P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 12.1.2
Environment and Sustainability Standing Committee
November 1, 2018

TO: Chair and Members of Environment and Sustainability Standing Committee

SUBMITTED BY: ***-Original Signed-***

Kelly Denty, Director, Planning and Development

-Original Signed-

Jacques Dubé, Chief Administrative Officer

DATE: September 27, 2018

SUBJECT: **Halifax Solar City – Program Update & Extension**

ORIGIN

March 31, 2015 Regional Council passed the following motion.

MOVED by Councillor Watts, seconded by Councillor Fisher that Halifax Regional Council:

1. Approve the continuation of the Solar City Program for three years at no direct net cost to HRM;
2. Increase the budget for project account CD990001 Solar City Program by $13,112,700 with funding as indicated in the Financial Implications section of the January 14, 2015 staff report;
3. Endorse the project initiation to include solar photovoltaic, solar air, and solar thermal technologies;
4. Direct staff to supply an annual report on the Solar City program; and
5. Direct staff to implement the recommendations from the Grant Thornton report on the pilot project.

October 1, 2015 ESSC 9.1.1 – Update on the Solar City 2.0 Program, Information Report dated September 18, 2015

May 12, 2016 ESSC 12.3.1 – Update on the Solar City Program, Information Report dated April 21, 2016

February 1, 2018 ESSC – Halifax Solar City – Program Update, Information Report dated December 07, 2017

LEGISLATIVE AUTHORITY

Clause79(1)(ada) "…Council may expend money required by the Municipality for…(ada) providing for, financing and installing energy-efficiency equipment on private property including, without restricting the generality of the foregoing, solar panels.

Clause104A(1)(a) "…Council may make by-laws imposing, fixing and providing methods of enforcing payment of charges for the for the financing and installation of any of the following on private property with the consent of the property owner…(a) equipment installed pursuant to an expenditure under clause 79(1)(ada);

By-law S-500, the *Solar City by-law*

RECOMMENDATION

It is recommended that the Environment and Sustainability Standing Committee recommend that Regional Council:

1. Approve the continuation of the Solar City Program as a clean energy, community-based program; and,

2. Direct staff to provide annual reports on the Solar City Program to the Environment and Sustainability Standing Committee.

BACKGROUND

The Solar City Program was approved as a three-year program to incentivize solar energy technology in the municipality. The Solar City Program built on the success and lessons of the Solar City pilot project, which focused on solar hot water systems. The current Solar City Program is set to end on May 15, 2019.

The Solar City Program is offered to eligible property owners, which include residential, not for profits, places of worship, cooperatives and charities. The program offers property owners access to innovative solar energy options, which can be financed through the Halifax Regional Municipality. The solar energy options include solar electric (photovoltaic), solar hot air; and/or solar hot water.

With guidance from the Solar City Officer, property owners select their preferred solar energy system and solar contractor. The Solar City Officer provides a level of review and due diligence to help ensure that installed solar energy systems meet industry standards and will provide energy and cost savings over the lifetime of the system.

The program financing was the first of its kind in Canada. Several other municipalities, including the Towns of Bridgewater, Berwick and the Municipality of the District of Shelburne, have adopted a similar mechanism to finance energy efficiency and renewable energy projects. Financing is applied to the property and not the individual, similar to a standard Local Improvement Charge (LIC). There are no credit checks required to confirm eligibility however, property owners are only eligible if they are in good financial standing with respect to property taxes, LICs, and any other relevant municipal charges. Financing is repaid separately from the annual property tax bill at a fixed interest rate of 4.75% over ten years, similar to a Local Improvement Charge. Property owners have the option to pay in full at any time without penalty. If a participant sells their property before full repayment, they have the option to pay in full at the point of sale or pass the charge to the next property owner.

DISCUSSION

Measuring Program Performance

Key Performance Indicators (KPIs) are tracked to ensure program objectives are achieved. Tables 1 through 4 present a summary of the program KPIs to September 28, 2018. 1,979 property owners from across the Municipality showed interest in the Solar City Program by registering their property for consideration. At the point of registration, property owners are informed of the solar technologies eligible for financing and educated on current market trends, and potential system costs and savings before reaching out to solar contractors for a formal quotation. Ultimately, 216 property owners opted to proceed with the system quoted by their selected contractor and submitted their proposal to the Solar City Officer for review. All 216 proposals were approved for financing. Each property owner was sent a Solar City Participant Agreement for review and signature before their selected contractor could take out necessary permits and proceed with the installation. Of the 216 approvals, 56 property owners opted not to proceed with a Participant Agreement for various reasons.

After signing and returning the Participant Agreement, property owners have six months to complete the approved system installation with their selected solar contractor. Since the program launch, 140 solar permits were issued in the Municipality as a direct result of the program, while 16 were issued outside of the program. This means that 90% of all solar installations in the Municipality since June 2016 are a direct result of the Solar City Program.

Table 1: Summary of Solar City Program KPIs (May 15, 2016 to September 28, 2018).

Key Performance Indicators	**Total**
Registrations	1,979
System applications received for review	216
System applications approved	216
Executed Solar City Participant Agreements	160
Total value of executed agreements	$3,253,700
Solar permits issued through Solar City	140
Solar permits issued through HRM (outside of Solar City)	16

As shown in Table 2 below, 36 solar hot water system agreements have been executed through the program. 35 of these systems use flat plate technology while the other uses evacuated tube technology. All flat plate systems were designed to pre-heat domestic hot water, while the single evacuated tube system was installed as a hybrid, preheating both domestic hot water and space heat. Both electricity and furnace oil consumption will be avoided by the approved systems. All assumptions and feasibility calculations relating to each system and its corresponding fuel offset can be found in Attachment A. Solar hot water systems installed under the program are expected to save property owners an average of $389 on their utility bills in the first year of operation. With the expected escalation of fuel costs and inflation, the average property owner can expect to see a system payback of 16.6 years and will save approximately $20,000 over the 25-year analysis period.

Table 2: Summary of solar hot water statistics up to September 28, 2018.

Key Performance Indicators	Min	Max	Average	Total
Executed Solar City Participant Agreements	-	-	-	36
Energy avoided per year (ekWh)	1,377	4,863	2,547	94,254
GHG emissions avoided per year (kg eCO2)	900	2,500	1,600	58,000
System Costs	$7,140	$16,135	$8,910	$329,700
Payback (years)	13.0	21.5	16.6	-
25 Year Internal Rate of Return (IRR)	1.8%	8.1%	5.2%	-
25 Year Return on investment (ROI)	38%	202%	122%	-

As shown in Table 3, there have been 123 solar electric system agreements executed to date, all using various inverter technology. All systems are connected to Nova Scotia Power Inc.'s (NSPI) transmission and distribution grid, making use of their Enhanced Net Metering Program. All assumptions and feasibility calculations are included in Attachment A. Solar electric systems installed under the program are expected to save property owners an average of $1,550 on their utility bills in the first year of operation. With the expected escalation of fuel costs and inflation, the average property owner can expect to see a system payback of 13.5 years and save a total of $75,100 over the 25-year analysis period. The average levelized cost of energy[1] (LCOE) for these solar electric systems is 17.81 cents per kilowatt hour (¢/kWh), only 1.71¢ more than the current residential rate. This LCOE is locked in for the lifetime of the system independent of increasing NSPI tariffs.

Table 3: Summary of solar electric statistics up to September 28, 2018.[2]

Key Performance Indicators	Min	Max	Average	Total
Executed Solar City Participant Agreements	-,	-	-	123
Energy avoided per year (kWh)	2,212	58,865	9,671	1,170,142
GHG emissions avoided per year (kg CO2)	1,600	42,100	6,900	837,000
System Costs	$6,500	$139,150	$23,700	$2,918,000
Payback (years)	8	18.0	13.5	-
25 Year Internal Rate of Return (IRR)	3.9%	13.4	7.3%	-
25 Year Return on investment (ROI)	106%	437%	204%	-

To date there has been only one solar hot air system installed through the Solar City Program (Table 4). This does not provide enough information to accurately gauge average system expectations. The approved solar hot air system is supplementing electric space heating.

Table 4: Summary of solar hot air statistics up to September 28, 2018.

Key Performance Indicators	Min	Max	Average	Total
Executed Solar City Participant Agreements	-	-	-	1
Energy avoided per year (kWh)	N/A	N/A	1,100	1,100
GHG emissions avoided per year (kg CO2)	N/A	N/A	787	787
System Costs	N/A	N/A	$5,969.00	$5,969.00
Payback (years)	N/A	N/A	21	-
25 Year Internal Rate of Return (IRR)	N/A	N/A	2.28%	-
25 Year Return on investment (ROI)	N/A	N/A	57%	-

Community Impacts

An increasing number of non-residential properties have expressed interest in installing a solar energy system, including places of worship, charities and cooperatives. As these non-residential properties are owned by an organization or group of individuals, the Solar City Program requires a signed letter of approval from the board or council, giving formal approval to proceed with the program. A notable place of worship that recently installed a solar electric system through the program is the Woodlawn United Church in Dartmouth. This is currently the largest system approved through the program to date with a total capacity of 47.6 kilowatts.

[1] Fixed unit-cost of electricity over the lifetime of a generating asset.
[2] Statistics do not include the provincial SolarHomes rebate.

Figure 1: Completed solar electric installation at the Woodlawn United Church in Dartmouth

Several non-residential organizations have also expressed interest in participating in the provincial Solar for Community Buildings Program, which the Solar City program is set up to support as it can provide financing to eligible organizations.

Aside from Nova Scotia, the program has garnered national interest as Energy & Environment has been contacted by various organizations across the country requesting advice on Property-Assessed Clean Energy (PACE) programming. These organizations include: The District of Saanich in Victoria, BC, the Town of Stratford in PEI, and Alberta's Climate Change Office.

Provincial Rebate

On June 25, 2018, the Province of Nova Scotia announced a new four-year rebate for residential solar electric systems. The rebate is funded federally through the Low Carbon Economy Fund and administered by Efficiency Nova Scotia through their new SolarHomes program. The rebate is valued at $1.00 per watt, up to a maximum of $10,000 or 40% of the installed system cost before taxes.

Since the announcement, the Municipality and Efficiency Nova Scotia have collaborated to ensure participants can benefit from both the provincial rebate and the Municipality's solar financing. The Solar City Officer assists eligible Solar City participants with their SolarHomes pre-approval application.

This rebate should alleviate much of the concerns for property owners regarding high system costs and payback periods. Combining the provincial rebate with the Municipality's financing is anticipated to result in a payback period of less than ten years.

Marketing and Communications

A winter marketing campaign was launched in February of 2018 to promote the Solar City Program across various media including social media, print, radio and trade shows. As shown in Figure 2 (following page), the winter marketing campaign and new provincial rebate have contributed to a significant increase in Solar City participation. Between February 1 and September 28, 2018, 91 solar energy systems were approved for financing, a total value of $2,230,000.

