Sheepscot Valley Regional School Unit (RSU 12) Solar Farm Project

Photovoltaic (PV) Power Generation

Feasibility Study

Addressing:
1. Municipal Facilities
2. RSU 12 School Facilities
3. Sheepscot General Store

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Overview

The Sheepscot Valley Regional School Unit (RSU 12) has hired Maine Solar Engineering to research the potential for a photovoltaic (PV) system project to provide power for the following:

1. RSU12 Schools
   a. Chelsea
   b. Palermo
   c. Somerville
   d. Whitefield
   e. Windsor
2. Town Municipal Facilities
   a. Chelsea
   b. Palermo
   c. Somerville
   d. Whitefield
   e. Windsor
   f. Westport Island
3. Business
   a. Sheepscot General Store

The system is to be owned by RSU12 and structured as a Solar Farm. In addition, to providing power to the RSU12 schools the, PV system will provide power to the non-RSU12 participants. The agreements between RSU12 and the non-RSU12 participants will be negotiated and is not part of the scope of this feasibility study. This study will only identify the power use and projection for each member and its percentage of the total system's predicted production.

The feasibility report addresses the estimated costs and benefits of developing PV power generation for the solar farm. The research consisted of auditing power use and cost and performing an economic analysis. The power use audit was performed using the CMP bills and Constellation bills for the fiscal year period in 2018-2019. (All the audit data was provided in spreadsheet form by RSU12 representative.) From there the 2019-2020 projected analysis was created using the projected updated CMP rates (2% increase) for 2019-20 against the 2018-19 usage for the municipal towns and the small-business. (Appendix A shows the detailed spreadsheet that resulted from the power use audit.)

The most significant power users in the above facilities are classified as Medium General Service 3 phase or 1 phase by CMP. All the RSU 12 accounts are subjected to demand charges, which are the most significant part of their distribution charges. Demand charges are applied to any medium general service single phase of three or 1 phase account whose peak demand (threshold) exceeds 20 kilowatts (kw) for a 15-minute period during the month. As a result of

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peak demand exceeding the threshold, the customer is locked into peak demand charges until peak demand for any 15-minute period per month is under 20 kw for one year.

Central Maine Power (CMP) Net Metering Compensation

The current met metering rules implemented by the Public Utilities Commission (PUC) provide kilowatt hour (kwh) credit for power **exported** to the grid. The projected compensation is as follows:

1. 100% credit for power generation charges (CMP standard offer).
2. For small general service accounts (SGS), 100% of all distribution charges except connection fee.
3. For medium general service (MGS), 75% of the distribution charges including demand charges.
4. No credits are applied to connection fee or tax.

Current rates for 2019 (see Appendix G for CMP rate structure:

1. Generation (standard offer) rate is .09 per kwh.
2. Distribution charges for MGS customers are $.003745 per kwh.
3. MGS demand charges average $23.37 per kw per month.
4. Connection charges for 3 phase MGS accounts is $38.03 per month.
5. Distribution charges for SGS customers are $.058075 per kwh.
6. Connection charges for single phase SGS accounts are $15.33 per month.

New Solar Legislation

LD1711 signed into law this year is effective 1/1/2020. What is pertinent to RSU12 is the new compensation for Medium General Service (MGS) accounts. MGS accounts are accessed demand charges as part of their distribution cost. Under current net metering rules, demand charges are not offset by kwh credits exported to the grid. Under the new law MGS customers can receive credit for 75% of the distribution costs. The rule making for going through this process is to be finalized by the PUC by end of this year.

The current net metering rules (which are still in effect) provide kwh credits for all supply charges and all distributions charges except connections fees.

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Renewable Energy Credits (RECS)

Additional compensation can be received through the sales of RECs. Properly recorded solar production are packaged as RECs and sold by brokers on the REC market (currently in Massachusetts). The RECs purchase by Power companies help the utilities meet the Renewable Portfolio Standards (RPS) mandated by law. RECs are priced by megawatt hours (mwh). The 2020 estimated rate for RECs is $20 per mwh.

Power Use Summaries

The audit of 2018-19 utility bills tabulated a power use totals for municipal accounts of 146,733 kwh per year at a cost of $27,435 and RSU 12 of 953,886 kwh per year at a cost of $115,801 (see Appendix A) Sheepscot General Store uses 82,221 kwh per year at a cost of $10,763 with demand charges. The grand total for all accounts is 1,182,840 kwh per year at a cost of $153,999.

The following is a breakdown of yearly power use and value for each of the solar farm participants:

1. RSU12 Schools

School	Total kwh	Total Cost	Percentage of Grand Total
Chelsea	398,450	$44,478.70	33.69%
Palermo	109,924	$13,697.88	9.29%
Somerville	58,781	$7,747.45	4.97%
Whitefield	140,391	$18,343.57	11.87%
Windsor	246,340	$31,533.87	20.83%

2. Town Municipal Facilities

School	Total kwh	Total Cost	Percentage of Grand Total
Chelsea	20,067	$3,471.92	1.7%
Palermo	17,667	$3,282.26	1.49%
Somerville	11,931	$2,284.93	1.01%
Whitefield	13,211	$1,529.11	1.12%
Windsor	57,126	$10,509.94	4.83%
Westport Island	26,731	$6,356.70	2.26%

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3. Business

Business	Total kwh	Total Cost	Percentage of Grand Total
Sheepscot General Store	82,221	$10,762.73	6.95%

PV System and Location

RSU 12 owns over 7 acres of empty property on the Ridge Road at the Windsor Elementary School. There are three phase power lines feeding the Windsor Elementary School. Therefore, the Windsor Elementary School property is a promising location to provide PV power generation for the RSU 12 school buildings, the associated towns, and the Sheepscot Store.

A 875 kw PV system is predicted, on average, to produce 1,162,023 kwh per year. This production is based on the National Renewable Energy Laboratory's (NREL) PVWatts photovoltaic (PV) system modeling program (see Appendix I). A 875 kw ground mount PV system would require approximately 3 to 3.5 acres.

With a projected installed cost of $1.75 per watt of solar panels, the total cost of the PV system would be $1,531,250. A solar farm with multiple participants needs to determine the required investment by each participant. This can be related to each participant's percentage of total power use.

