



**CITY COUNCIL/ELECTRICAL
ADVISORY COMMITTEE**

**December 19, 2018 – 4:00 p.m.
Special Meeting**

CITY COUNCIL

Marc Tall, Mayor
Ronald Beauchamp, Mayor Pro-Tem
Peggy O. Schumann, Council Member
Michael Sattlem, Council Member
Ralph Blasier, Council Member

ADMINISTRATION

Patrick Jordan, City Manager
Tammy Weissert, CMC, Interim City Clerk
Ralph B.K. Peterson, City Attorney
Mike Furmanski, Electrical Superintendent
Melissa Becotte, City Controller

ELECTRICAL ADVISORY COMMITTEE

John Anthony, Chairperson
Ann Bissell, Vice Chairperson
John Mellinger, Committee Member
Glendon Brown, Committee Member
Tim Wilson, Committee Member

Escanaba City Council Chambers: 410 Ludington Street - Escanaba, MI 49829

Meeting Agenda

Wednesday, December 19, 2018

CALL TO ORDER
ROLL CALL
APPROVAL/ADJUSTMENTS TO THE AGENDA
CONFLICT OF INTEREST DECLARATION
NEW BUSINESS


1. Discussion – Solar panel purchasing program.

Explanation: The Escanaba City Council and the Electrical Advisory Committee will discuss the draft solar panel purchasing documents. These documents will need to be finalized and approved by City Council before we can make panels available to our customers.

GENERAL PUBLIC COMMENT
COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS
ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Respectfully Submitted,


Patrick Jordan
City Manager

2018-11-14 EAC Meeting - Escanaba Solar Project Update

Construction & Initial Operations Timeline 2018-11-14

- Site Geotechnical Assessment & FAA Applications in 4th Quarter, 2017
- Construction started June 4, 2018
- Inverters started August 24, 2018 (14 of 15 Inverters operational)
- Aug 31st City crews installed router box to link Datalogger and inverters to the internet
- Sept 5th EAC & Council Meeting at Escanaba Solar Project site
- Sept 14th No 3 inverter replaced with new inverter by GRNE staff
- Sept 21-23rd During high winds (Gust over 40MPH) one loose panel observed and one damaged
- Week of Sept 24th City linemen replaced one damaged solar panel with spare and checked and tightened panel mounting bolts.
- Oct 5 – 8th GRNE checked and torque tested all the solar panel mounting fasteners along with other key racking structure fasteners. Delivered 3 additional spare solar panels (now have 8 spares in inventory). Changed DC string wiring to 3 MPPT controllers in each inverter from 5-5-3 to 5-4-4 configuration. The Escanaba Solar Project has:

15 Inverters

234 Panels/ Inverter

13 Strings of Panels/Inverter

18 Panels/ String

- Oct 12th GRNE replaced Inverter 3 with second new inverter from Yaskawa.
- Nov 7th – 8th midday Yaskawa datalogger to inverter communication fault to all 15 inverters causing shutdown of the inverters. Problem resolved by Yaskawa technical Support via the internet connection. Similar problems at the same time observed at Heritage Garden Solar site.
- Some generation occurs even during light snow cover on the panels.

Hopefully, most of the start-up issues, Inverter #3, Datalogger, and Loose Panel Fasteners, are behind us.

Summary of Escanaba Solar Project – EPC Contract and City Installation Costs 2018-09-05

DC Capacity, MW	1.158
Maximum AC Capacity, MW	0.900
EPC Original Contract Cost, \$ (Includes 20 yr. Inverter Warranty Extension)	\$1,210,756
\$/Watt (DC)	1.046
Additional City Installation Costs, \$	
EPC Contract Revisions	
<ul style="list-style-type: none"> • SolrenView Datalogger Service Contract extension from 5 to 10 years • Substitution of Yaskawa PVI-60 Inverters due to shipment delays with original Yaskawa XGI-100-65 Inverters 	<p>\$3,200</p> <p>\$13,400</p>
Completed Westwood Site Assessment Studies & FAA Application	\$39,250
Site Market Value Appraisal for Lease	\$1,000
Site Survey by Davis-Wanic to define FAA Glare and Land Lease Boundaries	\$675
Revenue Grade Meter to measure net solar hourly generation	\$794
Horizontal boring under ditch for Distribution Wire Conduit Installation	\$2,000
Security fence and two 18' gates	\$30,885
Distribution Step-up Transformer (sized for future capacity expansion)	\$22,455
Distribution and 480V AC Wiring and other Miscellaneous items	\$ 5,552
Ness Crane service to set Transformer on pad	\$420
Spare solar panels (6)	\$1,290
Total Additional City Installation Costs	\$120,921
Total Installed Costs	\$1,331,667
\$/Watt (DC)	1.150
25 Year Land Lease Cost (12.6 acres @ \$295/Acre; increased 3% every 5 years)	\$98,279
Total Installed Cost including 25 Year Land Lease Cost	\$1,429,946
\$/Watt (DC)	1.234
Total Installed Cost & 25 Year Land Lease Cost \$/330 Watt (DC) Solar Panel (\$1,429,946/3,510)	\$407.39

25 Year Levelized Cost of Electricity (LCOE) for 1.16 MW (DC) Solar Project Updated 9/5/2018

$$\text{25 Year LCOE} = \frac{\text{Total Installed Project} + \text{25 Year Land Lease Cost} + \text{Cumulative 25 Year O\&M Costs}}{\text{Cumulative 25 Year Energy Production}}$$