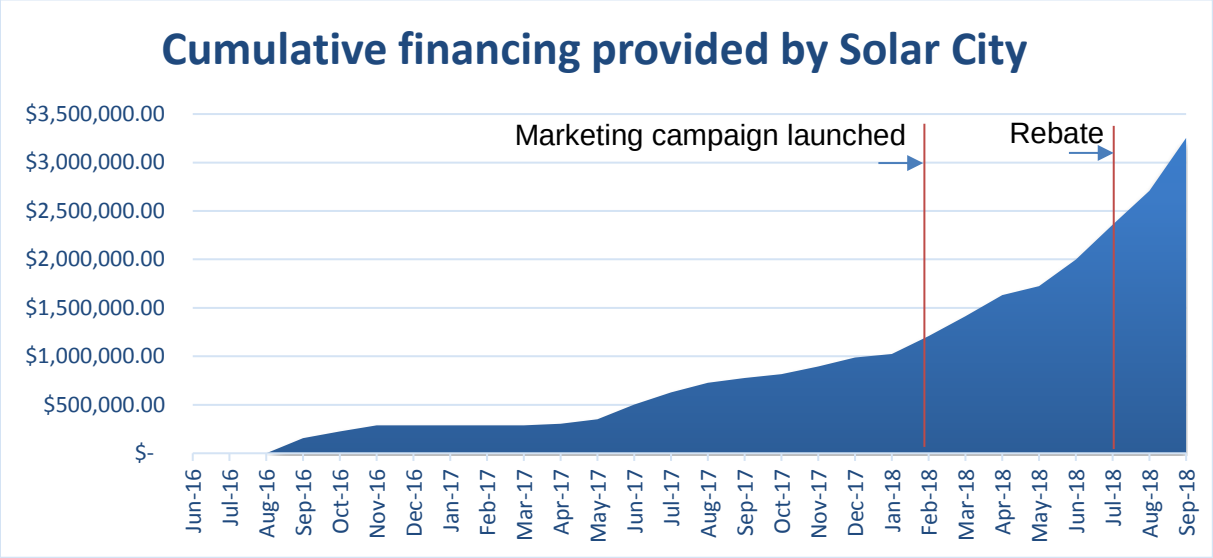


Figure 2: Cumulative financing of solar systems provided through the Solar City Program.

Should the Solar City Program be extended, another marketing campaign will be launched this fall with a heavier focus on social media. Efforts will also be made to work collaboratively with Efficiency Nova Scotia to promote the new rebate, ensuring property owners in HRM take advantage of all available incentives for adopting solar technology.

Industry Impacts

The Solar City Program continues to have a positive impact on the solar industry in Nova Scotia. By encouraging property owners to contact several solar contractors and evaluate each based on price, experience and quality, the value being offered has remained high while costs have steadily declined. Staff have tracked more than 200 proposals received by property owners since the onset of the program. Figure 3 shows solar electric system pricing trends during this timeframe.

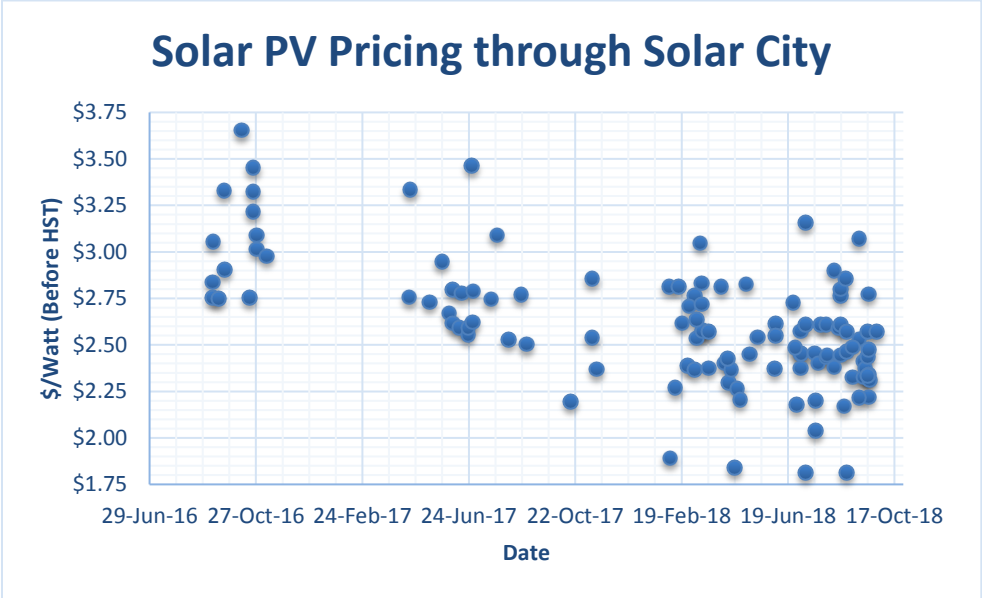


Figure 3: Installed unit cost (before HST) for solar electric systems approved through the program. Average pricing has declined from roughly $3.10/Watt in 2016 to $2.63/Watt in 2018.

Thirteen solar contractors from across Nova Scotia are actively participating in the program, with several more inquiring about HRM's criteria for doing so. The contractors who are actively participating have realized the value provided by the Solar City Program as it is a key point of contact for unbiased advice and education. This has greatly assisted solar contractors with the cost of acquisition as it allows them to streamline the quoting process and provide timely responses to interested property owners.

Enhanced Net Metering

The Solar City Program has had a positive contribution to NSPI's Enhanced Net Metering Program. The Net Metering program credits property owners for solar electricity produced but not consumed at the property. In January 2018, NSPI submitted their annual Net Metering report to the Utility and Review Board (UARB) (Attachment B). The report indicated that 319.5 kW of residential solar electric capacity was installed within HRM during 2017. During this same timeframe, 161.1 kW of solar electric capacity was installed under the HRM Solar City program, representing 50% of all solar electric capacity installed in the municipality. (See Figure 4.) It is anticipated that the capacity installed through the program during 2018 will have an even bigger impact as 768 kW worth of projects have been approved for financing as of September 28, 2018.

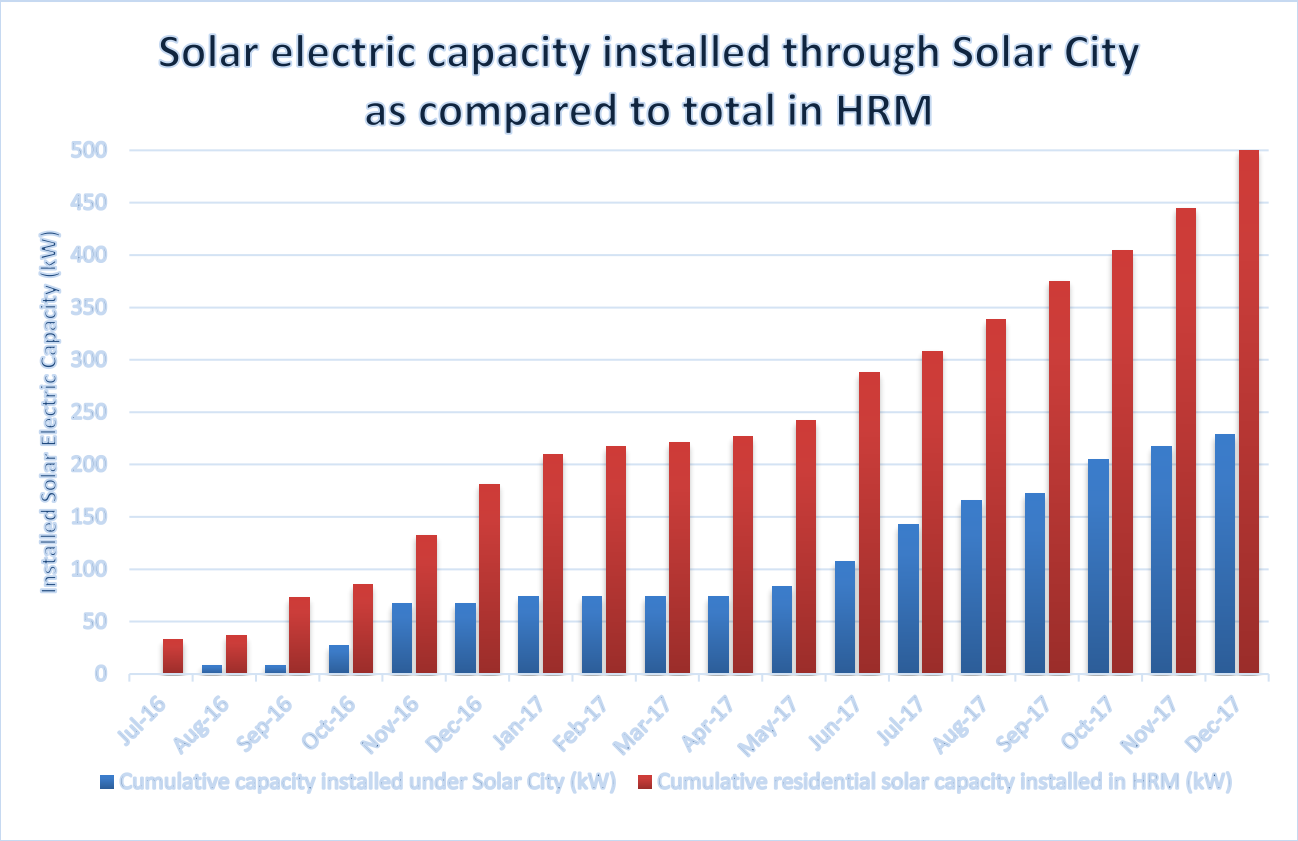


Figure 4: Comparison of residential solar electric capacity installed in HRM to capacity installed through the Solar City Program since the program.

Open Data

To better assist contractors, property owners, academia, and the community understand the solar potential in HRM and Nova Scotia, the Solar City Program, in collaboration with HRM's Business Intelligence and Data Services team, released the first of its kind open dataset in March 2018. The dataset includes real-world solar electric generation readings at five-minute intervals. The dataset is municipally-generated in a readable format, without the restrictions of copyright, patent, or other control mechanisms, and is downloadable to any interested party. Along with the raw data, static system parameters can be shared so that academia and any other interested party can perform independent theoretical analysis of the installed systems.

Recovery of Direct Program Delivery Costs

The Solar City Program is designed to recover the cost of administration and marketing, including the Solar City Officer position, through a portion (1.21%) of the fixed interest rate of 4.75%. As of September 30, 2018, the recovery of administration costs stands at a deficit of $99,800.

Administration Cost Recovery to September 30, 2018

Anticipated Interest Revenue from Executed Agreements	$101,700
Less: Program Administration Costs	$201,500
Surplus (Deficit) to September 30, 2018:	($99,800)

While the program cost recovery is currently in a deficit position, program participation has seen a substantial increase since the SolarHomes rebate and the provincial Solar Electricity for Community Buildings pilot program began in June 2018. If recent administration costs and offsetting interest revenues – an average from July, August and September 2018 – were used to estimate future cost to the planned end of the program, the deficit would continue to decline, with an estimated balance of $40,000+/- (deficit) as of May 15, 2019.

Estimated Administration Cost Recovery to May 15, 2019

Anticipated Interest Revenue from Executed Agreements	$16,600
Less: Program Administration Costs	$8,600
Monthly Estimated Surplus:	$8,000
Months remaining in 3-year program (to May 15, 2019)	7.5
Surplus (Deficit) to September 30, 2018	($99,800)
Plus: 7.5 months x monthly surplus of $8,000	$60,000
Estimated Surplus (Deficit) to May 15, 2019	($39,800)

If the program were extended past May 2019, with current activity, the cost recovery situation could continue to improve.

Rationale for Program Extension

Climate change and extreme weather are experienced by communities worldwide. While cities account for more than 70% of energy-related greenhouse gas emissions, they typically have direct influence over less than 5% of these emissions. For municipal governments to be effective in reducing emissions, they can use tools such as developing community-based programs and incentives, regulatory measures, plans and policies that can help to transition to a smaller carbon footprint and a more resilient future. Running programs such as Solar City allows the Municipality to educate and encourage consumer behaviour for renewable energy, support a burgeoning clean energy industry, improve energy security, and fight climate change.