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25 Year Value Projections

The 25 Year value analysis shows the economic opportunity of the proposed PV system. Appendices B, C, and D a 25 Year projection of the savings value for providing PV power for all solar farm participants. The value reflects the credits that would be received for the power exported to CMP and assumes an average 2% increase in credit value per year. Appendix B, C, and D identify cumulative savings or avoided costs over 25 years starting in 2021. The following shows the avoided costs or savings for each of the solar farm participants:

1. RSU12 Schools – Appendix C

School	Year 1	Year 25
All	$107,244.49	$3,313,018.85

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2. Town Municipal Facilities – Appendix B

School	Year 1	Cumulative Year 25
Chelsea	$2,794.23	$89,499.99
Palermo	$1,673.75	$53,610.71
Somerville	$1,346.87	$43,140.65
Whitefield	$1,372.49	$43,961.37
Windsor	$8,999.77	$288,265.39
Westport Island	$5,114.11	$158,692.37

3. Business – Appendix D

Business	Year 1	Year 25
Sheepscot General Store	$9,656.52	$309,301.31

Power Purchase Agreement (PPA)

A power purchase agreement is a contract between two parties, one who initially owns the PV generation system ("Investor") and one who owns the property ("Owner") where the PV system is installed. The owner purchases electricity from the investor at a discounted rate for the time period that the investor owns the PV system. The PPA contract defines all the terms for sale of electricity between the two parties, including when the project will begin operation, schedule for delivery of electricity, payment terms, and termination. The contract also contains stipulations to protect the interests of both parties and provide a path of resolution for unexpected events.

The incentive for investors to enter into PPA agreements is reduction in federal incomes taxes. This is accomplished by receiving an investment tax credit (ITC) of 26% (for 2020) of the installed cost for which solar systems qualify. In addition, the investor can depreciate the investment over 6 years, which provides additional tax reductions.

The incentive for the property owner is a six initial period of discounted power costs followed by the opportunity to buy the PV system at a discounted cost.

The key economic items of a PPA agreement for the owner are as follows:

1. The purchase price (per kwh) of electricity from the owner (typically 95% of the net metering value of the power).

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2. Periodic increase in the power purchase rate due to increase in the net metering value as a result of utility rate increases.
3. The length of time that the investor will own the PV system and any flexibility for extending that time. Typically, the investor should offer a buyout price for the owner in six years at a "fair market value". The fair market value will be a percentage of the installed cost. The agreement on this cost by both parties is crucial to both their economic benefit.

Power Purchase Agreement (PPA) Cash Flows

A PPA to finance and construct a PV system is the most cost effective method for non-profits to benefit from PV system. There are solar installers in Maine that offer PPA agreements to facilitate PV systems for non-profits.

Appendix F shows cash flow spreadsheets for both PPA parties for a proposed 875 kw PV system over 30 years. The PPA cash flow for RSU12 shows an installed cost of $1,600,000 and a year 6 buyout price of 50% of the installed cost or $800,000. In the first 6 years the PPA investor would charge the solar farm participant accounts at a rate of 95% of year 1 power rates. The total 30 year net cash flow is with a 2% power escalation rate is $3,636,060 with an ROI of 454.51%. In addition, to the avoided costs of not buying power RECs can sold (See RECs section). At $20 per mwh the yearly value of RECs would be $23,240. The REC market is not included in the cash flow analysis, since it is an unpredictable market

Appendix F also shows a spreadsheet for the investors which includes their initial cost, estimated tax benefits, net cash flow, and ROI. Both the RSU12 and investor spreadsheets assume loans at 5% interest are used for financing by both parties. Also, Power costs are assumed to average a 2% per year increase.

The following is a breakdown of the net cash flow and estimated buyout share for each solar farm participant based on their percentage of total power use determined in the power use section. Also, the results assume a 2% per year power value increase. For all participants the ROI is 454.51%.

4. RSU12 Schools – Appendix C

School	Power Percentage	Net 30 Year Cash Flow	Buyout Share
All	80.6%	$2,930,664	$644,800

5. Town Municipal Facilities – Appendix B

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Town	Power Percentage	Net 30 Year Cash Flow	Buyout Share
Chelsea	1.7%	$61,813.02	$13,600
Palermo	1.49%	$54,177.29	$11,920
Somerville	1.01%	$36,724.21	$8,080
Whitefield	1.12%	$40,723.87	$8.960
Windsor	4.83%	$175,621.70	$38,640
Westport Island	2.26%	$82,174.96	$18,080

6. Business – Appendix D

Business	Power Percentage	Net 30 Year Cash Flow	Buyout Share
Sheepscot General Store	6.95%	$252,706.17	$55,600

The PPA buyout price in year 6 will need to be supported by each of the solar farm participants. Each participant's share of the buyout can be determined by the average percentage of kwh allocations to each account over the first 6 years. Initially, each participant can start year 1 with a kwh allocation from the PV system power generation equal to their percentage power use shown in the power use summary. The details around the organization, structure, rules, etc. of the solar farm is beyond the scope of this feasibility study.

Path Forward

This feasibility study provides the information to economically evaluate the feasibility for a PV system to generate power for all solar farm participants. The information in this report reflects the current rules around tax incentives and power credits/payments in Maine. The ITC federal tax credit will be decreasing at the end of 2021 to 26%, 22% in 2022, and 10% after that into the future according to the Dept. of Energy. This study uses an ITC of 26% for the investor.

To pursue the construction of the PV system a final system size needs to be decided (accommodate possible increase in electrical use). From there a Request for Proposals (RFP) can be written and sent to PV installers. The RFP should include request for PPA agreement and CMP interconnection costs. Based on the RFPs received an installer can be selected. Maine Solar Engineering is available to help review this process.