1. Total Installed Project Cost = **\$1,331,667**

2. 25 Year Land Lease Cost = **\$98,279**

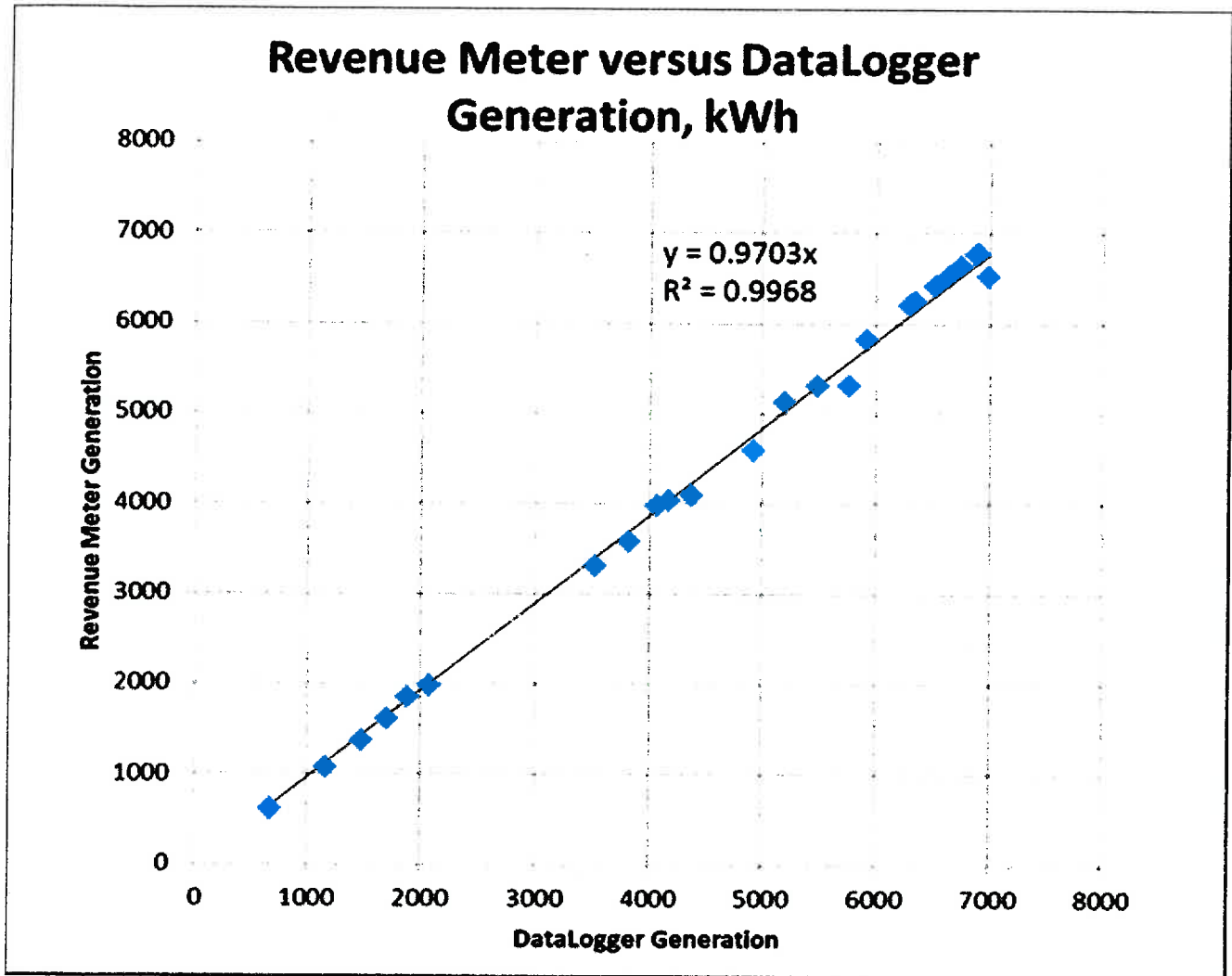
3. Cumulative 25 Year O&M Costs = **\$250,000**

- Assume 2% Annual inflation of O&M costs
- O&M costs include: Insurance, annual mowing, First two years of O&M services by GRNE Solar, and \$5,000 Miscellaneous Electrical Department O&M expenses after first two years.

4. Cumulative 25 Year Energy Production = **35,110,000 kWh**

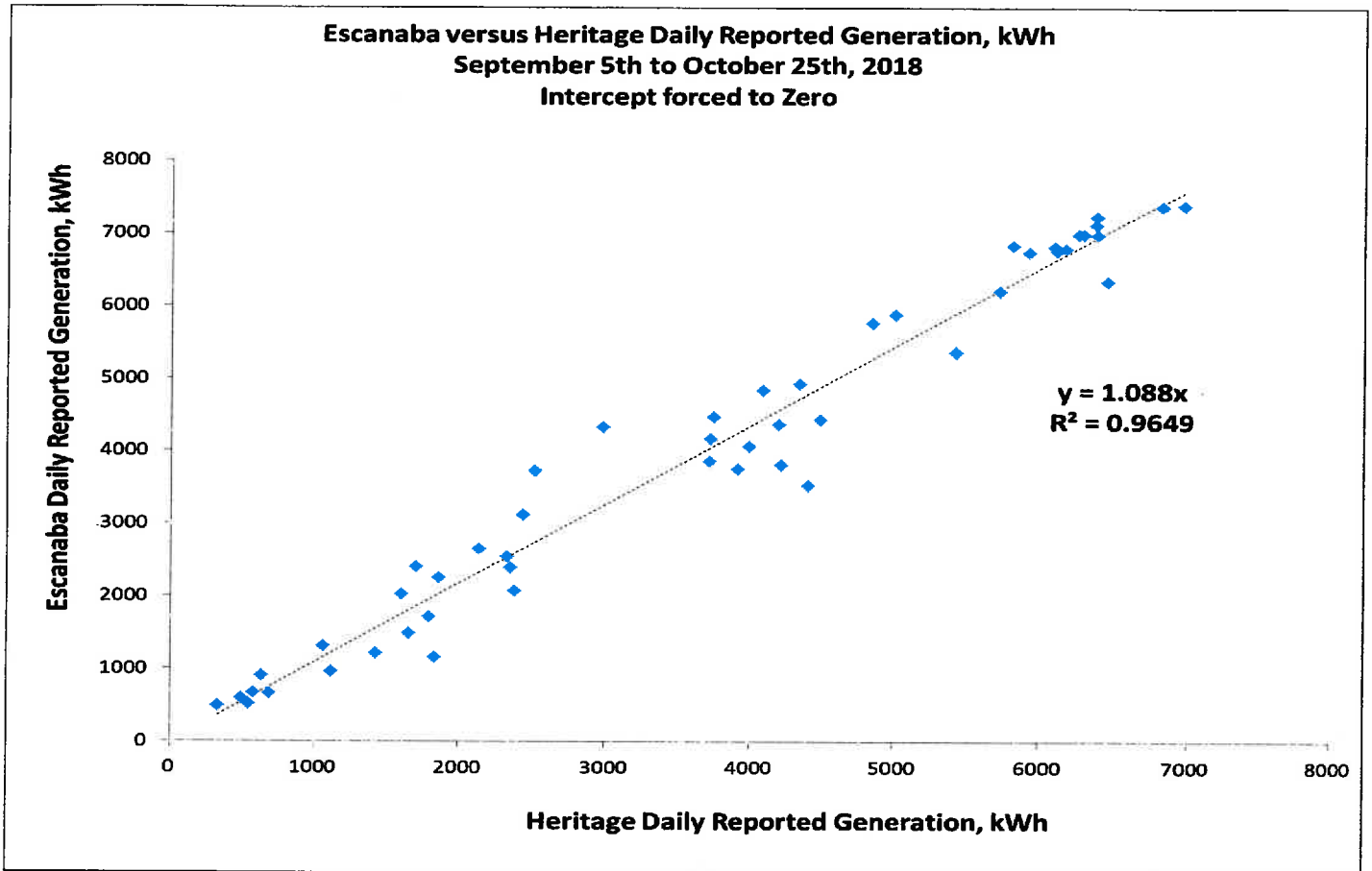
- 1,525,959 kWh during the 1st year of operation, based on PVWatt Estimate and 15 Yaskawa PVI-60TL inverters
- Solar panel warranty is less than 0.7 % per year decline in Annual Generation
- Assuming a 0.7% decline in Annual Generation, the Cumulative Generation over 25 years is **35,110,000 kWh**

$$5. \text{ 25 Year LCOE} = \frac{\$1,331,667 + \$98,279 + \$250,000}{35,110,000} = 0.0478 \text{ \$/kWh}$$



1. Datalogger generation is a very accurate predictor of revenue meter measured generation
2. Revenue Meter Generation = 0.970 x Datalogger generation
3. 3% Loss in Generation between the Inverters and Revenue Meter is due to:
 - 480 V AC Wiring losses between the 15 inverters spread across the solar site and the Central Switchboard where the Revenue Meter is located.
 - Early decisions in the Escanaba Solar Project increased 480 V (AC) wiring run lengths:
 - Increased Solar Panel Row spacing to minimize inter-row shading
 - Placed Switchboard & Transformer to allow for future growth
 - In future solar RFP's, need to specify 480 V (AC) wiring losses < 2.0%

Can the Heritage Solar Generation be Used to Predict the Escanaba Solar Project Generation?