Continuation of the Solar City Program will further advance the Municipality's climate change mitigation efforts as outlined in the Community Energy Plan (CEP), a Priority Plan of the Regional Plan. The CEP addresses both corporate and community actions to help the municipality reduce energy consumption and greenhouse gas emissions while transitioning to a more energy efficient, sustainable, livable, and greener community. The current Solar City Program delivers on three of the eight main goals of the CEP:

- Increase energy security and diversify energy supply;
- Educate and engage residents and businesses; and
- Demonstrate local government leadership.

The Municipality is in the process of updating the CEP as well as the Corporate Greenhouse Gas Emissions Reduction Plan, and will combine these plans into an overarching climate strategy that also incorporates climate change adaptation to increase community resiliency. This process is planned over the next 18 months and will involve broad and meaningful stakeholder engagement both internal and external to the

organization. The Community Energy and Climate Action Plan (CECAP), as it is currently named, will set climate goals out to 2050 for Council's consideration, and will detail a path forward to achieve these targets.

The Municipality is a member of the Global Covenant of Mayors for Climate and Energy, the Carbon Disclosure Project Cities initiative, and the Partners for Climate Protection program. These programs encourage cities to reduce greenhouse gas emissions by setting reduction targets and developing action plans to succeed. As a member of the Global Covenant of Mayors, the Municipality is required to set a community-wide reduction target, which will be done through the CECAP. The Solar City Program is one of the ways the Municipality can continue to assist in reducing community-wide emissions. As summarized above, the systems installed under the current Solar City Program are estimated to offset approximately 896 tonnes of greenhouse gas emissions in their first year of operation. Combining this GHG offset with that of the pilot program, Solar City has reduced community-wide greenhouse gas emissions by 1,600 tonnes annually.

Solar City participation has increased significantly since the provincial rebate was created and after a large marketing campaign from February to April 2018. Many property owners are choosing to opt for both the rebate and the Solar City financing for solar electric systems. As the rebate is expected to be offered for four years, staff recommend continuing to encourage property owners to adopt solar energy technologies by extending the Solar City Program indefinitely.

There is also significant value offered to property owners who opt not to proceed through the Solar City Program and instead finance a solar energy system themselves. These property owners are educated on the solar technologies offered and given an expectation of standards that they should expect from the industry. These expectations include average system costs and savings, typical system warranties, installations timelines and permit requirements. For property owners whose sites are not suitable for solar energy, alternative programs are suggested. These programs include the Home Warming program, which assists low income homes with heating costs, and Efficiency Nova Scotia's Product Installation Service, which assists in the installation of energy reduction products including LED lighting and insulation.

Staff will monitor program performance on a continual basis and will update Council annually at a minimum. If the program is no longer achieving its environmental outcomes, maintaining its cost neutrality or remaining viable due to other factors, staff will report to Council with a recommendation to realign or sunset the program.

FINANCIAL IMPLICATIONS

The Solar City program is designed to be cost neutral to the Municipality, with HRM's borrowing costs, plus those of administration and marketing, funded through the program's fixed interest rate of 4.75%. At the current level of program participation, the project is estimated to have a cost recovery deficit of $40,000 at May 15, 2019. However, by continuing the Solar City program, while provincial SolarHomes grants are high, the program administration costs could be covered by late 2019.

As program participation levels and interest rates change, the program will be regularly monitored to ensure interest revenue collected is adequate to cover direct admin, marketing and debenture costs.

RISK CONSIDERATION

1. The Solar City program is expected to see changes in participation as provincial rebate and other funding availability changes. Staff will monitor the solar incentive environment closely as the program proceeds.
2. There is a possibility that, at some point in time, the Solar City program will achieve a saturation of available demand for specific solar investments. Staff will be prepared to adjust or sunset the program at that time.

COMMUNITY ENGAGEMENT

Community engagement was not formally conducted as part of this report. Engagement with the community has been ongoing through the Solar City Program as inquiries have been received by email or phone and through marketing efforts.

ENVIRONMENTAL IMPLICATIONS

Articulated in the Discussion section of this report.

ALTERNATIVES

The Environment and Sustainability Standing Committee may recommend that Regional Council:

1. Discontinue the Solar City Program. This is not recommended as ending the program is currently achieving its objectives of increasing the use of solar energy in the municipality, educating and supporting residents interested in solar energy, and working towards decreasing community-wide greenhouse gas emissions and improving energy security. Providing financing eliminates the cost barrier to participants who cannot pay or finance the entire system costs upfront without a program such as Solar City. Ending the Solar City Program would result in less solar energy systems throughout the community.

2. Direct staff to investigate alternative programs and/or modifications to the current program. This is not recommended at this time as the program is running effectively and there is still significant potential for solar adoption in the municipality. Staff will consider other clean energy programs as resources become available, for example from funding opportunities and partnerships.

ATTACHMENTS

Attachment A: Solar Energy Simulation Method and Assumptions
Attachment B: Nova Scotia Power Enhanced Net Metering Report (2017)

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

Report Prepared by: Kevin Boutilier, Solar City Officer, Energy and Environment, 902.490.6821

Report Approved by: Shannon Miedema, Energy & Environment Program Manager, 902.490.3665

Financial Approval by: Jerry Blackwood, Acting Director of Finance and Asset Management/CFO, 902.490.6308

Attachment A: Solar Energy Simulation and Assumptions

Solar Hot Water Systems

RETScreen 4 was used to simulate the annual kWh generation of each system using historical weather data from the Shearwater International Airport. Required inputs such as system specifications, collector slope, collector azimuth and number of full time residents were provided by the contractor and confirmed by the Solar City Office. In addition to the inputs listed above, the following assumptions were made:

- Average of 60 litres of hot water consumption per person seven days a week
- Domestic hot water temperature supply of 60°C

Solar Electric Systems

System Advisor Model (SAM) Version 2017.9.5 was used to simulate the annual kWh generation of each system using historical weather data from the Shearwater International Airport. Required inputs such as system specifications, collector slope and collector were provided by the contractor and confirmed by the Solar City Office. Simulation assumes a single meter with rollover credits in kWh.

Solar Hot Air Systems

RETScreen 4 was used to simulate the annual kWh generation of each system using historical weather data from the Shearwater International Airport. Required inputs such as system specifications, collector slope, collector azimuth and seasonal usage were provided by the contractor and confirmed by the Solar City Office. In addition to the inputs listed above, the following assumptions were made:

- Indoor Temp of 21°C
- Air Temp- Max of 35°C
- Wall R-Value of 20
- Design Airflow Rate of 150 m^3/h
- Operating 8 hours per day

Fuel Rate & Greenhouse Gas Emissions

Electricity

Results are based on 2016[3], 2017[4] & 2018[5] Tariffs. All systems to date have been simulated using the Domestic Service Tariff, Rates Codes 02, 03, 04 which includes applicable taxes and the 10% provincial rebate. Since 2008, the domestic service tariff has increased an average of 3.77% annually as highlighted in Table A1. This value will be adjusted accordingly as the program progresses.

Table A1: Historical summary of electrical rate changes for (Domestic) Residential Rate Class[6].

Domestic (Residential) Rates Only				
Year	¢/kWh (Incl. energy efficiency charge & FAM)	HST (Less rebate)	Total ¢/kWh	Percent Change
2008	10.670	13%	12.057	
2009	11.796	5%	12.386	10.55%
2010	11.805	5%	12.395	0.08%
2011	12.538	5%	13.165	6.21%
2012	13.923	5%	14.619	11.05%
2013	14.363	5%	15.081	3.16%
2014	14.947	5%	15.694	4.07%
2015	14.947	5%	15.694	0.00%
2016	14.954	5%	15.702	0.05%
2017	15.063	5%	15.816	0.73%
2018	15.331	5%	16.098	1.78%
		Average Increase		3.77%

First year greenhouse gas emission offset is based on 715.36g of CO2e/kWh of electricity[7]. The figure includes the total emission intensity from Nova Scotia Power for 2016 (700.1 g/kWh) and line loss factor of 2.18%[8].

[3] http://www.nspower.ca/site/media/Parent/Tariffs%20-%20January%201%202016%20UPDATED.pdf
[4] http://www.nspower.ca/site/media/Parent/2017%20Tariffs.pdf
[5] https://www.nspower.ca/site/media/Parent/_NS%20Power%20Tariffs%20-%202018.pdf
[6] https://nsuarb.novascotia.ca/sites/default/files/NSUARB-%23254242-v1-Electricity_Rate_History_to_2019_0.pdf
[7] https://www.nspower.ca/en/home/about-us/environmental-commitment/air-emissions-reporting/total-system-emissions-all-plants.aspx
[8] http://oasis.nspower.ca/en/home/oasis/system-reports-and-messages/system-average-loss-factor.aspx

#2 Fuel Oil (furnace oil)

Results are based on a cost of $0.935/litre for #2 fuel oil in year one, including applicable taxes, and an annual fuel escalation of 3.85%. To convert the annual kWh generation estimated in RETScreen to equivalent litres of #2 fuel oil offset, a 65% boiler efficiency rate was used with a higher heating value of 38 MJ/L[9].

Table A2: Historical summary of rate changes for #2 fuel oil[10].

#2 Fuel Oil (furnace oil)				
Year	Canada ($/L)	Halifax ($/L)	Percent Change - Canada	Percent Change – Halifax
2000	0.580	0.602	-	-
2001	0.540	0.542	-6.94%	-10.09%
2002	0.508	0.532	-5.91%	-1.93%
2003	0.575	0.605	13.22%	13.75%
2004	0.639	0.676	11.18%	11.86%
2005	0.799	0.838	24.92%	23.95%
2006	0.843	0.867	4.50%	3.40%
2007	0.861	0.850	3.18%	-1.90%
2008	1.134	1.100	31.76%	29.40%
2009	0.785	0.756	-30.83%	-31.29%
2010	0.903	0.859	15.02%	13.66%
2011	1.130	1.075	25.25%	25.06%
2012	1.177	1.124	4.08%	4.53%
2013	1.204	1.159	2.33%	3.13%
2014	1.253	1.255	4.07%	8.35%
2015	1.051	0.991	-16.12%	-21.08%
2016	0.951	0.899	-9.45%	-9.59%
2017	0.940	0.935	-1.19%	4.32%
Average Change			4.06%	3.85%

[9] http://www.engineeringtoolbox.com/fuels-higher-calorific-values-d_169.html
[10] nrcan.gc.ca

Return on Investment

Return on investment estimate is based on the fuel escalation indicated above and a 1.9% inflation rate as calculated in Table A3. Return on investment is calculated over 25 years. Estimates are based on a lump sum payment of the quoted price less available rebates. Estimate assumes first minimum payment is made within 60 days of making the Approved Payment.

Payback

Payback for Solar City projects is estimated when the sum of the non-discounted savings (energy savings including inflation and fuel escalation) is greater to or equal to the sum of the non-discounted costs (capital investment and financing interest)[11].

Table A3: Historical summary of inflation[12].