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Appendix A - RSU12 Solar Farm Members Power Use Audit

Location	12 months	kWh	% of Total kWh	Supply Cost	Rate	Demand Cost	Rate	Total Rate	Service Chg	Delivery Chg	Total of Totals
Town of Chelsea											
Town Office		8,580		$716.21	0.083474			0.083474	$183.12	$504.78	
Hallowell Fire Station		7,602		$635.19	0.083556			0.083556	$183.12	$447.25	
Togus Fire Station		2,919		$243.88	0.083549			0.083549	$183.12	$56.83	
Sand Shed		966		$78.47	0.081232			0.081232	$183.12	$56.83	
Town of Chelsea	**Current Year Totals**	**20,067**	**1.70%**	**$1,673.75**	**$0.083408**			**$0.173016**	**$732.48**	**$1,065.69**	**$3,471.92**
Town of Palermo											
Town Office-430		10,446		$183.22					$558.27	$183.28	
Salt Shed-769		2,290		$164.08					$183.28	$134.76	
Fire Dept-940		1,299		$109.08					$123.28	$76.60	
Fier Dept-749		148		$9.99					$183.26	$8.82	
Town Office-490		66		$5.71					$167.92	$4.00	
Fire Station-318		1,469		$122.92					$183.28	$86.56	
Street Lights		1,949		$160.96					$102.02	$530.97	
Town of Palermo	**Current Year Totals**	**17,667**	**1.49%**	**$755.96**				**$0.185785**	**$1,501.31**	**$1,024.99**	**$3,282.26**
Town of Somerville											
Town Office		6,429		$532.51					$399.85	$131.70	
Sand &Salt Shed		4,732		$407.18					$327.57	$169.76	
Street Lights		770		$64.32					$210.64	$41.40	
Fire Station											
Town of Somerville	**Current Year Totals**	**11,931**	**1.01%**	**$1,004.01**				**$0.191512**	**$938.06**	**$342.86**	**$2,284.93**
Town of Westport Island											
Town Office		7,994		$1,139.46	0.142539			0.142539	$470.86	$183.24	
Ferry House		3,307		$599.22	0.181197			0.181197		$315.06	
Town Hall		2,325		$504.84	0.217135			0.217135		$310.46	
Fire Station		13,105		$1,878.57	0.143348			0.143348	$771.73	$183.26	
Town of Westport Island	**Current Year Totals**	**26,731**	**2.26%**	**$4,122.09**	**0.154206**			**$0.237803**	**$1,242.59**	**$992.02**	**$6,356.70**
Town of Whitefield											
Office		13,211		$1,189.37	0.090029			0.090029	$156.82	$183.12	
Town of Whitefield	**Current Year Totals**	**13,211**	**1.12%**	**$1,189.37**	**0.090029**			**$0.115745**	**$156.62**	**$183.12**	**$1,529.11**
Town of Windsor											
Office		16,166		$1,353.10	0.083700			0.083700	$183.28	$952.28	
Garage		7,110		$603.38	0.084864			0.084864	$183.18	$418.41	
Transfer Station		10,909		$929.99	0.085250			0.085250	$203.42	$727.95	
Food Bank		4,345		$361.63	0.083229			0.083229	$183.28	$255.83	
Beacon		315		$26.24	0.083302			0.083302	$183.28	$18.57	
Tower WVFD		693		$57.86	0.083528			0.083528	$183.31	$40.79	

Appendix A - RSU12 Solar Farm Members Power Use Audit

Location	12 months	kWh	% of Total kWh	Supply Cost	Rate	Demand Cost	Rate	Total Rate	Service Chg	Delivery Chg	Total of Totals
WVFD		13,430		$1,128.81	0.084051			0.084051	$185.16	$922.76	
Street Lights		4,158		$328.57	0.079021			0.079021	$205.26	$873.60	
Town of Windsor	**Current Year Totals**	**57,126**	**4.83%**	**$4,789.58**	**0.083843**			**$0.183979**	**$1,510.17**	**$4,210.19**	**$10,509.94**
	Town Totals	**146,733**									**$27,435**
Chelsea School											
Main Building		398,436		$27,332.74	0.068600	$15,640.52	0.039255	0.107855	$449.39	$658.03	
-140		7							$213.90	$0.42	$214.32
-363		7							$183.26	$0.44	$183.70
Chelsea School	**Current Year Totals**	**398,450**	**33.69%**	**$27,332.74**	**0.068600**	**$15,640.52**	**0.039255**	**$0.111629**	**$846.55**	**$658.89**	**$44,478.70**
Palermo School											
Main Building		109,924		$7,606.79	0.069200	$4,758.54	0.043289	0.112490	$349.21	$182.63	
Street Light & Bus-628									$84.27	$411.52	$495.79
Street Lights-352									$183.12	$121.80	$304.92
Palermo School	**Current Year Totals**	**109,924**	**9.29%**	**$7,606.79**	**0.069200**	**$4,758.54**	**0.043289**	**$0.124612**	**$616.60**	**$715.95**	**$13,697.88**
Somerville School											
Main Builsding		58,373		$3,994.81	0.068436	$3,251.56	0.055703	0.124139	$349.25	$95.31	
Street Light-141		408		$34.04	0.083431					$22.48	$56.52
Somerville School	**Current Year Totals**	**58,781**	**4.97%**	**$4,028.85**	**0.068540**	**$3,251.56**	**0.055703**	**$0.131802**	**$349.25**	**$117.79**	**$7,747.45**
Whitefield School											
Main Building		139,200		$9,088.13	0.065288	$8,115.42	0.058300	0.123589	$343.46	$225.62	
Street Lights-466		1,191		$100.35	0.084257				$64.12	$146.45	$310.92
Flood Light-295									$97.78	$162.24	$260.02
Whitefield School	**Current Year Totals**	**140,391**	**11.87%**	**$9,188.48**	**0.065449**	**$8,115.42**	**0.058300**	**$0.130661**	**$505.36**	**$534.31**	**$18,343.57**
Windsor School											
Main Building		229,760		$15,707.11	0.068363	$12,376.17	0.053866	0.122229	$454.51	$376.64	
Lift Pump		15,371		$1,301.53	0.084674				$183.18	$904.52	
Street Lights		1,209		$101.97	0.084342				$64.12	$64.12	$230.21
Windsor School	**Current Year Totals**	**246,340**	**20.83%**	**$17,110.61**	**0.069459**	**$12,376.17**	**0.053866**	**$0.128010**	**$701.81**	**$1,345.28**	**$31,533.87**
Whitefield Store											
`Main Building		82,221		$7,110.39	0.086479	$3,166.74	0.038515	0.124994	$349.20	$136.40	
Whitefield Store	**Current Year Totals**	**82,221**	**6.95%**	**$7,110.39**	**0.086479**	**$3,166.74**	**0.038515**	**$0.130900**	**$349.20**	**$136.40**	**$10,762.73**
	Grand Total	**1,182,840**	**kWh**								**$ 153,999**
	Municipal Accounts	**146,733**	**kWh**								**$ 27,435**
	Sheepscot General Store	**82,221**	**kWh**								**$ 10,763**
	RSU 12 Accounts	**953,886**	**kWh**								**$ 115,801**