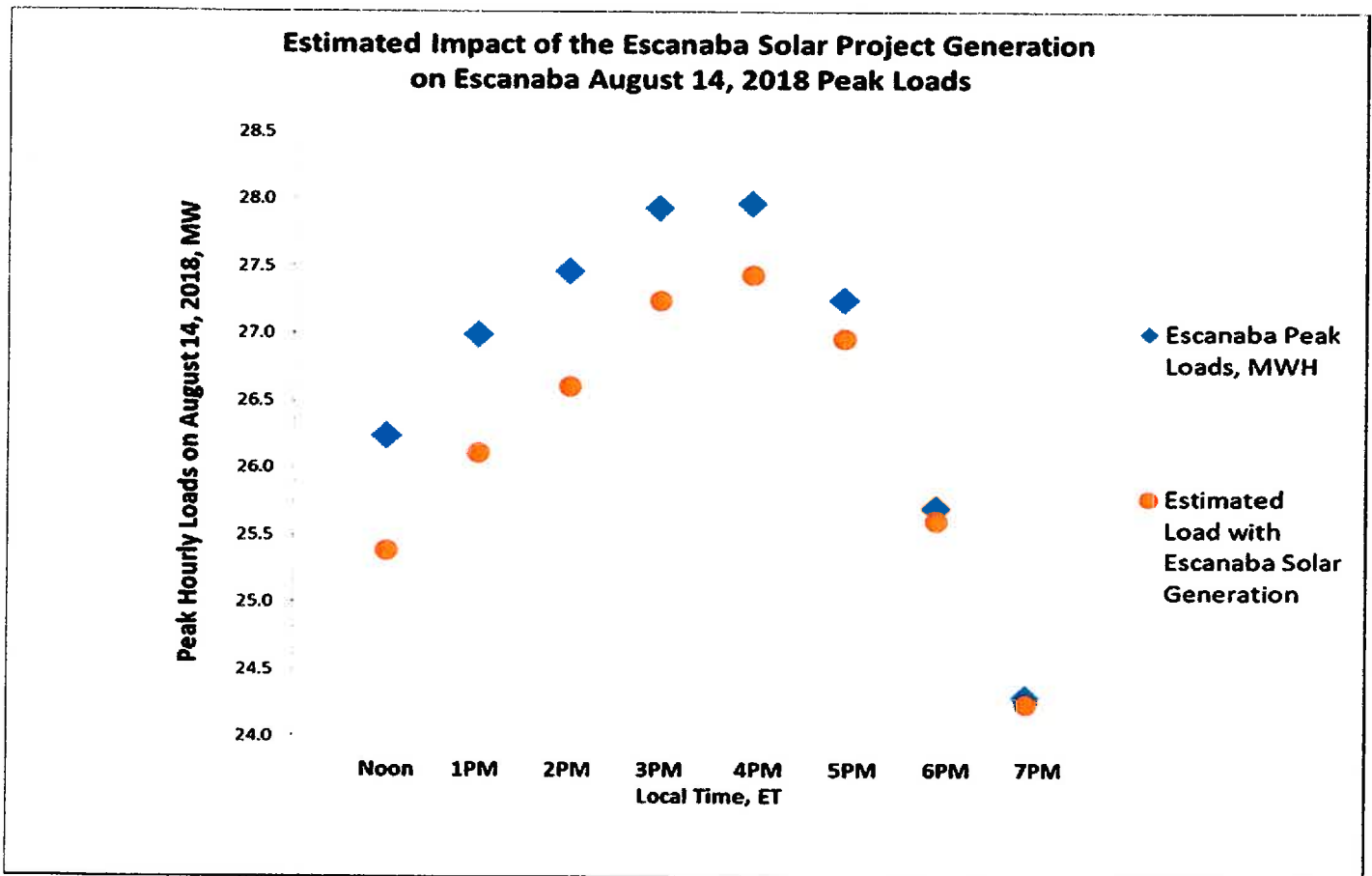
Yes!

The following equation can be used to predict the Escanaba Revenue Meter Generation:

$$\begin{aligned} \text{Escanaba Revenue} \\ \text{Meter Daily Generation} &= 1.088 \times 0.970 \times \text{Heritage Datalogger Daily Generation} \\ &= 1.055 \times \text{Heritage Datalogger Daily Generation} \end{aligned}$$

Annual Peak Load and Capacity Requirements

Escanaba's Peak Hourly Load in 2018 occurred on August 14th at 4 PM. Using the Heritage Generation Data, the Figure below shows the potential impact of the Escanaba Solar Project in reducing the **Annual Peak Load and Capacity requirements by 0.53 MW**.



Note: The UP State Fair was operating August 13th-19th, 2018

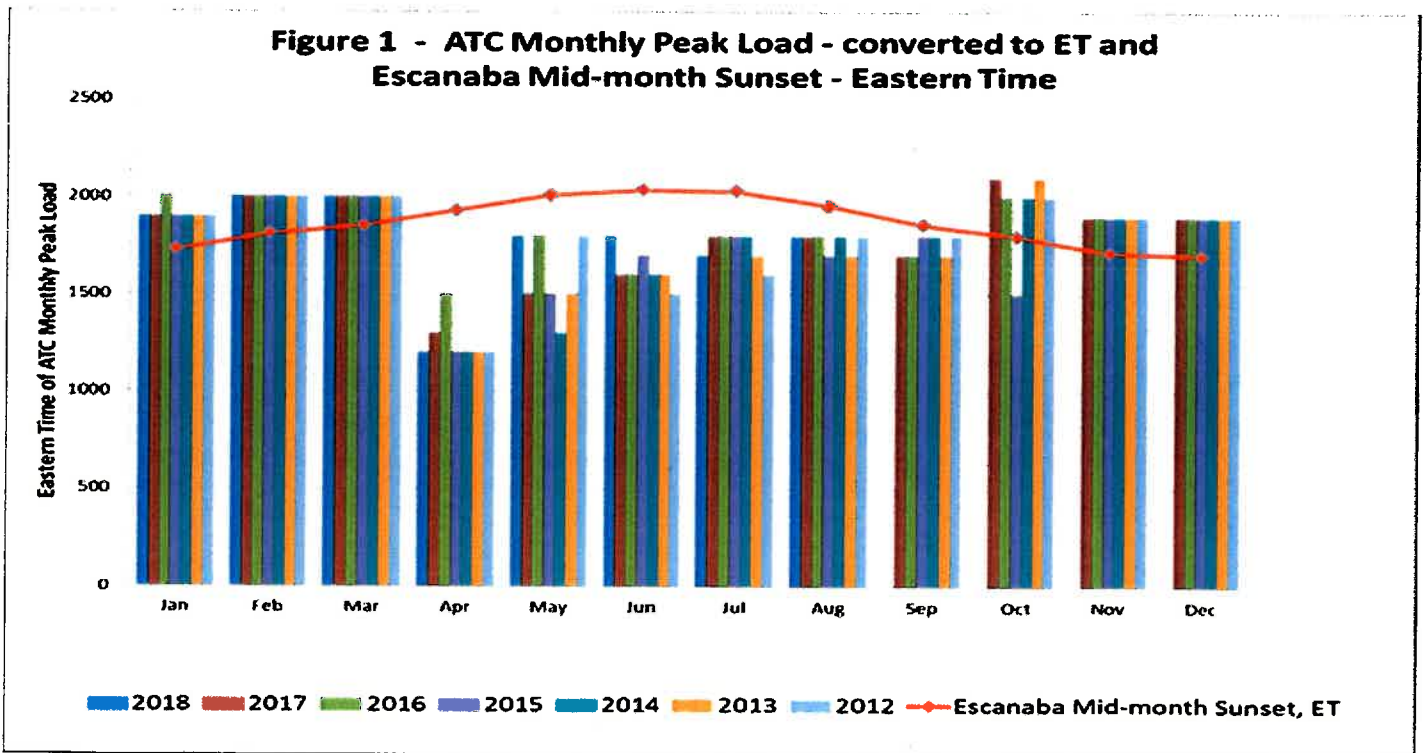
Estimating Potential Solar Generation At the Monthly ATC System Peak Hourly Load For Determining Transmission Costs