Nova Scotia Consumer Price Index (2002=100)		
Date	CPI	% Change
1992	83.5	
1993	84.5	1.20%
1994	85.5	1.18%
1995	86.6	1.29%
1996	88.2	1.85%
1997	90	2.04%
1998	90.6	0.67%
1999	92.1	1.66%
2000	95.3	3.47%
2001	97.1	1.89%
2002	100	2.99%
2003	103.4	3.40%
2004	105.3	1.84%
2005	108.2	2.75%
2006	110.4	2.03%
2007	112.5	1.90%
2008	115.9	3.02%
2009	115.7	-0.17%
2010	118.2	2.16%
2011	122.7	3.81%
2012	125.1	1.96%
2013	126.6	1.20%
2014	128.8	1.74%
2015	129.3	0.39%
2016	130.9	1.24%
Average Change		1.90%

Canadian Consumer Price Index (2002=100)		
Date	CPI	% Change
1992	84	
1993	85.6	1.90%
1994	85.7	0.12%
1995	87.6	2.22%
1996	88.9	1.48%
1997	90.4	1.69%
1998	91.3	1.00%
1999	92.9	1.75%
2000	95.4	2.69%
2001	97.8	2.52%
2002	100	2.25%
2003	102.8	2.80%
2004	104.7	1.85%
2005	107	2.20%
2006	109.1	1.96%
2007	111.5	2.20%
2008	114.1	2.33%
2009	114.4	0.26%
2010	116.5	1.84%
2011	119.9	2.92%
2012	121.7	1.50%
2013	122.8	0.90%
2014	125.2	1.95%
2015	126.6	1.12%
2016	128.4	1.42%
Average Change		1.80%

[11] A Manual for the Economic Evaluation of Energy Efficiency and Renewable Energy Technologies. National Renewable Energy Laboratory. 1995. p. 65. https://www.nrel.gov/docs/legosti/old/5173.pdf
[12] Stats Canada - Consumer Price Index, historical summary, by province or territory

Nova Scotia POWER
An Emera Company

PO Box 910 ● Halifax, Nova Scotia ● Canada ● B3J 2W5

January 31, 2018

Doreen Friis
Regulatory Affairs Officer/Clerk
Nova Scotia Utility and Review Board
1601 Lower Water Street, 3rd Floor
P.O. Box 1692, Unit "M"
Halifax, NS B3J 3S3

Re: Regulation 3.6 – 2017 Net Metering Report

Dear Ms. Friis:

In the Board's Order dated April 14, 2011 regarding NS Power's application to amend Regulation 3.6 – Net Metering, the Board stated:

> NSPI is to file an annual report with the Board by January 31st each year which provides a listing and details regarding each net metered customer generator connected to each distribution feeder. NSPI's annual report is also to include details regarding any portion of aggregated customer net metered load which was temporarily or permanently transferred to another distribution zone and was thereby affected by the terms of the Open Access Transmission Tariff.

In the Board's letter dated February 19, 2016 regarding NS Power's 2015 Net Metering Report, the Board directed as follows:

> The Board accepts NSPI's report as filed but directs that future reports be enhanced to include sections on analysis and discussion. Those enhancements should highlight, but not be limited to, the number of installations by resource, locational clustering, amount of sales reductions, amounts paid to customers, trending or forecasting, and potential future impacts.

In accordance with the Board's directives, please find enclosed NS Power's 2017 Net Metering Report. The report includes all net metering customers as of December 31, 2017, and provides the source, size, location, feeder and application of aggregation for each customer, as well as additional analysis and discussion highlighting the number of

installations by resource, locational clustering, amount of sales reductions, amounts paid to customers, and trending. Please refer to Attachment 1. The topics of potential future impacts and customer net metered load being transferred to another distribution zone are addressed below.

A total of 134 new net metering generation installations were installed in 2017, of which 10 customers are applying aggregation, representing an additional total rated generation capacity of 1,011.1 kW. As noted in the report, NS Power is anticipating the 2017 trend to continue into 2018 and is estimating 150-160 new net metering generation installations sourced by solar with an average nameplate capacity between 6.5 - 7.5 kW. This upward trend may be attributable to reduced costs, increased financing options and increased marketing by the solar industry, which has in turn increased customer interest.

With respect to the issue of potential future impacts, as of December 31, 2017 there are a total of 453 installed net metering generation installations, with 25 customers applying aggregation and a total rated generation capacity of approximately 3,375.43 kW. Net metering customers are subject to the variable nature of their renewable resource technology of choice (i.e. wind or solar), so they naturally move back and forth between producing more power than they require and taking power from the Company. Self-generating net meter customers using solar pV reduce energy purchases from NS Power but do not reduce their demand during system peak conditions. As a consequence, NS Power must maintain firm generating capacity to serve the peak demand of net meter customers. The increase in net metering connections reveals a trend that should be monitored to understand the impact of a cost imbalance between net meter customers and other customers on the system.

There were no aggregated net metering customers whose load was permanently transferred to another distribution zone. Accordingly, there were no implications regarding the terms of the Open Access Transmission Tariff (OATT).

With respect to temporary transfers of load, NS Power does not have a process in place to track how distribution connected net metering customers are supplied at any given point in time. Temporary circuit reconfigurations, resulting in temporary transfers of net metering customers' load from one distribution zone to another, can be made in

emergency situations, for storm circuit restoration, in response to system maintenance activities, and to accommodate customer construction projects. In these instances, due to their necessary, often unexpected, and transient nature, they do not engage the terms of the OATT.

If the Board has any questions with respect to NS Power's 2017 Net Metering Report, they should be directed to my attention.

Kind regards,

ORIGINAL SIGNED

Mark Peachey
Manager, Capital Filings

Encl.

c. Nicole Godbout, NS Power

Net Metering Summary

2017

By Resource:

	No. of Interconnections	Nameplate Capacity (kW)	Est. Annual Generation (kWh)
Solar	133	1,001.09	1,294,178.0
Wind	-	-	-
Hydro	1	10.00	8,364.0
Biomass	-	-	-
Combination/Other	-	-	-
Total	134	1,011.09	1,302,542.0

Sales Reductions:

	Est. Annual Generation (kWh)	Est. Value ($$) ($0.15063 per kWh)
	1,294,178.0	$ 194,942.03
	-	$ -
	8,364.0	$ 1,259.87
	-	$ -
	-	$ -
Total	1,302,542.0	$ 196,201.90

Trending:

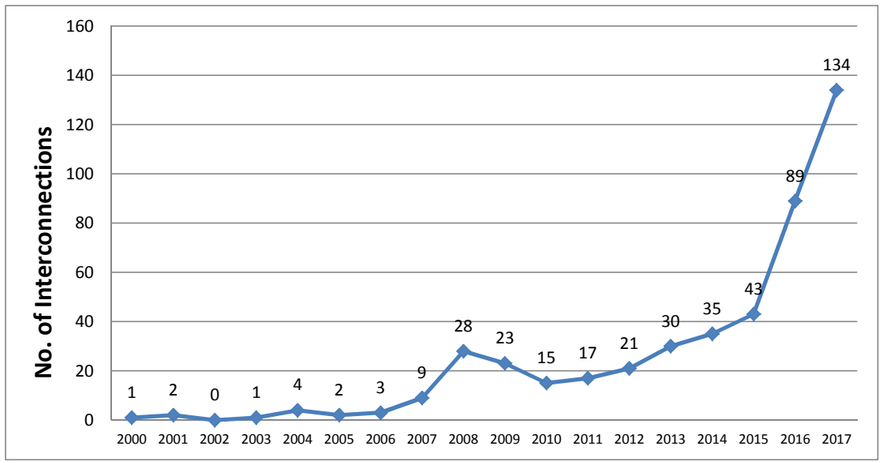
	No. of Interconnections	Nameplate Capacity (kW)	Avg. Nameplate Capacity (kW)	Resource: Solar	Wind	Hydro	Biomass	Other
2017	134	1,011.1	7.5	133	0	1	0	0
* 2016	89	610.5	6.9	89	0	0	0	0
2015	43	312.4	7.3	43	0	0	0	0
2014	35	270.3	7.7	35	0	0	0	0
2013	30	186.2	6.2	28	2	0	0	0

By Location:

	No. of Interconnections	Nameplate Capacity (kW)	Est. Annual Generation (kWh)
Annapolis County	8	49.95	67,750.0
Antigonish County	15	120.59	147,050.0
Cape Breton County	8	51.27	66,020.0
Colchester County	5	36.40	43,640.0
Cumberland County	2	6.62	8,300.0
Digby County	1	3.80	4,917.0
Guysborough County	0	-	-
Halifax County	55	349.32	454,752.0
Hants County	1	10.00	14,800.0
Inverness County	4	34.47	39,894.0
Kings County	14	197.94	247,746.0
Lunenburg County	11	80.37	113,802.0
Pictou County	4	36.00	45,000.0
Queens County	0	-	-
Richmond County	1	3.01	3,990.0
Shelburne County	2	13.00	18,018.0
Victoria County	1	8.60	11,400.0
Yarmouth County	2	9.75	15,463.0

Payouts:

	Energy (kWh)	Payout ($$)
January	3,156.0	$ 475.39
February	4,442.0	$ 669.10
March	3,616.0	$ 538.04
April	4,103.0	$ 618.03
May	11,256.0	$ 1,695.49
June	4,039.0	$ 608.39
July	6,859.0	$ 1,033.17
August	7,419.0	$ 1,117.52
September	16,384.0	$ 2,447.54
October	20,569.0	$ 3,098.31
November	5,246.0	$ 796.48
December	17,616.0	$ 2,653.50
Total	104,705.0	$ 15,750.96



NS Power is anticipating the 2017 trend to continue into 2018 and is estimating 150-160 new Net Metering generation installations sourced by Solar with an average nameplate capacity between 6.5 - 7.5 kW

* Correction. Two interconnections (Application IDs 105254 and 403025) not captured in 2016 report.

As of December 31, 2017

By Resource:

	No. of Interconnections	Nameplate Capacity (kW)	Est. Annual Generation (kWh)
Solar	375	2,572.92	3,215,379.5
Wind	73	769.55	2,000,178.8
Hydro	1	10.00	8,364.0
Biomass	0	-	-
Combination/Other	4	22.96	52,349.8
Total	453	3,375.43	5,276,272.1

Sales Reductions:

	Est. Annual Generation (kWh)	Est. Value ($$) ($0.15063 per kWh)
	3,215,379.5	$ 484,332.61
	2,000,178.8	$ 301,286.93
	8,364.0	$ 1,259.87
	-	-
	52,349.8	$ 7,885.45
Total	5,276,272.1	$ 794,764.87

By Location:

Payouts:

	No. of Interconnections	Nameplate Capacity (kW)	Est. Annual Generation (kWh)
Annapolis County	20	97.82	144,679.9
Antigonish County	42	313.35	378,838.8
Cape Breton County	26	250.63	392,951.1
Colchester County	21	131.96	207,509.3
Cumberland County	13	151.17	354,389.4
Digby County	11	97.43	211,210.4
Guysborough County	2	6.68	15,200.4
Halifax County	160	1,238.46	2,096,149.9
Hants County	10	44.30	67,228.8
Inverness County	17	91.49	113,567.4
Kings County	42	382.88	505,212.1
Lunenburg County	30	181.49	244,066.7
Pictou County	15	136.38	179,316.8
Queens County	2	9.40	20,638.6
Richmond County	23	134.35	177,635.8
Shelburne County	7	28.33	40,381.8
Victoria County	4	31.76	56,728.5
Yarmouth County	8	47.55	70,566.4
Total	453	3,375.43	5,276,272.1

	Energy (kWh)	Payout ($$)
2017	104,705.0	$ 15,750.96
2016	62,722.0	$ 9,059.53
2015	34,870.0	$ 5,162.42
2014	30,880.0	$ 4,333.78
2013	26,883.0	$ 3,683.64
2012	12,914.0	$ 1,710.77
2011	81.0	$ 9.78
Total	273,055.0	$ 39,710.88