Appendix B Municipal Towns 25 Year Projection

Town of Chelsea 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase	$0.176477	$0.180006	$0.183606	$0.187279	$0.191024	$0.194845	$0.198741	$0.202716	$0.206771	$0.210906
Projected yearly costs @ a 2% increase	$3,541.36	$3,612.19	$3,684.43	$3,758.12	$3,833.28	$3,909.95	$3,988.14	$4,067.91	$4,149.27	$4,232.25
Annual Savings at 2% electrical cost Increase	$2,794.23	$2,850.11	$2,907.12	$2,965.26	$3,024.56	$3,085.05	$3,146.76	$3,209.69	$3,273.88	$3,339.36
Savings Total	$2,794.23	$5,644.34	$8,551.46	$11,516.72	$14,541.28	$17,626.33	$20,773.09	$23,982.78	$27,256.66	$30,596.03

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.215124	$0.219427	$0.223815	$0.228291	$0.232857	$0.237514	$0.242265	$0.247110	$0.252052	$0.257093
Projected yearly costs @ a 2% increase	$4,316.90	$4,403.23	$4,491.30	$4,581.12	$4,672.75	$4,766.20	$4,861.53	$4,958.76	$5,057.93	$5,159.09
Annual Savings at 2% electrical cost Increase	$3,406.15	$3,474.27	$3,543.76	$3,614.63	$3,686.93	$3,760.66	$3,835.88	$3,912.59	$3,990.85	$4,070.66
Savings Total	$34,002.18	$37,476.45	$41,020.21	$44,634.84	$48,321.76	$52,082.43	$55,918.31	$59,830.90	$63,821.75	$67,892.41

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.262235	$0.267480	$0.272829	$0.278286	$0.283852	**% ROI at**
Projected yearly costs @ a 2% increase	$5,262.27	$5,367.52	$5,474.87	$5,584.37	$5,696.05	**2% Annual**
Annual Savings at 2% electrical cost Increase	$4,152.08	$4,235.12	$4,319.82	$4,406.22	$4,494.34	**Increase**
Savings Total	$72,044.49	$76,279.61	$80,599.43	$85,005.64	$89,499.99	**344.53%**

Town of Palermo 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase	$0.189500	$0.193291	$0.197156	$0.201099	$0.205121	$0.209224	$0.213408	$0.217676	$0.222030	$0.226471
Projected yearly costs @ a 2% increase	$3,347.91	$3,414.86	$3,483.16	$3,552.82	$3,623.88	$3,696.36	$3,770.29	$3,845.69	$3,922.60	$4,001.06
Savings at 2% electrical cost increase	$1,673.75	$1,707.23	$1,741.37	$1,776.20	$1,811.72	$1,847.96	$1,884.91	$1,922.61	$1,961.06	$2,000.29
Savings Total	$1,673.75	$3,380.98	$5,122.34	$6,898.54	$8,710.26	$10,558.22	$12,443.13	$14,365.74	$16,326.81	$18,327.10

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.231000	$0.235620	$0.240332	$0.245139	$0.250042	$0.255043	$0.260144	$0.265346	$0.270653	$0.276066
Projected yearly costs @ a 2% increase	$4,081.08	$4,162.70	$4,245.95	$4,330.87	$4,417.49	$4,505.84	$4,595.96	$4,687.88	$4,781.63	$4,877.27
Annual Savings at 2% electrical cost Increase	$2,040.29	$2,081.10	$2,122.72	$2,165.17	$2,208.48	$2,252.65	$2,297.70	$2,343.65	$2,390.53	$2,438.34
Savings Total	$20,367.39	$22,448.49	$24,571.20	$26,736.38	$28,944.86	$31,197.50	$33,495.20	$35,838.86	$38,229.39	$40,667.72

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.281588	$0.287220	$0.292964	$0.298823	$0.304800	**% ROI at**
Projected yearly costs @ a 2% increase	$4,974.81	$5,074.31	$5,175.79	$5,279.31	$5,384.90	**2% Annual**
Annual Savings at 2% electrical cost Increase	$2,487.10	$2,536.85	$2,587.58	$2,639.34	$2,692.12	**Increase**
Savings Total	$43,154.83	$45,691.67	$48,279.26	$50,918.59	$53,610.71	**234.41%**

Appendix B Municipal Towns 25 Year Projection (Cont'd)

Town of Somerville 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase	$0.195342	$0.199249	$0.203234	$0.207299	$0.211445	$0.215674	$0.219987	$0.224387	$0.228875	$0.233452
Projected yearly costs @ a 2% increase	$2,330.63	$2,377.24	$2,424.79	$2,473.28	$2,522.75	$2,573.20	$2,624.67	$2,677.16	$2,730.70	$2,785.32
Savings at 2% electrical cost increase	$1,346.87	$1,373.81	$1,401.28	$1,429.31	$1,457.90	$1,487.05	$1,516.79	$1,547.13	$1,578.07	$1,609.63
Savings Total	$1,346.87	$2,720.68	$4,121.96	$5,551.27	$7,009.17	$8,496.22	$10,013.01	$11,560.14	$13,138.22	$14,747.85

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.238121	$0.242884	$0.247741	$0.252696	$0.257750	$0.262905	$0.268163	$0.273526	$0.278997	$0.284577
Projected yearly costs @ a 2% increase	$2,841.02	$2,897.84	$2,955.80	$3,014.92	$3,075.21	$3,136.72	$3,199.45	$3,263.44	$3,328.71	$3,395.29
Annual Savings at 2% electrical cost Increase	$1,641.83	$1,674.66	$1,708.16	$1,742.32	$1,777.17	$1,812.71	$1,848.96	$1,885.94	$1,923.66	$1,962.14
Savings Total	$16,389.68	$18,064.34	$19,772.50	$21,514.82	$23,291.98	$25,104.69	$26,953.66	$28,839.60	$30,763.26	$32,725.40