An analysis of ATC Hourly Load data, as shown in Figure 1 below, shows that:

- The ATC monthly load peak occurred after sundown in the months of January-March and October-December.
- The ATC monthly load peak occurred before sundown in the months of April through September, so that Behind the Meter (BTM) solar generation could reduce the Escanaba local load and the resulting transmission costs.

Monthly Transmission costs in 2018/2019 are determined by the following relationship:

$$\text{Monthly Transmission Costs} = \frac{\$4,775}{\text{MW}} \times \text{Escanaba Co-incident Load (MW) at the Time and Date of the ATC System Monthly Peak Load.}$$



As summarized in the Table below, the Heritage Datalogger generation data can be used to estimate the Escanaba Solar project generation at the time of the Monthly ATC system Peak Load for April through September, 2018.

Table 2 - 2018				
Month	Date	Local Time, Eastern Time	Heritage Solar Generation, MW	Estimated Escanaba Solar Project Generation, MW (3)
Jan	2	7:00 PM	-(1)	-(1)
Feb	5	8:00 PM	-(1)	-(1)
Mar	5	8:00 PM	-(1)	-(1)
Apr	3	12:00 PM (noon)	.058	.061
May	29	6:00 PM	.202	.213
Jun	29	6:00 PM	.394	.416
Jul (2)	13	5:00 PM	.144	.152
Aug (2)	13	6:00 PM	.288	.304
Sep (2)	4	5:00 PM	.364	.384
Oct			-(1)	-(1)
Nov			-(1)	-(1)
Dec			-(1)	-(1)
Mean Solar Generation April - September			.242	.255

(1) ATC system monthly peak load occurs after sundown

(2) Date and Time obtained from ATC Hourly Load Data Files website

(3) Estimated Escanaba Solar Project generation at the Revenue Meter

The Escanaba Solar Project was operating on September 4th, producing 0.50 MW at 5PM. The Escanaba co-incident load at 5PM on September 4th was 23.41 MW. Without the local solar generation, the Co-incident load would have been 23.91 MW (23.41 + 0.50 = 23.91).

The Escanaba Solar Project has begun to reduce our Transmission Costs.

Avoided Electric Costs with Behind the Meter Solar Generation can be separated into four key components, described below in decreasing order of potential savings:

- 1. Every kWh of solar generation eliminates a kWh of purchased electric energy on a one to one basis.**
- 2. Reducing the annual hourly peak electric load, reduces the capacity Escanaba must purchase. Since 2013, Escanaba's peak annual hourly load has occurred in the months of July and August, between 3PM and 5PM local time, on a weekday (Monday through Friday).**
- 3. Lowering the monthly co-incident Escanaba electric load in the six months between April and September, which occurs between noon and 6 PM, determines the transmission costs. The Escanaba monthly co-incident loads occur after sundown in the months of January-March and October – December.**
- 4. Reducing the Michigan Renewable Energy Credits (MiREC's) which Escanaba must purchase on a one to one basis.**

2018-11-8 Escanaba Solar Project 1.16 MW (DC) Avoided Cost Analysis

Fiscal Year	Foot note	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027
Solar Gen, MWh (1)	1	1526.0	1515.3	1504.7	1494.1	1483.8	1473.3	1463.0	1452.8	1442.6
Purchased Energy Cost \$/kWh	2	0.05551	0.05539	0.05328	0.04449	0.04682	0.04853	0.04235	0.04235	0.04235
Capacity Contract Cost, \$/kWMonth	3	1.19	3.36	3.51	3.66	3.76	3.82	3.50 (4)	3.50 (4)	3.50 (4)
Capacity Contract Cost, \$/MWYr	3	14,316	40,344	42,144	43,896	45,096	45,852	42,000	42,000	42,000
Avoided Capacity Cost, \$/Yr	5	zero (6)	19,365	20,229	21,070	21,646	22,009	20,160	20,160	20,160
Transmission Cost, \$ /Co-incident MW Monthly Load	7	4,775	4,990	5,205	5,325	5,540	5,727	5,913	6,100	6,286
Avoided Transmission Cost, \$/Yr	8	6,112 (9)	7,784	8,120	8,307	8,642	8,934	9,224	9,516	9,806
Avoided MiREC Cost, \$/Yr	10	439	606	602	598	594	589	585	581	577
Total Avoided Capacity, Transmission & MiREC Cost, \$/Yr		6,551	27,765	28,951	29,975	30,882	31,532	29,969	30,257	30,543
Total Avoided Capacity, Transmission & MiREC Cost, \$/kWh (Conservative Estimate)	11	0.006	0.0183	0.0192	0.0201	0.0208	0.0214	0.0205	0.0208	0.0212
Total Avoided Cost with Solar Gen, \$/kWh (Conservative Estimate)	11	0.062	0.074	0.072	0.064	0.068	0.070	0.063	0.063	0.064
Total Avoided Cost with Solar Gen, \$/kWh (Expected Estimate)	12	0.062	0.079	0.078	0.071	0.074	0.076	0.069	0.069	0.070

- (1) PV Watt Estimate with 0.7% annual decline of generation. Module performance guarantee is $\leq 0.7\%$ annual generation decline.**
- (2) NextEra full service energy Contracts converted from MISO calendar year (June 1-May 31) to Escanaba Fiscal Year (July 1 - June 30th)**
- (3) NextEra capacity contracts converted from MISO calendar year to Escanaba fiscal year.**
- (4) Recent quotes for capacity contracts**
- (5) MISO currently allows a 50% Capacity Credit for "Solar Behind the Meter Generation" until a historical-based solar generation during peak loads analysis can be provided. Therefore 0.44 MW solar generation is used. With the MISO 8.4% Reserve Factor, $0.44 \times 1.081 = 0.48$ MW is used in the Avoided Capacity Cost calculation. $(0.90 \text{ Inverter Capacity} \times 0.50 \times 0.97 \text{ (Inverter to Revenue Meter Loss)}) = 0.44 \text{ MW}$**
- (6) The Escanaba Solar Project began generation on August 24, 2018. Escanaba's annual peak hourly load for 2018/19 fiscal year occurred on August 14, 2018 at 4 PM. As a result, the Escanaba Solar Project was not yet operating to reduce the Aug 14th peak hourly loads and resulting 2018/19 capacity requirements.**
- (7) In April 2018, ATC updated their Transmission cost forecast through 2022. A linear regression line was used to estimate the transmission costs beyond 2022.**
- (8) An average 0.26 MW of solar generation was estimated using the Heritage Garden Solar datalogger at the monthly co-incident peak for the six months between April and September 2018. The transmission co-incident peaks occur after sundown for the remaining 6 months. E.g., $4990 \times 0.26 \times 6 = \$7,784$ avoided transmission cost for 2019-2020.**

(9) On September 4, 2018, the ATC system monthly peak load occurred at 5PM (Eastern Time). The observed Escanaba Solar Project generation at this time was 0.50 MW reducing the coincident load and September transmission cost by $4,775 \text{ \$/MW} \times 0.50 \text{ MW} = \$2,388$. For the months of April May and June in 2019, a conservative estimate of the avoided Transmission Cost is $4,775 \text{ \$/MW} \times 0.26 \text{ MW} \times 3 = \$3,724$. The resulting estimate for 2018/19 avoided transmission cost = $\$2,388 + \$3,724 = \$6,112$.