Application ID	In Service Date	Customer Segment	Resource	Nameplate Capacity (kW)	Est. Annual Generation (kWh)	Feeder No.	County	Applying Aggregation
595954	12/27/2017	Residential	Solar	8.60	11,400.0	524S-311	Victoria County	No
92551	12/27/2017	Residential	Solar	9.75	10,725.0	113H-443	Halifax County	No
168681	12/21/2017	Residential	Solar	8.00	11,840.0	36V-302	Kings County	No
426450	12/21/2017	Residential	Solar	5.67	6,310.0	126H-312	Halifax County	No
101500	12/21/2017	Residential	Solar	5.04	5,400.0	666H-311	Halifax County	No
648151	12/20/2017	Residential	Solar	4.77	5,720.0	55V-314	Kings County	No
716047	12/20/2017	Residential	Solar	15.00	19,200.0	4C-441	Antigonish County	No
704589	12/20/2017	Residential	Solar	7.70	8,800.0	4C-432	Antigonish County	No
467467	12/19/2017	Residential	Solar	8.00	11,840.0	70W-312	Lunenburg County	No
617496	12/19/2017	Residential	Solar	3.80	4,917.0	16V-315	Digby County	No
686131	12/19/2017	Residential	Solar	8.00	11,700.0	131H-422	Halifax County	No
79070	12/19/2017	Residential	Solar	3.78	4,030.0	40H-302	Halifax County	No
73737	12/19/2017	Residential	Solar	5.04	5,240.0	54H-301	Halifax County	No
197948	12/19/2017	Residential	Solar	5.04	5,320.0	87W-312	Halifax County	No
703195	12/15/2017	Residential	Solar	6.00	7,125.0	103W-311	Lunenburg County	No
685577	12/15/2017	Residential	Solar	12.00	17,760.0	83V-303	Kings County	No
651539	12/15/2017	Residential	Solar	10.75	14,250.0	4C-441	Antigonish County	No
635058	12/13/2017	Residential	Solar	4.50	5,550.0	82V-402	Halifax County	No
2619	12/13/2017	Residential	Solar	4.00	4,620.0	104H-412	Halifax County	No
186535	12/12/2017	Residential	Solar	8.00	11,840.0	63V-313	Kings County	No
189817	12/12/2017	Residential	Solar	12.00	17,760.0	63V-313	Kings County	No
587224	12/12/2017	Residential	Solar	9.44	11,000.0	4N-313	Colchester County	No
715879	12/12/2017	Residential	Solar	9.00	12,000.0	55N-203	Pictou County	Yes
420310	12/11/2017	Commercial	Solar	12.00	17,000.0	36V-303	Kings County	Yes
137141	12/8/2017	Residential	Solar	10.00	14,800.0	18V-413	Hants County	No
30355	12/8/2017	Residential	Solar	5.25	7,787.0	104H-423	Halifax County	No
162101	11/30/2017	Residential	Solar	6.88	9,000.0	4N-312	Colchester County	No
358800	11/29/2017	Residential	Solar	5.50	7,150.0	11S-304	Cape Breton County	No
301957	11/29/2017	Residential	Solar	4.30	5,700.0	4C-441	Antigonish County	Yes
715906	11/28/2017	Residential	Solar	3.01	3,990.0	570C-311	Richmond County	No
668216	11/28/2017	Residential	Solar	7.67	9,000.0	4N-312	Colchester County	Yes
662052	11/27/2017	Commercial	Solar	12.00	17,760.0	89W-303	Lunenburg County	Yes
270419	11/23/2017	Residential	Solar	4.24	4,600.0	126H-311	Halifax County	No
626206	11/22/2017	Residential	Solar	14.58	17,520.0	80W-302	Lunenburg County	No
63159	11/22/2017	Residential	Solar	7.60	9,500.0	54H-304	Halifax County	No
401693	11/21/2017	Residential	Solar	8.75	10,000.0	103H-434	Halifax County	No
67801	11/21/2017	Residential	Solar	4.25	6,290.0	99H-311	Halifax County	No
618294	11/20/2017	Residential	Solar	3.25	4,810.0	70V-311	Annapolis County	No
635604	11/20/2017	Residential	Solar	8.00	11,840.0	36V-302	Kings County	No
706179	11/17/2017	Residential	Solar	5.99	7,000.0	581C-311	Antigonish County	No
641057	11/16/2017	Residential	Solar	5.00	7,000.0	4C-430	Antigonish County	No
238109	11/15/2017	Residential	Solar	6.00	8,880.0	70W-204	Lunenburg County	No
229042	11/14/2017	Residential	Solar	3.00	4,440.0	548W-311	Lunenburg County	No
300338	11/14/2017	Residential	Solar	4.00	5,500.0	585C-311	Antigonish County	No
181119	11/10/2017	Residential	Solar	2.58	5,400.0	55V-313	Kings County	No
126223	11/9/2017	Residential	Solar	7.50	10,658.0	103H-432	Halifax County	No
664995	11/8/2017	Residential	Solar	6.02	7,980.0	57S-402	Cape Breton County	No
165275	11/8/2017	Residential	Solar	6.50	8,000.0	83V-302	Kings County	No
714225	11/7/2017	Residential	Solar	10.00	12,000.0	50N-411	Pictou County	No
187943	11/7/2017	Residential	Solar	8.50	11,800.0	65V-303	Annapolis County	No
623388	11/7/2017	Residential	Solar	7.75	11,470.0	87H-311	Halifax County	No
712737	11/3/2017	Commercial	Solar	88.00	100,000.0	36V-303	Kings County	Yes
352792	11/3/2017	Residential	Solar	4.73	5,995.0	6S-223	Cape Breton County	No
401828	10/27/2017	Residential	Solar	3.80	6,260.0	87H-313	Halifax County	No
714738	10/26/2017	Residential	Solar	8.00	10,280.0	137H-412	Halifax County	No
19809	10/26/2017	Residential	Solar	7.50	10,658.0	1H-454	Halifax County	No
310124	10/17/2017	Residential	Solar	12.00	15,000.0	67C-411	Inverness County	Yes
664254	10/13/2017	Residential	Solar	9.00	12,000.0	3S-301	Cape Breton County	No
303751	10/13/2017	Residential	Solar	8.60	11,000.0	585C-311	Antigonish County	No
667526	10/12/2017	Residential	Solar	5.25	7,303.0	131H-424	Halifax County	No
422518	10/10/2017	Residential	Solar	5.00	6,949.0	103H-434	Halifax County	No
709655	10/2/2017	Residential	Solar	4.50	7,676.0	102W-312	Yarmouth County	No
308131	9/27/2017	Residential	Solar	9.50	12,000.0	605C-311	Cape Breton County	No
303496	9/25/2017	Residential	Solar	8.20	9,500.0	4C-441	Antigonish County	No
630405	9/25/2017	Residential	Solar	9.03	11,970.0	586C-311	Inverness County	No
251841	9/12/2017	Residential	Solar	2.82	3,800.0	607N-301	Cumberland County	No
603891	9/12/2017	Residential	Solar	3.22	4,800.0	113H-433	Halifax County	No
656400	9/11/2017	Residential	Solar	3.50	4,450.0	55V-314	Annapolis County	No
13515	9/8/2017	Residential	Solar	5.00	5,425.0	104H-421	Halifax County	No
596435	9/8/2017	Residential	Solar	4.30	5,000.0	585C-311	Antigonish County	No
55418	9/8/2017	Residential	Solar	2.25	3,150.0	20H-302	Halifax County	No
98903	9/8/2017	Residential	Solar	7.50	11,100.0	131H-423	Halifax County	No
601130	9/7/2017	Residential	Solar	5.75	8,582.0	131H-424	Halifax County	No
122363	9/7/2017	Residential	Solar	7.60	8,000.0	92H-331	Halifax County	No
188573	9/7/2017	Residential	Solar	4.50	6,600.0	65V-303	Annapolis County	No
663226	9/6/2017	Residential	Solar	6.67	8,835.0	11S-412	Cape Breton County	No
320912	9/6/2017	Residential	Solar	6.45	7,500.0	57S-402	Cape Breton County	No
694602	9/5/2017	Residential	Solar	5.25	7,787.0	126H-312	Halifax County	No
696370	9/1/2017	Residential	Solar	7.50	10,000.0	4N-313	Pictou County	No
654921	9/1/2017	Residential	Solar	7.41	8,500.0	4N-312	Colchester County	No
15284	8/22/2017	Residential	Solar	5.00	7,255.0	104H-442	Halifax County	No
654020	8/21/2017	Residential	Solar	14.31	17,146.0	50V-402	Kings County	No
630915	8/21/2017	Residential	Solar	3.44	4,560.0	67C-411	Inverness County	No
268667	8/17/2017	Residential	Solar	7.50	9,676.0	87H-311	Halifax County	No
645612	8/8/2017	Residential	Solar	7.60	6,840.0	64V-301	Kings County	No
468899	8/3/2017	Residential	Solar	5.00	7,500.0	113H-433	Halifax County	No
643165	8/3/2017	Residential	Solar	7.50	9,220.0	131H-424	Halifax County	No
241147	8/3/2017	Residential	Solar	8.00	11,200.0	70W-311	Lunenburg County	No
15285	8/3/2017	Residential	Solar	5.25	7,469.0	104H-442	Halifax County	No
431562	8/2/2017	Residential	Solar	6.75	9,990.0	70V-311	Annapolis County	No
13204	8/1/2017	Commercial	Solar	11.00	11,940.0	104H-421	Halifax County	No
182494	7/28/2017	Residential	Solar	9.18	11,500.0	55V-314	Kings County	No
626459	7/24/2017	Residential	Solar	5.50	7,150.0	4C-430	Antigonish County	No
85021	7/21/2017	Residential	Solar	6.50	7,250.0	126H-313	Halifax County	No
444937	7/13/2017	Residential	Solar	5.25	7,787.0	113H-434	Halifax County	No
243294	7/12/2017	Residential	Solar	5.25	7,787.0	89W-303	Lunenburg County	No