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.290268	$0.296074	$0.301995	$0.308035	$0.314196	**% ROI at**
Projected yearly costs @ a 2% increase	$3,463.19	$3,532.46	$3,603.10	$3,675.17	$3,748.67	**2% Annual**
Annual Savings at 2% electrical cost Increase	$2,001.38	$2,041.41	$2,082.23	$2,123.88	$2,166.36	**Increase**
Savings Total	$34,726.78	$36,768.18	$38,850.42	$40,974.29	$43,140.65	**279.32%**

Town of Westport Island 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase	$0.242559	$0.247410	$0.252358	$0.257405	$0.262553	$0.267804	$0.273160	$0.278624	$0.284196	$0.289880
Projected yearly costs @ a 2% increase	$6,483.83	$6,613.51	$6,745.78	$6,880.70	$7,018.31	$7,158.68	$7,301.85	$7,447.89	$7,596.84	$7,748.78
Savings at 2% electrical cost increase	$5,114.11	$5,216.39	$5,320.72	$5,427.13	$5,535.68	$5,646.39	$5,759.32	$5,874.50	$5,991.99	$6,111.83
Savings Total	$5,114.11	$10,330.50	$10,537.11	$15,964.25	$21,499.92	$27,146.31	$32,905.63	$38,780.14	$44,772.13	$50,883.97

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.295678	$0.301591	$0.307623	$0.313775	$0.320051	$0.326452	$0.332981	$0.339641	$0.346433	$0.353362
Projected yearly costs @ a 2% increase	$7,903.76	$8,061.83	$8,223.07	$8,387.53	$8,555.28	$8,726.39	$8,900.91	$9,078.93	$9,260.51	$9,445.72
Annual Savings at 2% electrical cost Increase	$6,234.07	$6,358.75	$6,485.93	$6,615.65	$6,747.96	$6,882.92	$7,020.58	$7,160.99	$7,304.21	$7,450.29
Savings Total	$57,118.04	$63,476.79	$69,962.72	$76,578.37	$83,326.33	$90,209.25	$97,229.82	$104,390.81	$111,695.02	$119,145.31

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.360429	$0.367638	$0.374991	$0.382490	$0.390140	**% ROI at**
Projected yearly costs @ a 2% increase	$9,634.64	$9,827.33	$10,023.88	$10,224.35	$10,428.84	**2% Annual**
Annual Savings at 2% electrical cost Increase	$7,599.30	$7,751.28	$7,906.31	$8,064.44	$8,225.73	**Increase**
Savings Total	$126,744.61	$134,495.89	$142,402.20	$150,466.64	$158,692.37	**458.60%**

Appendix B Municipal Towns 25 Year Projection (Cont'd)

Town of Whitefield 25 Year Projection

Fiscal Year	19	20	21	22	23	24	25	26	27	28	29	30
Impacted Year			1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase			$0.118060	$0.120422	$0.122830	$0.125287	$0.127792	$0.130348	$0.132955	$0.135614	$0.138327	$0.141093
Projected yearly costs @ a 2% increase			$1,559.70	$1,590.89	$1,622.71	$1,655.16	$1,688.26	$1,722.03	$1,756.47	$1,791.60	$1,827.43	$1,863.98
Savings at 2% electrical cost increase			$1,372.49	$1,399.94	$1,427.94	$1,456.50	$1,485.63	$1,515.34	$1,545.65	$1,576.56	$1,608.09	$1,640.26
Savings Total			$1,372.49	$2,772.44	$4,200.38	$5,656.88	$7,142.51	$8,657.85	$10,203.50	$11,780.07	$13,388.16	$15,028.42

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.143915	$0.146793	$0.149729	$0.152724	$0.155778	$0.158894	$0.162072	$0.165313	$0.168619	$0.171992
Projected yearly costs @ a 2% increase	$1,901.26	$1,939.29	$1,978.07	$2,017.63	$2,057.98	$2,099.14	$2,141.13	$2,183.95	$2,227.63	$2,272.18
Annual Savings at 2% electrical cost Increase	$1,673.06	$1,706.52	$1,740.65	$1,775.47	$1,810.98	$1,847.20	$1,884.14	$1,921.82	$1,960.26	$1,999.46
Savings Total	$16,701.48	$18,408.00	$20,148.65	$21,924.12	$23,735.10	$25,582.29	$27,466.43	$29,388.25	$31,348.51	$33,347.97

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.175431	$0.178940	$0.182519	$0.186169	$0.189893	**% ROI at**
Projected yearly costs @ a 2% increase	$2,317.63	$2,363.98	$2,411.26	$2,459.48	$2,508.67	**2% Annual**
Annual Savings at 2% electrical cost Increase	$2,039.45	$2,080.24	$2,121.85	$2,164.28	$2,207.57	**Increase**
Savings Total	$35,387.43	$37,467.67	$39,589.51	$41,753.80	$43,961.37	**257.05%**

Town of Windsor 25 Year Projection

Fiscal Year	19	20	21	22	23	24	25	26	27	28	29	30
Impacted Year			1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase			$0.187659	$0.191412	$0.195240	$0.199145	$0.203128	$0.207190	$0.211334	$0.215561	$0.219872	$0.224270
Projected yearly costs @ a 2% increase			$10,720.14	$10,934.54	$11,153.23	$11,376.30	$11,603.83	$11,835.90	$12,072.62	$12,314.07	$12,560.35	$12,811.56
Savings at 2% electrical cost increase			$8,999.77	$9,179.77	$9,363.36	$9,550.63	$9,741.64	$9,936.48	$10,135.20	$10,337.91	$10,544.67	$10,755.56
Savings Total			$8,999.77	$18,179.54	$27,542.90	$37,093.53	$46,835.17	$56,771.65	$66,906.85	$77,244.76	$87,789.43	$98,544.99