(10) The current MiREC cost is $\$0.40/\text{MWh}$. The avoided MiREC cost for 2018-2019 is $1,097 \times 0.40 = \$439$. The MiREC cost is conservatively assumed to remain at $\$0.40/\text{MWh}$ for the future.

(11) Total avoided cost with Escanaba Solar Project generation with conservative estimate of 0.48 MW solar generation at the annual hourly peak City load which determines the Capacity cost.

(12) Total avoided cost with Escanaba Solar Project generation with Heritage Solar 2017 and 2018 based estimate of 0.69 MW solar generation at the annual hourly peak City load, which determines Capacity cost.

Conclusions

In the 2018-2024 period, Escanaba's

- Energy costs are declining
- Capacity Costs are increasing significantly, starting in the 2019-2020 Fiscal Year
- Transmission Cost declined in 2018, but are expected to gradually increase in 2019 and beyond
- Purchased renewable energy credits at current pricing are a small portion of the overall electric costs

The Avoided Costs Analysis Defines the Billing Credit per kWh of Solar Generation:

Dates	\$/kWh
1/1/2019 – 6/30/2019	.062
7/1/2019 – 6/30/2020	.074
7/1/2020 – 6/30/2021	.072
7/1/2021 – 6/30/2022	.064
7/1/2022 – 6/20/2023	.068
7/1/2023 – 6/30/2024	.070
7/1/2024 and beyond	~ 0.070 expected.

Exact Billing Credit will primarily depend on future purchase contracts for energy and capacity. The Escanaba Electric Department will update and extend the Billing Credit as new future contracts are obtained, and the extended performance history of the Escanaba Solar Project is established. The Billing Credit is Avoided Costs after subtracting Operating & Maintenance Costs for the Escanaba Solar Project.

- 25 Year LCOE at \$0.048 kWh < Avoided Costs.
- Therefore the Escanaba Solar Project benefits every Escanaba Electric Customer.

DRAFT 2018-12-11 Overview of Escanaba Solar Project – Panel Purchase Program

The Escanaba Solar Project is:

- A 1.16 MW solar generation facility owned by the **City of Escanaba**
- Located at the Delta County Airport
- Designed to allow City of Escanaba Electric Department customers to purchase solar panels and associated equipment, and receive a credit on their electric bill for a proportional amount of electricity that the entire Escanaba Solar Project produces.

The brief Fact Sheet, Directions for Purchase, and FAQ section below, should help answer some of the basic questions associated with the Escanaba Solar Project-Panel Purchase Program.

Escanaba Solar Project FACT SHEET

Size of array: 3510 panels

Panel Wattage: 330 watts per panel

kWh per panel per year: 435 kWh per year in the first year of operation. This is **estimated production** and could be higher or lower depending on level of sun received over the course of on year. Panel production is expected to decrease slightly over time, less than 0.7 % each year. Solar generation is highest in the months of May through August, and lowest in the months of November and December.

Panel Cost: one-time payment of \$407 per panel.

All City of Escanaba Electric Department (EED) Residential, Commercial, Municipal and Large Power customers, including **Ford River** customers, will be eligible to purchase panels. For the first 6 months of the Panel Purchase Program, January 1st through June 30th, 2019, the available solar panels for purchase will be allocated as follows:

Electric Customer Category	Number of Solar Panels Available for Purchase
Delta County – Lease Agreement Option	500
Residential	783
Commercial	813
Large Power	1294
Municipal	120
Total Number of Panels Available	3510

This initial sales allocation is based on the relative electricity consumption in the customer categories during the last fiscal year.

After June 30th, 2019, any unsold solar panels will be available to any category of customer on a first come first served basis.

Panel limit: The number of panels available to any one customer will be limited by their annual electric usage. **Customers should not buy more panels than required to meet their electric needs in 2019 and into the future.** For example, increased efficiency of electric lighting and appliances may

reduce your electric loads, or you may significantly reduce your electric load by becoming a “Snow Bird”. The Solar electric energy credit will be zeroed out at the end of each fiscal year for each customer. A customer cannot receive more Solar electric energy credit than their actual usage during a fiscal year.

Panel quantities may require a brief customer usage history review.

The Escanaba Utility Office at City Hall can provide customer usage data.

Billing Credit per kWh of Solar Generation:

Dates	\$/kWh
1/1/2019 – 6/30/2019	.062
7/1/2019 – 6/30/2020	.074
7/1/2020 – 6/30/2021	.072
7/1/2021 – 6/30/2022	.064
7/1/2022 – 6/20/2023	.068
7/1/2023 – 6/30/2024	.070
7/1/2024 and beyond	~ 0.070 expected.

The exact Billing Credit will primarily depend on future Electric Department purchase contracts for energy and capacity. The Escanaba Electric Department will update and extend the Billing Credit as new future contracts are obtained, and the extended performance history of the Escanaba Solar Project is established. **The Billing Credit is based on the Avoided Costs after subtracting Operating & Maintenance Costs for the Escanaba Solar Project. This Avoided Cost basis results in a fair bill for customers who purchase panels, and those who do not purchase panels.**

Solar Generation Credit Carry Over: Solar Generation Credits will carry over from month to month for a 12 month period from July 1st to June 30th, the fiscal year. **If any carry over exists on the last day of the 12 month period it will be zeroed out.**

The Billing Credit is based on **Avoided Costs of the electric cost components listed below with the Escanaba Solar Project:**

- Energy
- Capacity
- Transmission
- Renewable Energy

The Billing Credit is less than the Residential or Commercial rates because the Escanaba Solar Project does not avoid:

- Escanaba Distribution costs (e.g., Linemen, poles, wires, sub-stations, transformers, etc.)
- MISO fees
- Administrative and other overhead costs

Location of Panels: All panels will be located on the Escanaba Solar Project site adjacent to the Airport Road. Each panel will be allocated to each customer by a number once their purchase has been approved.

Length of Agreement: 25 years

Solar Land License and Management Agreement: This agreement sets the legal guidelines required for participation in the Escanaba Solar Project program. This will be signed by the customer and an EED representative.

Ownership: Each customer who signs the Solar Land License and Management Agreement form and pays the required \$407 per panel will own the panel and associated equipment that is on the property.