Application ID	In Service Date	Customer Segment	Resource	Nameplate Capacity (kW)	Est. Annual Generation (kWh)	Feeder No.	County	Applying Aggregation
163257	7/12/2017	Residential	Solar	3.80	4,500.0	4N-311	Cumberland County	No
678778	7/11/2017	Residential	Solar	9.03	13,700.0	113H-443	Halifax County	No
170571	7/7/2017	Residential	Solar	5.00	5,100.0	36V-302	Kings County	No
463454	7/5/2017	Commercial	Solar	9.00	12,500.0	74V-301	Annapolis County	No
220491	6/27/2017	Residential	Solar	7.50	10,395.0	36W-304	Shelburne County	No
224193	6/27/2017	Residential	Solar	5.50	7,623.0	36W-301	Shelburne County	No
705975	6/20/2017	Commercial	Solar	3.87	5,600.0	139H-411	Halifax County	No
41024	6/8/2017	Residential	Solar	11.20	12,500.0	20H-301	Halifax County	No
92458	6/7/2017	Residential	Solar	3.00	3,550.0	113H-443	Halifax County	No
670806	6/7/2017	Residential	Solar	14.20	18,400.0	126H-311	Halifax County	No
711043	6/6/2017	Residential	Solar	12.50	16,800.0	20H-305	Halifax County	No
232668	6/6/2017	Residential	Solar	8.20	9,500.0	76V-301	Annapolis County	No
414879	6/5/2017	Residential	Solar	6.25	8,100.0	12V-304	Annapolis County	No
448019	6/1/2017	Residential	Solar	5.00	7,500.0	113H-433	Halifax County	No
402307	5/23/2017	Residential	Solar	5.25	7,787.0	88W-312	Yarmouth County	No
663389	5/23/2017	Residential	Solar	10.00	14,400.0	113H-431	Halifax County	No
236695	4/25/2017	Residential	Solar	6.25	9,250.0	73W-411	Lunenburg County	No
674314	4/6/2017	Residential	Solar	6.00	8,200.0	87W-311	Halifax County	No
706779	3/9/2017	Residential	Solar	5.00	6,140.0	5N-301	Colchester County	No
596120	3/9/2017	Residential	Solar	3.80	5,800.0	126H-312	Halifax County	No
651792	3/2/2017	Residential	Solar	10.00	12,000.0	585C-311	Antigonish County	No
15359	2/21/2017	Residential	Solar	3.80	5,242.0	104H-442	Halifax County	No
15439	2/7/2017	Residential	Solar	3.80	4,261.0	104H-421	Halifax County	No
624554	2/1/2017	Residential	Solar	20.00	22,000.0	70V-312	Antigonish County	Yes
666443	2/1/2017	Residential	Solar	9.50	11,000.0	62N-415	Pictou County	No
193839	2/1/2017	Residential	Solar	7.60	8,360.0	70V-312	Antigonish County	Yes
442748	1/30/2017	Residential	Solar	9.00	11,063.0	126H-312	Halifax County	No
644604	1/27/2017	Residential	Solar	8.00	12,300.0	20H-302	Halifax County	No
11905	1/27/2017	Residential	Solar	2.15	3,025.0	104H-431	Halifax County	No
33322	1/25/2017	Residential	Solar	4.00	4,800.0	20H-306	Halifax County	No
75191	1/24/2017	Residential	Solar	2.25	2,570.0	54H-301	Halifax County	No
594772	1/23/2017	Residential	Solar	3.65	4,590.0	585C-311	Antigonish County	No
693180	1/19/2017	Commercial	Solar	20.00	25,000.0	1H-419	Halifax County	No
705868	1/18/2017	Residential	Hydro	10.00	8,364.0	568C-311	Inverness County	Yes
239112	1/18/2017	Residential	Solar	1.29	3,600.0	70W-313	Lunenburg County	No
630615	1/15/2017	Residential	Solar	2.44	2,450.0	2H-413	Halifax County	No
404625	1/13/2017	Residential	Solar	10.00	14,400.0	89W-303	Lunenburg County	No
384158	1/5/2017	Residential	Solar	3.40	4,560.0	4S-333	Cape Breton County	No
686520	12/29/2016	Residential	Solar	4.48	5,152.0	55V-313	Kings County	No
119853	12/29/2016	Residential	Solar	5.20	6,200.0	131H-424	Halifax County	No
301357	12/29/2016	Residential	Solar	4.30	5,500.0	4C-430	Antigonish County	No
617766	12/29/2016	Residential	Solar	9.75	10,750.0	101H-421	Halifax County	No
105254	12/29/2016	Residential	Solar	7.50	9,750.0	101H-412	Halifax County	No
92624	12/29/2016	Residential	Solar	6.20	8,100.0	113H-443	Halifax County	No
480616	12/16/2016	Residential	Solar	4.00	4,520.0	20H-305	Halifax County	No
301265	12/15/2016	Residential	Solar	6.80	8,000.0	4C-430	Antigonish County	No
410773	12/13/2016	Residential	Solar	5.00	7,500.0	92H-331	Halifax County	No
312213	12/12/2016	Residential	Solar	8.60	11,000.0	69C-311	Inverness County	Yes
301439	12/8/2016	Residential	Solar	6.00	8,000.0	4C-430	Antigonish County	No
616563	12/6/2016	Residential	Solar	5.25	7,787.0	113H-432	Halifax County	No
91253	12/6/2016	Residential	Solar	6.00	7,303.0	113H-441	Halifax County	No
136669	12/2/2016	Residential	Solar	5.00	7,500.0	642V-311	Hants County	No
273256	11/22/2016	Residential	Solar	8.00	11,777.0	87H-312	Halifax County	No
629566	11/22/2016	Residential	Solar	3.75	4,400.0	137H-413	Halifax County	No
385240	11/22/2016	Residential	Solar	3.87	5,485.0	58H-421	Halifax County	No
709227	11/22/2016	Residential	Solar	10.00	12,000.0	4C-441	Antigonish County	No
398405	11/21/2016	Residential	Solar	3.44	4,500.0	83V-302	Kings County	No
593811	11/18/2016	Residential	Solar	9.25	14,200.0	16V-314	Digby County	No
694590	11/9/2016	Residential	Solar	9.47	13,486.0	82V-402	Halifax County	No
704054	11/8/2016	Residential	Solar	12.72	15,000.0	113H-432	Halifax County	No
649827	11/3/2016	Residential	Solar	9.03	12,400.0	103H-434	Halifax County	No
456050	10/31/2016	Residential	Solar	1.72	2,800.0	12V-302	Annapolis County	No
684727	10/28/2016	Residential	Solar	6.75	10,200.0	555W-311	Lunenburg County	No
656875	10/27/2016	Residential	Solar	8.20	10,200.0	1V-443	Lunenburg County	No
403025	10/26/2016	Residential	Solar	6.63	5,500.0	99V-314	Annapolis County	No
473956	10/19/2016	Residential	Solar	6.50	9,850.0	13V-303	Annapolis County	No
675244	10/13/2016	Residential	Solar	9.50	10,000.0	73W-411	Lunenburg County	No
113357	10/7/2016	Residential	Solar	8.20	12,000.0	101H-421	Halifax County	No
677080	10/7/2016	Residential	Solar	4.00	5,230.0	20H-305	Halifax County	No
708244	10/6/2016	Residential	Solar	6.76	7,500.0	84W-302	Lunenburg County	No
385349	9/28/2016	Residential	Solar	9.75	11,000.0	4C-430	Antigonish County	No
702139	9/28/2016	Residential	Solar	9.54	11,000.0	647N-311	Cumberland County	No
673543	9/23/2016	Residential	Solar	5.81	7,290.0	57S-402	Cape Breton County	No
617212	9/21/2016	Residential	Solar	8.60	11,000.0	67C-411	Inverness County	No
92158	9/15/2016	Residential	Solar	9.60	10,540.0	113H-433	Halifax County	No
481317	9/13/2016	Residential	Solar	7.50	9,750.0	131H-424	Halifax County	No
300273	9/12/2016	Charitable	Solar	7.31	9,180.0	585C-311	Antigonish County	No
669079	9/8/2016	Residential	Solar	7.74	9,720.0	81S-302	Cape Breton County	No
705784	9/6/2016	Residential	Solar	14.00	17,000.0	20H-305	Halifax County	No
704842	9/6/2016	Residential	Solar	5.72	5,720.0	10H-236	Halifax County	No
615669	9/1/2016	Commercial	Solar	6.40	7,200.0	61N-202	Pictou County	No
128209	8/31/2016	Residential	Solar	5.00	7,500.0	77V-303	Digby County	No
636328	8/31/2016	Residential	Solar	6.75	10,200.0	12V-304	Annapolis County	No
247821	8/24/2016	Residential	Solar	2.00	3,000.0	13V-303	Annapolis County	No
628390	8/23/2016	Residential	Solar	4.16	4,060.0	103H-434	Halifax County	No
621338	8/22/2016	Residential	Solar	4.16	4,670.0	99V-312	Kings County	No
301891	8/19/2016	Residential	Solar	5.00	6,000.0	4C-441	Antigonish County	No
303738	8/18/2016	Charitable	Solar	6.88	8,640.0	585C-311	Antigonish County	No
310477	8/17/2016	Residential	Solar	4.30	5,400.0	67C-411	Inverness County	No
302918	8/15/2016	Residential	Solar	7.31	9,180.0	4C-432	Antigonish County	No
588868	8/3/2016	Municipal	Solar	25.00	25,000.0	4C-432	Antigonish County	No
704664	7/27/2016	Commercial	Solar	30.00	30,000.0	50N-415	Pictou County	No
113454	7/27/2016	Residential	Solar	10.20	10,714.0	127H-411	Halifax County	No
105033	7/27/2016	Residential	Solar	9.00	11,450.0	131H-423	Halifax County	No
565889	7/26/2016	Residential	Solar	3.44	4,200.0	49C-301	Antigonish County	No
246763	7/25/2016	Residential	Solar	4.55	4,887.5	12V-304	Annapolis County	No