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.228755	$0.233330	$0.237997	$0.242757	$0.247612	$0.252564	$0.257615	$0.262768	$0.268023	$0.273383
Projected yearly costs @ a 2% increase	$13,067.79	$13,329.15	$13,595.73	$13,867.65	$14,145.00	$14,427.90	$14,716.46	$15,010.78	$15,311.00	$15,617.22
Annual Savings at 2% electrical cost Increase	$10,970.67	$11,190.09	$11,413.89	$11,642.16	$11,875.01	$12,112.51	$12,354.76	$12,601.85	$12,853.89	$13,110.97
Savings Total	$109,515.66	$120,705.75	$132,119.63	$143,761.80	$155,636.81	$167,749.31	$180,104.07	$192,705.93	$205,559.82	$218,670.78

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.278851	$0.284428	$0.290117	$0.295919	$0.301837	**% ROI at**
Projected yearly costs @ a 2% increase	$15,929.57	$16,248.16	$16,573.12	$16,904.58	$17,242.67	**2% Annual**
Annual Savings at 2% electrical cost Increase	$13,373.19	$13,640.65	$13,913.46	$14,191.73	$14,475.57	**Increase**
Savings Total	$232,043.97	$245,684.62	$259,598.09	$273,789.82	$288,265.39	**389.81%**

Appendix C RSU 12 Schools 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
RSU 12 Electrical Bills - 5.4% Increase in FY 21 fixed for 5 years & a 10.6% in FY 26, 31, 36, & 41 each fixed for 5 years	$122,251.60	$122,251.60	$122,251.60	$122,251.60	$122,251.60	$135,210.28	$135,210.28	$135,210.28	$135,210.28	$135,210.28
Annual Savings	$107,244.49	$107,244.49	$107,244.49	$107,244.49	$107,244.49	$118,612.40	$118,612.40	$118,612.40	$118,612.40	$118,612.40
Cumulative Savings	$107,244.49	$214,488.97	$321,733.46	$428,977.95	$536,222.43	$654,834.84	$773,447.24	$892,059.64	$1,010,672.04	$1,129,284.45

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
RSU 12 Electrical Bills - 5.4% Increase in FY 21 fixed for 5 years & a 10.6% in FY 26, 31, 36, & 41 each fixed for 5 years	$149,542.56	$149,542.56	$149,542.56	$149,542.56	$149,542.56	$165,394.08	$165,394.08	$165,394.08	$165,394.08	$165,394.08
Annual Savings	$131,185.32	$131,185.32	$131,185.32	$131,185.32	$131,185.32	$145,090.96	$145,090.96	$145,090.96	$145,090.96	$145,090.96
Cumulative Savings	$1,260,469.76	$1,391,655.08	$1,522,840.40	$1,654,025.71	$1,785,211.03	$1,930,301.99	$2,075,392.95	$2,220,483.91	$2,365,574.87	$2,510,665.84

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
RSU 12 Electrical Bills - 5.4% Increase in FY 21 fixed for 5 years & a 10.6% in FY 26, 31, 36, & 41 each fixed for 5 years	$182,925.85	$182,925.85	$182,925.85	$182,925.85	$182,925.85	**25 Year**
Annual Savings	$160,470.60	$160,470.60	$160,470.60	$160,470.60	$160,470.60	**% ROI**
Cumulative Savings	$2,671,136.44	$2,831,607.04	$2,992,077.64	$3,152,548.25	$3,313,018.85	**268.29%**

Appendix D Sheepscot General Store 25 Year Projection

Fiscal Year	21	22	23	24	25	26	27	28	29	30
Impacted Year	1	2	3	4	5	6	7	8	9	10
Projected Rate $/kWh @ 2% increase	$0.133518	$0.136188	$0.138912	$0.141690	$0.144524	$0.147415	$0.150363	$0.153370	$0.156438	$0.159566
Projected yearly costs @ a 2% increase	$10,977.98	$11,197.54	$11,421.50	$11,649.93	$11,882.92	$12,120.58	$12,362.99	$12,610.25	$12,862.46	$13,119.71
Annual Savings at 2% electrical cost Increrase	$9,656.52	$9,849.65	$10,046.65	$10,247.58	$10,452.53	$10,661.58	$10,874.81	$11,092.31	$11,314.16	$11,540.44
Savings Total		$19,506.18	$29,552.82	$39,800.40	$50,252.93	$60,914.51	$71,789.33	$82,881.63	$94,195.79	$105,736.23

Fiscal Year	31	32	33	34	35	36	37	38	39	40
Impacted Year	11	12	13	14	15	16	17	18	19	20
Projected Rate $/kWh @ 2% increase	$0.162758	$0.166013	$0.169333	$0.172720	$0.176174	$0.179698	$0.183292	$0.186957	$0.190697	$0.194511
Projected yearly costs @ a 2% increase	$13,382.10	$13,649.74	$13,922.74	$14,201.19	$14,485.22	$14,774.92	$15,070.42	$15,371.83	$15,679.27	$15,992.85
Annual Savings at 2% electrical cost Increrase	$11,771.25	$12,006.67	$12,246.81	$12,491.74	$12,741.58	$12,996.41	$13,256.34	$13,521.46	$13,791.89	$14,067.73
Savings Total	$117,507.48	$129,514.15	$141,760.95	$154,252.70	$166,994.27	$179,990.68	$193,247.02	$206,768.48	$220,560.37	$234,628.10

Fiscal Year	41	42	43	44	45	
Impacted Year	21	22	23	24	25	
Projected Rate $/kWh @ 2% increase	$0.198401	$0.202369	$0.206416	$0.210544	$0.214755	**% ROI at**
Projected yearly costs @ a 2% increase	$16,312.71	$16,638.96	$16,971.74	$17,311.18	$17,657.40	**2% Annual**
Annual Savings at 2% electrical cost Increrase	$14,349.08	$14,636.07	$14,928.79	$15,227.36	$15,531.91	**Increase**
Savings Total	$248,977.19	$263,613.25	$278,542.04	$293,769.40	$309,301.31	**290.60%**