Directions for panel purchase:

Please contact the City of Escanaba Utility Office at City Hall (1st floor) for printed information on the **Escanaba Solar Panel Purchase Program**, and a copy of the **Solar Panel License and Management Agreement**. After reading the printed material, any additional questions should be directed to:

City of Escanaba, Electric Department
1711 Sheridan Road
Escanaba, MI 49829
Phone: (906) 786-0061
Fax: (906) 786-0791
E-Mail: cityelectric@escanaba.org
Website: <http://www.escanaba.org/electric>

To proceed with the Escanaba Solar Panel Purchase Program,

1. Read and sign the **Solar Panel License and Management Agreement**
2. Submit your signed **Solar Panel License and Management Agreement** and payment of **\$407 per solar panel** by mail or in person to:

City of Escanaba Utility Office <http://www.escanaba.org/billing>
410 Ludington Street
P.O. Box 948
Escanaba MI 49829
906-786-0552
Office Hours: Monday thru Friday 7:30 a.m. to 4:00 p.m.

3. **Please make checks payable to:** City of Escanaba
4. If the necessary information in your Agreement is not verified by the **City of Escanaba Electric Department**, you will receive a **FULL REFUND**. You will be notified if your application has been accepted or deferred within a month of submittal.
5. As the **City of Escanaba Electric Department** receives signed agreements and payments, the following data will be tracked via a spreadsheet to include:
 - a. Customer Name
 - b. Customer Address and contact Telephone and/or e-mail address
 - c. Customer Account number
 - d. Number of Panels requested
 - e. Payment Received by the **City of Escanaba**

Frequently Asked Questions

What is the Escanaba Solar Project?

The Escanaba Solar Project will give Escanaba electric department customers the opportunity to benefit from renewable energy without having to install and maintain solar panels on their property. Instead, the solar panels will be located on site at the Delta County Airport. Participants in this voluntary program will be able to license property and purchase solar panels for a term of 25 years. The renewable energy generated by these panels will be reflected as a Billing Credit on their electric utility bill from the Escanaba Utility Department.

What are renewable energy certificates?

By using renewable resources to produce electricity, the Escanaba Solar Project becomes eligible for renewable energy certificates (RECs). A REC is created by every megawatt-hour of electricity generated from the Escanaba Solar Project. The RECs generated from this project belong to the Escanaba Electric Department. The economic value of the REC is included in the participant's Billing Credit.

Who is eligible to participate?

Any Escanaba Electric Department customer in good standing is eligible to take advantage of this program. This includes residential, commercial, and Large Power customers. (Note, the Land Lease Agreement allows Delta County to buy up to 500 panels)

Why participate in the Escanaba Solar Project?

It's simple. You can easily purchase solar panels for your home or business and start receiving on-bill utility credits to offset your energy consumption costs over 25 years. It's affordable. You can purchase one or more panels to fit within your budget.

It's local homegrown renewable energy.

Many people are interested in getting rooftop solar on their home or business, which is a good thing. However, not all buildings are good candidates for solar because they have poor orientation to the sun, trees will shade the roof panels, the roofs are not structurally sound enough, the buildings are rented and not owned by the occupant, or the occupant does not want to invest the upfront cost to install solar.

The Escanaba Solar Project is "get it and forget it." Participants in this program do not need to install or maintain the solar array. And the Escanaba Solar Project is located in a place that has unobstructed exposure to the sun, maximizing the amount of energy the array will produce.

Will my purchase of solar panels qualify for the federal Investment Tax Credit?

It is the sole responsibility of the customer to take any steps necessary to determine your eligibility to claim the federal Investment Tax Credit. Please consult your tax professional for more information. As of November 2018:

- In **2019**, the tax credit remains at **30%** of the cost of the system.

- In **2020**, the Investment Tax Credit declines to **26%** for Residential and Commercial customers.
- In **2021**, the Investment Tax Credit drops to **22%** for Residential and Commercial customers.
- In **2022 and beyond**,
 - The Investment Tax Credit drops to **0% for Residential** customers
 - The Investment Tax Credit drops to **10% for Commercial** customers

Costs & Requirements

How do I determine the number of panels I should lease?

Check out **the Estimated Solar Power Produced** Table below, to get started. This Table shows estimated annual solar production associated with different quantities of panels for the 1st year of operation.

The number of panels available to any one customer will be **limited by their annual average usage**.

Customers should not buy more panels than required to meet their electric needs in 2019 and into the future. For example, as increased efficiency of electric lighting, air conditioning and appliances may reduce your electric loads, or you may significantly reduce your electric load by becoming a “Snow Bird”, the Solar electric energy Billing Credit will be zeroed out at the end of each fiscal year for each customer.

A customer cannot receive more Solar electric energy Billing Credit than their actual electric usage during a fiscal year.

Requested number of Panel may require a brief customer usage history review. The Escanaba Utility Office at City Hall can provide customer usage data.

How much will it cost to participate in the program?

The upfront cost for each 330-watt solar panel for 25 years is only \$407, or \$1.23 per watt. This great price is thanks to the “utility scale” Escanaba Solar Project built by the Escanaba Electric Department.

The Escanaba Electric Department, at its discretion, will make the final determination of the number of panels a customer may license.

Estimated Solar Power Produced			
Estimated Solar Power produced is not a guarantee.			
Actual annual generation may typically vary + or - 5% due to local weather conditions.			
The Estimate is based on the NREL PVWatts Solar Calculator using the Delta County Airport weather station historical data, and the design of the Delta County Airport site.			
Number of Solar Panels	Price, \$	Total Watts, DC	Estimated Solar Power Produced in 1st Year of Operation, kWh/Year
1	407	330	435
2	814	660	870
3	1221	990	1305
4	1628	1320	1740
5	2035	1650	2175
6	2442	1980	2610
7	2849	2310	3045
8	3256	2640	3480
9	3663	2970	3915
10	4070	3300	4350
11	4477	3630	4785
12	4884	3960	5220
13	5291	4290	5655
14	5698	4620	6090
15	6105	4950	6525
16	6512	5280	6960
17	6919	5610	7395
18	7326	5940	7830
19	7733	6270	8265
20	8140	6600	8700

What do I get in return for my purchase and license?

The amount of your utility Bill Credit will depend upon how many solar panels you purchase and how much energy they generate each month. We estimate that a 330-watt solar panel will generate a credit to your utility bill of approximately \$27 in the first year. The Bill Credit will vary each month with the actual production of Solar Energy.

Your "**payback**" is estimated to be in Year 14 out of your 25-year lease. With the 30% Investment Tax Credit, the Payback is reduced to 10 to 11 years.

Significant unanticipated future expenses (e.g., inverter failures beyond the 20 year Warranty) will be recovered by reducing the future Billing Credits for solar generation. The unanticipated future expenses will be distributed across all 3,510 panels.

You also will have the satisfaction of participating in the increase of renewable energy for the Escanaba Electric Department system in the future. Clean solar energy will reduce pollution and make our region more energy independent.

What happens if I move to a different address?

If a participant moves to another property within the Escanaba Electric Department service territory, that customer can remain in the program at the new address.

People who leave the Escanaba Electric Department system have several license transfer opportunities.

- If a customer owns and is selling a building, that customer could include the pro-rated value of his/her solar license in the building sale price.
- Customers could also choose to transfer the remainder of their license to another Escanaba Electric Department customer, including an individual, business, church, school, or a favorite charitable organization, so long as they meet criteria set forth in the Solar Land License & Management Agreement.