Application ID	In Service Date	Customer Segment	Resource	Nameplate Capacity (kW)	Est. Annual Generation (kWh)	Feeder No.	County	Applying Aggregation
302529	7/25/2016	Residential	Solar	3.44	4,480.0	49C-301	Antigonish County	No
375467	7/25/2016	Residential	Solar	3.44	4,200.0	4C-441	Antigonish County	No
677788	7/12/2016	Residential	Solar	7.74	9,900.0	588C-311	Richmond County	No
19910	7/8/2016	Residential	Solar	7.50	9,750.0	2H-413	Halifax County	No
603814	7/7/2016	Residential	Solar	1.50	1,650.0	137H-413	Halifax County	No
621737	7/4/2016	Residential	Solar	4.30	6,500.0	131H-422	Halifax County	No
682614	6/30/2016	Residential	Solar	7.80	8,920.0	55V-313	Kings County	No
644560	6/28/2016	Residential	Solar	8.32	8,950.0	77V-302	Digby County	No
246538	6/27/2016	Residential	Solar	4.52	6,800.0	73W-411	Annapolis County	No
651796	6/15/2016	Residential	Solar	3.60	7,500.0	82V-402	Halifax County	No
132011	6/13/2016	Residential	Solar	18.60	21,000.0	20V-311	Kings County	Yes
677863	6/10/2016	Residential	Solar	3.36	3,360.0	83V-303	Kings County	No
447955	5/27/2016	Residential	Solar	8.32	8,260.0	78W-301	Lunenburg County	No
693662	5/26/2016	Residential	Solar	3.44	4,560.0	10C-212	Cape Breton County	No
702610	5/13/2016	Residential	Solar	7.80	10,000.0	99V-314	Kings County	No
6377	5/11/2016	Residential	Solar	4.16	4,430.0	104H-441	Halifax County	No
571011	4/28/2016	Residential	Solar	8.25	9,100.0	50V-402	Kings County	No
165191	4/21/2016	Residential	Solar	2.80	4,062.0	83V-302	Kings County	No
618249	4/13/2016	Residential	Solar	5.76	6,336.0	83V-303	Kings County	No
675710	4/13/2016	Residential	Solar	10.00	11,000.0	126H-313	Halifax County	No
434153	4/7/2016	Commercial	Solar	3.50	4,434.0	2H-413	Halifax County	No
464550	3/4/2016	Residential	Solar	1.50	2,400.0	82V-422	Hants County	No
225274	1/28/2016	Residential	Solar	3.57	3,927.0	36W-304	Shelburne County	No
665302	1/20/2016	Residential	Solar	8.32	9,120.0	104H-423	Halifax County	No
604635	1/15/2016	Residential	Solar	4.30	5,848.0	127H-411	Halifax County	No
663093	1/14/2016	Residential	Solar	3.05	4,300.0	92H-332	Halifax County	No
120572	1/14/2016	Residential	Solar	7.80	8,450.0	92H-331	Halifax County	No
703188	1/14/2016	Residential	Solar	10.40	13,000.0	99V-314	Kings County	No
701679	1/8/2016	Residential	Solar	8.60	11,400.0	4C-430	Antigonish County	No
605532	1/7/2016	Residential	Solar	4.16	5,400.0	1N-405	Colchester County	No
567956	1/6/2016	Residential	Solar	2.34	2,150.0	113H-443	Halifax County	No
191970	12/14/2015	Residential	Solar	3.00	5,475.0	12V-302	Annapolis County	No
639873	12/8/2015	Residential	Solar	6.02	7,980.0	545C-211	Richmond County	No
329327	12/8/2015	Commercial	Solar	7.10	9,240.0	22C-404	Richmond County	No
92160	12/4/2015	Residential	Solar	4.50	4,500.0	113H-433	Halifax County	No
140769	12/3/2015	Municipal	Solar	10.00	10,000.0	15N-202	Colchester County	No
665203	11/30/2015	Residential	Solar	2.16	2,376.0	127H-411	Halifax County	No
127443	11/27/2015	Residential	Solar	4.30	6,500.0	77V-303	Digby County	No
557339	10/7/2015	Residential	Solar	5.10	6,700.0	80W-301	Lunenburg County	No
611939	10/7/2015	Residential	Solar	3.00	3,450.0	70W-313	Lunenburg County	No
606095	10/7/2015	Residential	Solar	8.16	10,000.0	80W-301	Lunenburg County	No
355480	10/6/2015	Municipal	Solar	21.50	27,500.0	11S-301	Cape Breton County	No
201010	9/22/2015	Residential	Solar	2.70	3,200.0	103W-312	Lunenburg County	No
134490	9/21/2015	Charitable	Solar	4.50	5,000.0	79V-401	Hants County	No
24567	9/18/2015	Commercial	Solar	31.60	36,000.0	2H-412	Halifax County	No
642696	9/15/2015	Residential	Solar	5.00	5,000.0	113H-433	Halifax County	No
77422	9/15/2015	Residential	Solar	4.60	6,000.0	113H-431	Halifax County	No
300116	9/11/2015	Residential	Solar	9.07	11,760.0	514C-301	Antigonish County	Yes
30625	9/11/2015	Residential	Solar	3.05	3,420.0	104H-423	Halifax County	No
330850	9/4/2015	Residential	Solar	8.39	10,725.0	545C-211	Richmond County	No
618620	9/1/2015	Residential	Solar	5.94	7,300.0	501H-301	Halifax County	No
577284	7/29/2015	Residential	Solar	3.00	3,900.0	20H-305	Halifax County	No
448025	7/21/2015	Residential	Solar	4.60	6,000.0	113H-432	Halifax County	No
627136	7/17/2015	Charitable	Solar	11.00	11,000.0	137H-412	Halifax County	No
34629	7/10/2015	Residential	Solar	4.60	6,000.0	20H-304	Halifax County	No
21896	7/7/2015	Residential	Solar	4.25	4,250.0	10H-236	Halifax County	No
685430	7/6/2015	Residential	Solar	4.08	4,488.0	36W-304	Shelburne County	No
225279	7/6/2015	Residential	Solar	4.08	4,488.0	36W-304	Shelburne County	No
60008	6/25/2015	Commercial	Solar	14.64	17,750.0	54H-304	Halifax County	No
385828	6/25/2015	Residential	Solar	3.75	4,100.0	103W-312	Lunenburg County	No
697058	6/25/2015	Residential	Solar	4.50	5,175.0	92H-332	Halifax County	No
693720	6/19/2015	Commercial	Solar	3.97	4,758.0	20H-302	Halifax County	No
89375	6/12/2015	Residential	Solar	1.52	1,830.0	113H-443	Halifax County	No
300150	6/5/2015	Residential	Solar	6.45	8,250.0	585C-311	Antigonish County	No
301298	5/25/2015	Residential	Solar	8.60	11,000.0	4C-430	Antigonish County	No
564954	5/1/2015	Commercial	Solar	11.40	16,000.0	59C-402	Richmond County	No
83958	4/17/2015	Residential	Solar	5.50	6,800.0	40H-302	Halifax County	No
685382	3/26/2015	Residential	Solar	4.60	6,000.0	23H-301	Halifax County	No
693077	3/13/2015	Commercial	Solar	19.35	22,704.0	4S-333	Cape Breton County	No
397525	3/6/2015	Commercial	Solar	30.42	40,000.0	15N-403	Colchester County	No
697319	2/10/2015	Residential	Solar	8.60	9,890.0	99V-314	Kings County	No
162853	2/4/2015	Residential	Solar	3.60	3,450.0	651N-311	Cumberland County	No
392693	1/21/2015	Residential	Solar	3.00	4,100.0	596C-311	Inverness County	No
408897	1/8/2015	Commercial	Solar	12.00	14,880.0	54H-303	Halifax County	No
463771	12/31/2014	Residential	Solar	3.00	2,800.0	113H-443	Halifax County	No
690638	12/18/2014	Residential	Solar	1.20	1,725.0	92H-332	Halifax County	No
637034	12/5/2014	Residential	Solar	9.03	9,100.0	59C-402	Richmond County	No
272160	11/27/2014	Residential	Solar	6.37	7,800.0	87H-313	Halifax County	No
290848	11/27/2014	Residential	Solar	9.55	12,000.0	501N-301	Pictou County	No
670862	11/26/2014	Residential	Solar	4.95	6,331.0	61C-311	Inverness County	Yes
5414	11/21/2014	Municipal	Solar	11.40	16,720.0	9H-224	Halifax County	No
662931	11/6/2014	Residential	Solar	10.00	12,500.0	59C-402	Richmond County	No
625810	11/4/2014	Residential	Solar	9.50	12,000.0	16W-302	Yarmouth County	No
210424	11/4/2014	Residential	Solar	8.00	10,000.0	16W-302	Yarmouth County	No
588789	10/24/2014	Residential	Solar	30.00	40,000.0	50N-410	Pictou County	Yes
75412	10/17/2014	Residential	Solar	4.08	5,210.0	54H-301	Halifax County	No
695588	10/16/2014	Residential	Solar	7.35	10,000.0	22V-322	Kings County	No
178438	10/3/2014	Residential	Solar	4.30	6,278.0	16V-315	Digby County	No
165640	10/1/2014	Residential	Solar	6.00	6,900.0	22V-321	Kings County	No
411328	9/24/2014	Residential	Solar	9.00	9,000.0	1V-443	Lunenburg County	No
435946	9/9/2014	Charitable	Solar	10.75	13,750.0	22C-404	Richmond County	No
200935	9/8/2014	Residential	Solar	14.62	18,700.0	103W-312	Lunenburg County	No
19841	9/3/2014	Residential	Solar	6.00	6,900.0	2H-413	Halifax County	No
696513	9/3/2014	Residential	Solar	7.80	10,000.0	15N-403	Colchester County	Yes
146589	8/27/2014	Residential	Solar	1.00	1,100.0	1N-421	Colchester County	No
670861	7/29/2014	Residential	Solar	8.60	11,000.0	57S-402	Cape Breton County	No

Application ID	In Service Date	Customer Segment	Resource	Nameplate Capacity (kW)	Est. Annual Generation (kWh)	Feeder No.	County	Applying Aggregation
569853	7/21/2014	Residential	Solar	7.50	6,900.0	660V-201	Kings County	No
92647	6/27/2014	Residential	Solar	3.75	4,320.0	113H-443	Halifax County	No
693295	6/26/2014	Residential	Solar	9.89	13,225.0	137H-413	Halifax County	No
311909	6/6/2014	Residential	Solar	3.40	4,400.0	2C-402	Inverness County	No
693825	6/5/2014	Residential	Solar	7.30	9,500.0	4C-430	Antigonish County	No
467124	5/23/2014	Residential	Solar	8.60	11,000.0	22C-404	Richmond County	No
123217	5/8/2014	Residential	Solar	2.82	3,500.0	103H-434	Halifax County	No
607878	4/8/2014	Commercial	Solar	18.00	25,738.0	11S-411	Cape Breton County	No
308622	2/18/2014	Residential	Solar	7.74	9,000.0	67C-412	Inverness County	No
682500	2/18/2014	Residential	Solar	2.80	3,680.0	25C-211	Inverness County	No
261099	2/7/2014	Residential	Solar	1.60	2,200.0	7N-302	Cumberland County	No
14154	1/28/2014	Commercial	Solar	5.00	6,600.0	2H-412	Halifax County	No
689149	1/21/2014	Residential	Solar	9.36	10,700.0	137H-412	Halifax County	No
633497	12/27/2013	Commercial	Solar	3.00	4,100.0	104H-431	Halifax County	No
271465	12/24/2013	Charitable	Solar	5.16	6,000.0	87H-313	Halifax County	Yes
303394	11/28/2013	Residential	Solar	5.16	6,000.0	4C-441	Antigonish County	No
469667	11/15/2013	Residential	Solar	7.74	9,000.0	4C-432	Antigonish County	No
57400	11/14/2013	Residential	Solar	4.25	4,700.0	139H-414	Halifax County	No
675046	11/6/2013	Residential	Solar	6.30	7,400.0	127H-411	Halifax County	No
687666	11/6/2013	Commercial	Solar	9.70	10,800.0	35V-312	Hants County	No
670374	11/5/2013	Residential	Wind	10.00	15,000.0	36V-303	Kings County	Yes
631845	10/23/2013	Industrial	Wind	5.20	13,000.0	77V-302	Digby County	No
654255	9/19/2013	Residential	Solar	5.76	7,600.0	51V-301	Kings County	No
623608	9/17/2013	Residential	Solar	0.46	595.0	77V-303	Digby County	No
677441	9/13/2013	Residential	Solar	1.29	1,507.0	101h-423	Halifax County	No
567850	9/11/2013	Residential	Solar	3.75	1,739.5	22C-404	Richmond County	No
659054	9/11/2013	Residential	Solar	10.53	12,500.0	4C-441	Antigonish County	No
6134	9/9/2013	Residential	Solar	2.58	3,944.0	104H-423	Halifax County	No
687225	9/6/2013	Residential	Solar	1.84	2,116.0	50V-402	Kings County	No
686197	8/15/2013	Residential	Solar	4.42	5,400.0	22C-404	Richmond County	No
477659	8/12/2013	Residential	Solar	4.50	5,940.0	131H-424	Halifax County	No
154680	8/7/2013	Residential	Solar	9.50	13,000.0	15N-403	Colchester County	No
686598	7/18/2013	Residential	Solar	5.00	6,400.0	88W-323	Yarmouth County	Yes
446672	7/8/2013	Residential	Solar	3.65	4,000.0	549C-211	Inverness County	Yes
354864	6/26/2013	Residential	Solar	5.60	6,000.0	11S-411	Cape Breton County	No
660775	6/14/2013	Residential	Solar	6.11	8,000.0	7N-301	Cumberland County	No
687490	6/6/2013	Residential	Solar	7.74	8,000.0	10C-212	Richmond County	No
319929	5/16/2013	Commercial	Solar	12.00	16,000.0	85S-402	Victoria County	Yes
419463	5/15/2013	Residential	Solar	18.20	20,000.0	11S-302	Cape Breton County	No
685203	4/4/2013	Commercial	Solar	10.00	12,775.0	88W-323	Yarmouth County	Yes
471401	3/21/2013	Commercial	Solar	4.00	3,000.0	22C-404	Richmond County	No
683307	1/24/2013	Residential	Solar	4.30	4,597.0	127H-411	Halifax County	No
686231	1/7/2013	Residential	Solar	8.46	10,000.0	2C-402	Cape Breton County	Yes
382912	12/12/2012	Residential	Solar	6.88	8,500.0	22C-404	Richmond County	No
635137	12/11/2012	Residential	Solar	4.50	5,000.0	22C-404	Richmond County	No
615306	12/5/2012	Residential	Solar	5.00	6,000.0	70w-311	Lunenburg County	No
579729	11/29/2012	Residential	Solar	6.20	6,350.0	103H-432	Halifax County	No
325039	11/28/2012	Residential	Solar	4.70	4,800.0	508S-201	Cape Breton County	No
683004	11/21/2012	Residential	Solar	8.40	9,200.0	22V-321	Kings County	No
181067	11/20/2012	Residential	Solar	6.90	9,600.0	55V-313	Kings County	No
167500	9/7/2012	Residential	Solar	5.00	7,000.0	83V-301	Kings County	No
643965	8/7/2012	Residential	Solar	7.50	9,000.0	4C-432	Antigonish County	No
650430	7/27/2012	Residential	Solar	6.80	8,000.0	11S-301	Cape Breton County	No
459225	7/19/2012	Residential	Solar	7.70	10,000.0	4C-430	Antigonish County	No
682561	7/9/2012	Residential	Solar	6.00	6,756.0	79V-401	Hants County	No
475625	7/7/2012	Residential	Solar	6.80	9,600.0	11S-411	Cape Breton County	No
680772	7/6/2012	Residential	Solar	3.20	4,000.0	6S-225	Cape Breton County	No
680832	6/22/2012	Residential	Solar	1.96	1,630.0	127H-411	Halifax County	No
100868	6/20/2012	Residential	Solar	4.60	6,840.0	131H-423	Halifax County	No
678245	6/14/2012	Residential	Solar	5.17	7,200.0	503N-321	Pictou County	No
642543	4/20/2012	Residential	Solar	4.50	5,000.0	22C-404	Richmond County	No
640991	4/18/2012	Commercial	Solar	1.00	912.5	65V-303	Antigonish County	No
675553	4/4/2012	Commercial	Solar	2.00	1,825.0	65V-303	Antigonish County	No
676420	1/6/2012	Residential	Solar	3.76	4,900.0	131H-422	Halifax County	No
330829	10/26/2011	Residential	Solar	4.73	5,800.9	545C-211	Richmond County	No
676104	9/28/2011	Residential	Solar	3.76	4,611.3	62H-302	Halifax County	No
611567	9/27/2011	Residential	Solar	7.74	9,492.3	4C-430	Antigonish County	No
566642	9/14/2011	Residential	Wind	3.50	9,198.0	588C-311	Richmond County	No
411846	9/2/2011	Residential	Solar	1.68	2,060.4	57C-426	Guysborough County	Yes
666004	8/18/2011	Residential	Solar	2.10	2,575.4	22V-323	Kings County	No
675711	8/16/2011	Residential	Solar	4.50	5,518.8	40H-302	Halifax County	No
290346	8/4/2011	Residential	Solar	5.64	6,916.9	512N-321	Pictou County	No
323326	7/27/2011	Residential	Solar	3.36	4,120.7	57S-401	Cape Breton County	No
235017	7/26/2011	Residential	Solar	0.76	932.1	73W-411	Lunenburg County	No
303169	7/25/2011	Residential	Solar	4.70	5,769.0	554C-311	Antigonish County	No
672439	5/26/2011	Commercial	Wind	6.00	15,768.0	84S-302	Cape Breton County	No
564686	5/18/2011	Residential	Solar	5.52	6,769.7	22C-402	Inverness County	No
386909	5/18/2011	Commercial	Combination (Solar, Wind)	4.40	7,498.6	76V-301	Queens County	No
654578	5/8/2011	Commercial	Wind	34.80	91,454.4	48H-302	Halifax County	No
593998	1/25/2011	Residential	Solar	3.60	4,415.0	92H-334	Halifax County	No
667615	12/2/2010	Residential	Wind	5.00	13,140.0	4N-311	Cumberland County	No
28996	10/25/2010	Residential	Solar	2.28	2,796.2	2H-412	Halifax County	No
379412	9/21/2010	Residential	Wind	3.00	7,884.0	126H-312	Halifax County	No
225064	9/16/2010	Residential	Wind	3.50	9,198.0	37W-201	Yarmouth County	No
654794	9/10/2010	Residential	Solar	3.42	4,194.3	545N-301	Pictou County	No
665538	8/24/2010	Residential	Solar	5.64	6,916.9	83V-303	Kings County	No
667683	8/6/2010	Commercial	Wind	9.60	25,228.8	1H-415	Halifax County	No
584295	8/5/2010	Commercial	Wind	2.40	6,307.2	515S-311	Victoria County	No
56280	7/27/2010	Commercial	Wind	50.00	131,400.0	124H-301	Halifax County	No
85231	6/23/2010	Commercial	Wind	50.00	131,400.0	126H-313	Halifax County	Yes
660859	5/18/2010	Residential	Wind	1.80	4,730.4	59C-402	Richmond County	No
176034	4/30/2010	Commercial	Wind	50.00	131,400.0	93V-311	Digby County	No
648674	4/9/2010	Residential	Solar	2.10	2,575.4	78W-301	Lunenburg County	No
314834	3/25/2010	Residential	Solar	1.40	1,717.0	58C-405	Inverness County	No
329941	2/15/2010	Residential	Wind	2.40	6,307.2	14C-211	Richmond County	No
437972	12/23/2009	Residential	Solar	2.16	2,649.0	137H-413	Halifax County	No