Appendix E RSU12 PPA Investor Cash Flow with Loan

All Entered Values in Red							
6 year Current Rate Net Cash Flow Total		**$2,771,888**					
Current Rate ROI		**173.24%**					
Installation Cost for PV System	$1,600,000		6 Year Purchase Price	50.00%	of total installed cost		
Loan Amount after ITC	$1,120,000			**$800,000**	Buyout Price		
Interest Rate	5.0%						
Loan Period	10						
	DC KW			Rates			
	875.0			Standard Offer	$0.0900		
PV Watts Annual Output				MGS Distribution	$0.0037		
	2,800,000	kwh/yr		Estimated Demand Charges	$41,837		
Cost Per DC Watt				Total	**$304,323**		
	$1.83						
		Power Payment Rate	$0.14	per kwh negotiable			
		Power Value	$378,000				
		Power Payment Discount	5.0%				
		Power Payment =	**$359,100**	$29,925.00	Monthly		
Power Rate Escalation		2.0%	per year				
Annual Output Degradation		0.50%	per year				
PV System Cash Flows Base Case							
	2019	2020	2021	2022	2023	2024	
Investor	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
ITC 26 % tax credit	$416,000						
MACRS Depreciation**	$55,680	$89,088	$53,453	$32,072	$32,072	$9,237	
Power Payment at Current Rate	$359,100	$359,100	$359,100	$359,100	$359,100	$359,100	
Loan Payments	($142,552)	(142,552.05)	(142,552.05)	(142,552.05)	(142,552.05)	(142,552.05)	
Insurance	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	
Maintenance	($500)	($500)	($500)	($500)	($500)	($500)	
Buyout - Year 6						800,000.00	
Loan Principal						(531,280.49)	
Cash Flow/Income at Current Rate	$685,728	$988,864	$1,256,365	$1,502,484	$1,748,604	**$2,771,888**	
*Basis reduced by ½ after 30% tax credit			Solar is 6 year MACRS property				
			Rate	20.00%			
** Adjusted Basis =(cost – ½ 30% tax credit)			Schedule	32.00%			
Adjusted MACRS Basis =	$1,392,000			19.20%			
Assumed Federal Tax Rate =	20.0%			11.52%			
				11.52%			
				5.76%			
	Power Rate Escalation Table						
1	$359,100	Escalation & Degradation Rate		1.5%	per year		

Appendix F RSU12 PPA Cash Flow with Loan

			All Entered Values in Red									
			All Calculated Values in Black									
30 year Current Rate Net Cash Flow Total		**$2,652,681**		30 year Escalation Rate Net Cash Flow Total			**$3,636,060**					
Current Rate Payback		**11**				Escalation Rate Payback	**11**					
Current Rate ROI		**331.59%**				Escalation Rate ROI	**454.51%**					
Installation Cost for PV System	$1,600,000		6 Year Purchase Price	50.00%	of total installed cost							
				$800,000	Buyout Price							
				$800,000	Loan Amount							
				5.0%	Loan Interest							
				5	Loan Period (years)							
	DC KW			Rates								
	875.0			Standard Offer	$0.0900							
PV Watts Annual Output				MGS Distribution	$0.0037							
	1,162,023	kwh/yr		Estimated Demand Charges	$41,837							
Cost Per DC Watt				Total Value	**$150,771**							
	$1.83											
	Power Payment Rate		$0.14	per kwh negotiable								
	Power Value		$156,873									
	Power Payment Discount		5.0%									
	Power Payment Rate =		**$149,029**	$12,419.12	Monthly							
Power Rate Escalation		2.0%	per year									
Annual Output Degradation		0.50%	per year									
PV System Cash Flows Base Case												
Owner	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	**Totals**					
Power Payment	$149,029	$149,029	$149,029	$149,029	$149,029	$149,029	$894,177	Savings could be put aside to				
Power Purchase Cost Reduction	$7,844	$7,844	$7,844	$7,844	$7,844	$7,844	**$47,062**	reduce loan principal in year 7				
Owner	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18
Intial Buyout Payment												
Insurance	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)	($2,000)
Maintenance	($500)	($500)	($500)	($500)	($500)	($500)	($500)	($500)	($500)	($500)	($500)	($500)
Loan Payment	($181,164)	($181,164)	($181,164)	($181,164)	($181,164)							
Power Cost Credit	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771
Net	($32,893)	($65,786)	($98,679)	($131,572)	($164,465)	($16,194)	$132,077	$280,348	$428,618	$576,889	$725,160	$873,431
Power Cost Credit with Escalator	$162,955	$165,400	$165,400	$167,881	$170,399	$172,955	$175,549	$178,182	$180,855	$183,568	$186,321	$189,116
Net	($20,709)	($38,973)	($57,237)	($73,020)	($86,285)	$84,169	$257,218	$432,901	$611,256	$792,324	$976,145	$1,162,761
Owner	Year 19	Year 20	Year 21	Year 22	Year 23	Year 24	Year 25	Year 26	Year 27	Year 28	Year 29	Year 30
Insurance	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)	(2000.00)
Maintenance	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)	(500.00)
Loan Payment												
Power Cost Credit	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771	$150,771
Net	$1,021,702	$1,169,973	$1,318,243	$1,466,514	$1,614,785	$1,763,056	$1,911,327	$2,059,598	$2,207,869	$2,356,139	$2,504,410	**$2,652,681**
Power Payment Escalator	$191,953	$194,832	$197,755	$200,721	$203,732	$206,788	$209,890	$213,038	$216,234	$219,477	$222,769	$226,111
Net	$1,352,214	$1,544,546	$1,739,801	$1,938,022	$2,139,254	$2,343,542	$2,550,932	$2,761,470	$2,975,203	$3,192,180	$3,412,450	**$3,636,060**

Appendix E – CMP 2019 Rates

RATE MGS-S
MEDIUM GENERAL SERVICE - SECONDARY

AVAILABILITY

This rate is available for all general service purposes where service is taken at a secondary voltage and where the customer's maximum monthly measured demand has exceeded 20 kW but has not exceeded 400 kW, subject to the following two paragraphs.

Any customer taking service under this rate whose maximum monthly measured demand in any month exceeds 400 kW twice within the preceding twelve months shall be automatically transferred to the applicable Intermediate General Service rate for secondary service, effective with the next succeeding billing month.

Except to the extent otherwise provided in the Company's Electric Delivery Rate Schedule, any customer taking service under this rate whose maximum monthly measured demand has not exceeded 20 kW in each of the preceding twelve months shall be transferred to the applicable Small General Service rate, effective with the next succeeding billing month.