If I participate, what is my legal agreement with this program?

Participants will be required to read and accept the terms and conditions of the Solar Land License & Management Agreement as part of their application package to the program.

How does the solar power get to my home or business?

Solar power generated from the community solar garden will go directly onto the Escanaba Electric Department electric grid and participants will be credited against their electric consumption for the electricity production from their portion of the array.

If my solar credit exceeds my monthly energy bill, will the credit be carried over?

Yes, excess solar credits will be carried forward monthly with a 12-month settlement period based on billing cycles for bills produced from July 1 to June 30, the City's Fiscal Year. **The Solar electric energy credit carryover will be zeroed out at the end of each fiscal year for each customer.**

Can customers of utility companies other than the Escanaba Electric Department participate?

No, this program is only available to Escanaba Electric Department electric customers (including Ford River).

If you are uncertain if you are an Escanaba Electric Department electric customer, contact us and we can determine that for you.

DRAFT Comparison of Escanaba and Marquette BL&P Solar Panel Sales Programs

	Marquette BL&P	Escanaba Solar Project
Solar facility size, MW (DC)	0.15	1.16
Individual Solar Panel Size, Watts	315	330
Number of Solar Panels	480	3,510
Cost of Solar Panel & Associated Equipment		
\$ / Panel	574	407
\$ / Watt (DC)	1.82	1.23
With Energy Optimization Rebate		
\$ / Panel	499	-
\$ / Watt (DC)	1.58	-
\$ /kWh credit for solar generation	0.0633 ¹	1/1/2019 – 6/30/2019 .062 7/1/2019 – 6/30/2020 .074 7/1/2020 – 6/30/2021 .072 7/1/2021 – 6/30/2022 .064 7/1/2022 – 6/20/2023 .068 7/1/2023 – 6/30/2024 .070 7/1/2024 and beyond ~ 0.070 expected
Estimated Initial Annual Generation, kWh / Watt (DC) ²	1.21	1.32
Started Generation	September 19, 2017	August 24, 2018

1 Marquette BL&P solar generation billing credit of \$0.0633/kWh is based on the avoided costs (e.g., natural gas fuel cost for the new RICE generators). Their solar panel customer is apparently not being charged for any land lease or Operating & Maintenance costs for the solar system, such as mowing, etc.

2 Estimated initial generation is dependent on the local weather history and project design, such as Inverter efficiency, wire losses, etc.

City of Escanaba

Animated View

Classic View

Feedback

Site Overview

Environmental Footprint

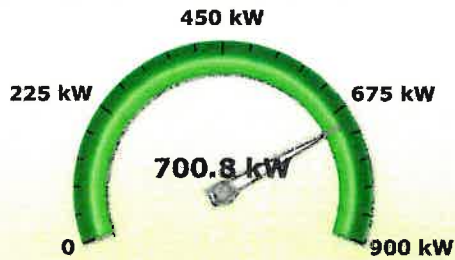
Project Details

Site Analytics

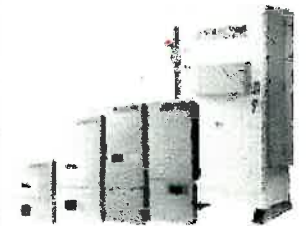
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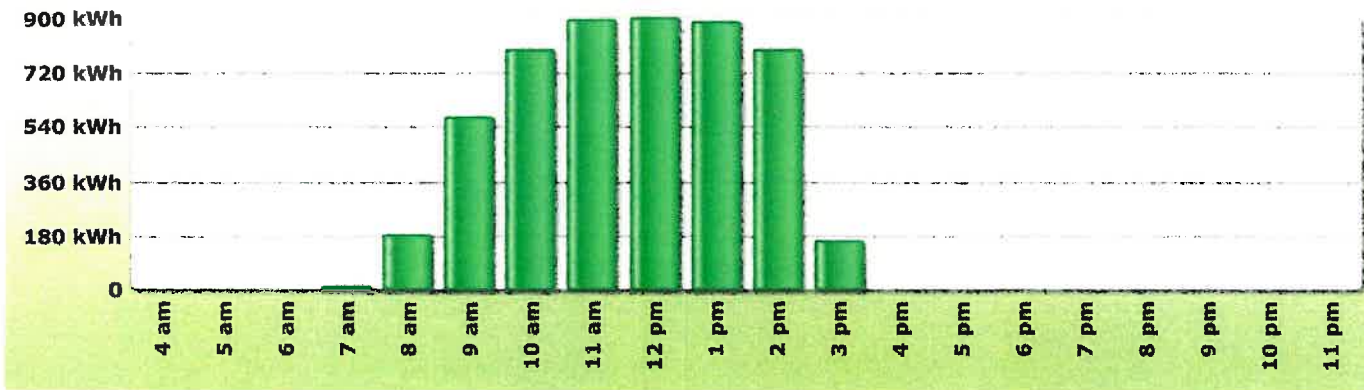
AC Power Now



Lifetime Energy [MWh]



Energy Production Today [5151 kWh] 2018-11-14



City of



The \$407.39 cost per panel is calculated as shown on page 2 of the Solar Project Update handout.

Total Installed Cost including 25 Year Land Lease Cost	\$1,429,946
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\$1,429,946 / 3,510 panels = \$407.39 / panel

The O & M costs are expected to be recovered in the difference in the actual avoided costs and the billing credit, as summarized in the table below.

Fiscal Year	Conservative Billing Credit, \$/kWh	Expected Billing Credit, \$/kWh	Difference in Billing Credit, \$/kWh	Estimated O & M \$/kWh (2)
2018-2019	.062	.062	.000	.002
2019-2020	.074	.078	.005	.002
2020-2021	.072	.078	.006	.005 (1)
2021-2022	.064	.071	.007	.006
2022-2023	.068	.074	.006	.006
2023-2024	.070	.076	.006	.006

(1) O & M – Contract with GRNE ends

(2) Over 25 years, O & M cost estimate sums to \$249,674

By using the Conservative Billing Credit in the contract language for selling the panels, the expected Avoided Costs (the Expected Billing Credit) should cover the O & M cost.

Basically, until we get more operating experience on the solar project, use the Conservative Billing Credit.

For 2024 and beyond, the Billing Credit will be adjusted for O & M costs which experienced. The Table below shows the annual cost impact of a \$0.006/kWh

O & M cost.

% of Solar System Capacity Sold	Number of solar panels sold	Annual Cost of \$.006/kWh of O&M Costs (1)
10	351	916
30	1053	2,747
50	1755	4,578
100	3510	9,156

(1) 1,526 MWh generation assumed

DRAFT 2018-11-13a City of Escanaba

SOLAR LAND LICENSE & MANAGEMENT AGREEMENT

Please fill out the information below.

Customer Name ("**Customer**"):

Utility Account Number:

Service Address ("**Beneficiary Property**"):

Mailing Address:

Telephone:

Email Address:

Number of Requested Solar Energy Panels:

SOLAR LAND LICENSE & MANAGEMENT AGREEMENT

This license and management agreement ("Agreement") is entered into between the City of Escanaba, a Michigan municipal corporation, with offices at 410 Ludington Street, Escanaba, MI 49829; and **Customer**.

