	\$ 31.6965
\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263	\$ 68.2263
\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228	\$ 99.9228
\$ 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