Application ID	In Service Date	Customer Segment	Resource	Nameplate Capacity (kW)	Est. Annual Generation (kWh)	Feeder No.	County	Applying Aggregation
143478	11/23/2009	Residential	Wind	1.80	4,730.4	1N-405	Colchester County	No
88578	11/13/2009	Residential	Wind	20.00	52,560.0	113H-432	Halifax County	No
621188	11/4/2009	Residential	Combination (Solar, Wind)	2.00	3,854.4	103H-434	Halifax County	No
158482	9/18/2009	Residential	Wind	5.00	13,140.0	16V-315	Digby County	No
30853	9/16/2009	Residential	Wind	1.35	3,547.8	2H-412	Halifax County	No
163381	9/1/2009	Residential	Solar	1.08	1,324.5	4N-313	Colchester County	No
661686	9/1/2009	Residential	Wind	1.80	4,730.4	5N-301	Colchester County	No
592589	8/25/2009	Residential	Wind	5.00	13,140.0	36W-301	Queens County	No
471500	8/14/2009	Commercial	Wind	6.00	15,768.0	126H-313	Halifax County	No
413315	7/31/2009	Residential	Solar	1.26	1,545.3	61C-311	Inverness County	No
475225	7/29/2009	Residential	Wind	1.80	4,730.4	12V-304	Annapolis County	No
436225	7/20/2009	Residential	Wind	2.30	6,044.4	545C-211	Richmond County	No
446484	5/20/2009	Residential	Wind	6.00	15,768.0	36V-302	Kings County	No
610792	5/19/2009	Residential	Wind	5.00	13,140.0	87C-311	Guysborough County	No
574888	5/13/2009	Commercial	Wind	100.00	262,800.0	126H-312	Halifax County	No
362829	3/10/2009	Residential	Wind	1.80	4,730.4	11S-301	Cape Breton County	No
282497	2/2/2009	Residential	Wind	1.80	4,730.4	56N-414	Pictou County	No
472664	1/29/2009	Residential	Wind	1.80	4,730.4	36W-301	Shelburne County	No
587215	1/29/2009	Residential	Wind	3.60	9,460.8	57C-422	Pictou County	No
58079	1/27/2009	Residential	Solar	2.10	2,575.4	40H-302	Halifax County	No
638225	1/26/2009	Residential	Wind	1.80	4,730.4	67C-411	Inverness County	No
86346	12/12/2008	Residential	Solar	2.10	2,575.4	139H-414	Halifax County	No
401613	11/28/2008	Residential	Wind	1.80	4,730.4	59C-402	Richmond County	No
590842	11/4/2008	Commercial	Wind	50.00	131,400.0	48H-303	Halifax County	No
621729	10/24/2008	Residential	Wind	1.80	4,730.4	65V-302	Annapolis County	No
245351	10/21/2008	Residential	Wind	1.80	4,730.4	73W-411	Lunenburg County	No
603476	10/16/2008	Residential	Wind	1.80	4,730.4	16V-314	Digby County	No
413729	10/9/2008	Residential	Wind	1.80	4,730.4	639N-311	Pictou County	No
164988	10/9/2008	Residential	Wind	1.80	4,730.4	1N-402	Hants County	No
577901	9/18/2008	Residential	Wind	1.80	4,730.4	126H-312	Halifax County	No
576300	9/15/2008	Residential	Wind	2.40	6,307.2	103H-434	Halifax County	No
644492	9/12/2008	Residential	Wind	1.80	4,730.4	81N-411	Colchester County	No
433480	9/5/2008	Residential	Wind	1.80	4,730.4	87H-311	Halifax County	No
612584	9/4/2008	Residential	Combination (Solar, Wind)	8.76	23,021.3	9C-303	Victoria County	No
621860	8/21/2008	Residential	Solar	4.00	4,905.6	137H-412	Halifax County	No
380835	8/15/2008	Residential	Wind	10.00	16,027.0	36V-302	Kings County	No
617105	8/11/2008	Residential	Wind	3.60	9,460.8	5N-301	Colchester County	No
641147	8/7/2008	Residential	Wind	5.00	13,140.0	63V-312	Kings County	No
265873	7/18/2008	Residential	Solar	2.60	3,188.6	7N-301	Cumberland County	No
647475	6/23/2008	Residential	Wind	1.80	4,730.4	89W-302	Lunenburg County	No
656283	6/23/2008	Residential	Wind	1.80	4,730.4	25W-302	Shelburne County	No
152702	6/13/2008	Residential	Wind	1.80	4,730.4	81N-411	Colchester County	No
619086	5/29/2008	Residential	Wind	1.80	4,730.4	93V-313	Yarmouth County	No
272370	5/7/2008	Residential	Wind	1.80	4,730.4	87H-313	Halifax County	No
85904	4/30/2008	Residential	Wind	1.80	4,730.4	113H-433	Halifax County	No
649794	3/27/2008	Commercial	Wind	53.30	140,072.4	26N-211	Cumberland County	No
152638	2/6/2008	Agricultural	Wind	5.40	14,191.2	677N-301	Colchester County	No
608800	1/31/2008	Residential	Wind	5.00	13,140.0	131H-422	Halifax County	No
243850	11/28/2007	Residential	Wind	1.80	4,730.4	73W-411	Lunenburg County	No
457908	11/23/2007	Residential	Wind	1.80	4,730.4	79V-403	Hants County	No
152700	10/31/2007	Residential	Wind	1.80	4,730.4	81N-411	Colchester County	No
152701	10/31/2007	Residential	Wind	3.60	9,460.8	81N-411	Colchester County	No
479705	10/25/2007	Residential	Wind	1.80	4,730.4	607N-301	Cumberland County	No
480501	7/17/2007	Residential	Wind	3.00	7,884.0	644V-311	Hants County	No
640453	7/12/2007	Residential	Combination (Solar, Wind)	7.80	17,975.5	65V-303	Annapolis County	No
588299	2/22/2007	Residential	Solar	2.00	2,452.8	36V-303	Kings County	No
137765	10/20/2006	Residential	Wind	10.00	26,280.0	584N-301	Colchester County	No
122569	10/19/2006	Residential	Wind	3.00	7,884.0	92H-334	Halifax County	No
281513	8/15/2006	Residential	Wind	3.00	7,884.0	62N-414	Pictou County	No
134093	9/9/2005	Residential	Wind	1.00	2,628.0	79V-401	Hants County	No
619192	5/26/2005	Commercial	Wind	50.00	131,400.0	22N-401	Cumberland County	No
602520	12/24/2004	Residential	Wind	1.00	2,628.0	6N-302	Cumberland County	No
263946	11/1/2004	Residential	Wind	10.00	26,280.0	6N-302	Cumberland County	No
425059	7/8/2004	Commercial	Wind	50.00	131,400.0	11S-411	Cape Breton County	No
560924	1/28/2004	Residential	Wind	10.00	26,280.0	36V-301	Kings County	No
604731	7/18/2003	Residential	Wind	2.00	5,256.0	73W-411	Lunenburg County	No
274103	10/10/2001	Residential	Wind	25.00	65,700.0	88H-401	Halifax County	No
274643	9/13/2001	Residential	Wind	25.00	65,700.0	88H-401	Halifax County	No
583359	1/14/2000	Residential	Solar	0.80	981.1	70V-311	Annapolis County	No