Electric delivery service must be taken on a continuous year-round basis by any one customer at a single service location where the entire requirements for electric delivery service at the premises are supplied at one point of delivery, except that service may be taken for a shorter period subject to the provisions of the short-term service charge.

CHARACTER OF SERVICE

Service will be single or three phase, alternating current, 60 hertz, at one standard available secondary voltage as described in the Company's Handbook of Requirements for Electric Service and Meter Installations.

DEMAND

The monthly demand shall be the highest 15-minute integrated kW demand registered during the month as determined by the Company.

The reactive demand will be determined for three phase service only and where the power factor of the customer's load is determined by the Company to be less than 90% lagging. The reactive demand shall be the highest 15-minute integrated kVar demand registered during the month.

RATE MGS-S

MEDIUM GENERAL SERVICE - SECONDARY

BASIC RATE PER MONTH

	Billing Months July and August	Billing Months September - June
Service Charge		
Single Phase	$29.22	$29.22
Three Phase	$38.03	$38.03
Demand Charge	$13.92 /kW	$13.27 /kW
kWh Charge	$0.003745 /kWh	$0.003745 /kWh

TRANSMISSION CHARGE

The transmission charges in accordance with Subsection 44.1 of the Terms & Conditions are included in the above rates.

EFFICIENCY MAINE TRUST ASSESSMENT CHARGE

The Efficiency Maine Trust assessment charges in accordance with Subsection 49.1 of the Terms & Conditions are included in the above rates.

REACTIVE DEMAND CHARGE

$1.25 per kilovar (kVar) of reactive demand in excess of 50% of the monthly kW demand.

RATE MGS-S
MEDIUM GENERAL SERVICE - SECONDARY

SHORT-TERM SERVICE CHARGE

Customers who take short-term service will be billed for the first three months, or fraction thereof, $87.66 per month for single phase service or $114.09 per month for three phase service in addition to the regular monthly electric service rate (including the monthly minimum charge). A customer will be billed for no fewer than three consecutive months of short-term service.

A credit equal to one-ninth of the amount of short-term service charges billed during the first three months of short-term service will be applied to a short-term customer's bill in each month, or fraction thereof, that the short-term customer's term of service exceeds three months. In no case will the total amount of such credits exceed the total amount of short-term service charges billed.

When seasonal service customers take service for less than twelve consecutive months, they will be considered to be short-term customers and their final bills will be adjusted to include any unbilled short-term service charges and credits.

MINIMUM CHARGE

The Service Charge, plus the Demand Charge, plus the Reactive Demand Charge, per month, plus any charges due for short-term service.

RATE SGS
SMALL GENERAL SERVICE

AVAILABILITY

This rate is available for all general service purposes where the customer's demand has not exceeded 20 kW, subject to the following paragraph.

Except to the extent otherwise provided in the Company's Electric Delivery Rate Schedule, any customer taking service under this rate whose maximum monthly measured demand exceeds 20 kW six times in the preceding twelve months shall be transferred to the applicable Medium General Service rate, effective with the next succeeding billing month.

Electric delivery service must be taken on a continuous year-round basis by any one customer at a single service location where the entire requirements for electric delivery service at the premises are supplied at one point of delivery, except that service may be taken for a shorter period subject to the provisions of the short-term service charge. This rate is not available for Residential Service.

CHARACTER OF SERVICE

Service will be single or three phase, alternating current, 60 hertz, at one standard service voltage as described in the Company's Handbook of Requirements for Electric Service and Meter Installations, or at one Standard available primary voltage between 4 kV and 15 kV.

BASIC RATE PER MONTH

Service Charge	
Single Phase	$15.33
Three Phase	$19.52
kWh Charge	$0.058075 /kWh

TRANSMISSION CHARGE

The transmission charges in accordance with Subsection 44.1 of the Terms & Conditions are included in the above rates.

RATE SGS
SMALL GENERAL SERVICE

EFFICIENCY MAINE TRUST ASSESSMENT CHARGE

The Efficiency Maine Trust assessment charges in accordance with Subsection 49.1 of the Terms & Conditions are included in the above rates.

SHORT-TERM SERVICE CHARGE

Customers who take short-term service will be billed for the first three months, or fraction thereof, $45.99 per month for Single Phase Service or $58.56 per month for Three Phase Service in addition to the regular monthly electric service rate (including the monthly minimum charge). A customer will be billed for no fewer than three consecutive months of short-term service.

A credit equal to one-ninth of the amount of short-term service charges billed during the first three months of short-term service will be applied to a short-term customer's bill in each month, or fraction thereof, that the short-term customer's term of service exceeds three months. In no case will the total amount of such credits exceed the total amount of short-term service charges billed.

When seasonal service customers take service for less than twelve consecutive months, they will be considered to be short-term customers and their final bills will be adjusted to include any unbilled short-term service charges and credits.

MINIMUM CHARGE

The Service Charge, plus any charges due for short-term service.

Appendix I - PV Watts

NREL

The energy output range is based on analysis of 30 years of historical weather data for nearby , and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

1,162,023 kWh/Year*

System output may range from 1,113,218 to 1,194,676 kWh per year near this location.

Month	Solar Radiation (kWh / m² / day)	AC Energy (kWh)	Value ($)
January	3.46	78,073	10,540
February	4.62	93,243	12,588
March	5.36	116,767	15,764
April	5.19	103,081	13,916
May	5.48	112,007	15,121
June	5.62	107,890	14,565
July	5.99	116,793	15,767
August	5.79	112,543	15,193
September	5.38	103,934	14,031
October	4.15	85,980	11,607
November	3.31	68,461	9,242
December	2.80	63,250	8,539
Annual	**4.76**	**1,162,022**	**$ 156,873**

User Comments

Default System Loss%

Location and Station Identification

Requested Location	windsor, me
Weather Data Source	Lat, Lon: 44.33, -69.58 1.3 mi
Latitude	44.33° N
Longitude	69.58° W

PV System Specifications *(Residential)*

DC System Size	875 kW
Module Type	Standard
Array Type	Fixed (open rack)
Array Tilt	35°
Array Azimuth	180°
System Losses	14.08%
Inverter Efficiency	96%
DC to AC Size Ratio	1.2

Economics

Average Retail Electricity Rate	0.135 $/kWh

Performance Metrics

Capacity Factor	15.2%

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