The parties agree to the following:

1. Overview. The City of Escanaba wishes to grant an irrevocable license to Customer for use of a portion of certain real property located at **3610 Airport Road**, Escanaba, MI, 49829, and described in **Exhibit A ("Escanaba Solar Project Site")** for the location of a solar panel or panels, owned by Customer on the site of a community scale solar photovoltaic **Escanaba Solar Project (ESP)**, to generate electricity for the benefit of Customer's Beneficiary Property. Customer wishes to **contract with ESP** to manage maintenance, repair, and other related services described herein. **ESP** customers will separately purchase solar panels ("**Customer Solar Property**") from **ESP** on terms and at the price set by **ESP**, and **ESP** and/or its agents and subcontractors will install the panels and related facilities at the site, including a photovoltaic solar power system and all related equipment, apparatus, accessories, works and appurtenances (collectively referred to as the "**Escanaba Solar Project**"). The electrical production from Customer's solar panel(s) will be fed into the City of Escanaba electric grid and **ESP** will issue credits for the electrical production from the Project in accordance with a formula under which credits will be allocated on a pro-rata basis among the customers to offset their electrical use.

2. Qualifying Customer. The purpose of the Escanaba Solar Project is to allow residents and businesses in the City of Escanaba electrical service area, the benefits of owning a solar panel or panels for generating clean renewable solar energy to offset some of the Customer's electric usage by their home or business which may be generated from non-solar sources. Any financial benefit

to the Customer from the Project is limited to the Solar Agreement Credit which will be applied to the Customers bill with the ESP. No other financial benefit will be received by the Customer.

In order to qualify for the program, a Customer must:

- A. Own or lease real property in the City of Escanaba service area with an Electric account in good standing, which property is identified as the Beneficiary Property;
- B. Agree to be subject to the terms of this Agreement; and
- C. Wish to purchase one or more panels in the ESCANABA SOLAR PROJECT to generate electricity, equivalent to or a portion of electricity consumed at that Customer's property address.

3. **License.** City of Escanaba grants a license to Customer for non-exclusive use of a portion of the Escanaba Solar Project Site for the purposes described in this Agreement, in the area designated by ESP and as shown on Exhibit A.

4. **Term.** The license is irrevocable except as provided in this Agreement. The Agreement is effective on the date signed by both parties in 2019, and **shall terminate 25 years later, in 2044**, unless otherwise terminated at an earlier date in accordance with the terms of this Agreement.

For Agreements signed beyond 2019, the Agreement will terminate in 2044, less than 25 years. For example, for agreements signed in 2020, the Agreement will terminate in 24 years in 2044.

5. **Use; Customer Access.** A designated portion of the ESCANABA SOLAR PROJECT Site will be licensed to Customer for the purposes of the project, including installation of solar panel(s) purchased by Customer from the **ESP** and other Customer Solar Property. ESP shall not allow other use of the ESCANABA SOLAR PROJECT Site that would interfere with Customer's license. Customer shall not have the right to enter the ESCANABA SOLAR PROJECT Site except as authorized by **ESP**. The Customer agrees that the Customer shall not remove Customer Solar Property from the ESCANABA SOLAR PROJECT Site for the duration of the Term without prior written approval of the ESP. The Customer may sell or transfer ownership of the Customer Solar Property subject to the terms of this Agreement.

6. **Personal Property.** Each customer's panel will be deemed as Personal Property and assigned an individual number designating its location within the ESCANABA SOLAR PROJECT.

7. **Project Management.** City of Escanaba Electric Department agrees to act as manager and supervisor of the Project, including managing and overseeing, constructing, installing, removing, replacing, reconstructing, maintaining, repairing, and operating a solar array project and the Escanaba Solar Project Facility. These duties include without limitation the following:

7.1 City of Escanaba Electric Department, directly or through other contractors, repairmen, or installers, will cause the construction of and all modifications to the ESCANABA SOLAR PROJECT Facility necessary to operate the Project.

7.2 City of Escanaba Electric Department (and/or their designated service contractors) shall keep and maintain and operate the ESCANABA SOLAR PROJECT Facility now or hereafter located on the Site in good condition and repair, sufficient to keep the ESCANABA SOLAR PROJECT Facility and solar panels in good repair and operating condition. Any other provision of this agreement notwithstanding, "good repair and operating condition" shall not require the ESP to remove any snow from the solar panels.

7.3. City of Escanaba Electric Department will ensure the construction and operation of the Escanaba Solar Project Facility are sufficient to allow solar panels to generate electricity and are in material compliance with all applicable laws, rules, regulations, ordinances, permits, approvals and variances. ESP makes no warranty or guarantee about the amount of electricity that will be generated from the solar panels.

8. Solar Agreement Credit. Customer will receive a credit for the energy allocated to Customer from the Project on Customer's City of Escanaba - Utility Account - Electric billing statement determined in accordance with this section.

8.1 Allocation of energy produced. The energy allocated to the Customer from the Project shall be determined as a fractional share of the total energy produced by the Project. The fraction shall consist of a numerator equal to the number of panels owned by the Customer and the denominator shall be the total number of panels in the Project. This allocation shall be made monthly.

8.2 Value of energy produced. The energy allocated to the Customer from the Escanaba Solar Project shall be credited against the Customer's bill for the Beneficiary Property by multiplying the energy allocation by the Billing Credit as defined below:

Billing Credit per kWh of Solar Generation:

Dates	\$/kWh
1/1/2019 – 6/30/2019	.062
7/1/2019 – 6/30/2020	.074
7/1/2020 – 6/30/2021	.072
7/1/2021 – 6/30/2022	.064
7/1/2022 – 6/20/2023	.068
7/1/2023 – 6/30/2024	.070

7/1/2024 and beyond ~ 0.070 expected. Exact Billing Credit will primarily depend on future purchase contracts for energy and capacity.

Customer acknowledges the Escanaba Electric Department will update and extend the Billing Credit as new future contracts are obtained, and the extended performance history of the Escanaba Solar Project is established. The Billing Credit is Avoided Costs after subtracting Operating and Maintenance Costs for the Escanaba Solar Project.

8.3 Application of Solar Agreement Credit. The Solar Agreement Credit shall be applied against Customer's electric bill at the Beneficiary Property as a separate credit on Customer's regular monthly bill. Charges for billing items other than energy charges shall be paid by Customers as billed by the City of Escanaba on a monthly basis and shall not be eligible for offset by Solar Agreement Credits.

8.4 Excess Solar Agreement Credits. If, in any regular billing month, the Customer's Solar Agreement Credit is greater than the electric charges on Customer's bill for the Beneficiary Property, such excess Solar Agreement Credit may be carried forward over a 12-month settlement period which shall be measured based on billing cycles for bills produced from July 1st to June 30th. During such settlement period, any excess Solar Agreement Credit in a monthly billing cycle shall carry forward to the next monthly billing cycle. At the end of the settlement 12 month period, any remaining Solar Agreement Credit of the Customer shall be zeroed out. Solar Agreement Credits shall have no cash redeemable value

9. Insurance; Taxes; Fees. The City of Escanaba Electric Department shall be responsible for carrying insurance at its expense during the Term sufficient to cover the replacement cost of the solar panel(s) and Escanaba Solar Project Facility, and a Commercial General Liability policy insuring against liability for injury or death of a person or persons or damage to property occasioned by or arising out of or in connection with the Project and use of the Site/Facility or activities thereon.

The City of Escanaba Electric Department shall be responsible for payment of all permitting fees and real estate taxes, fees, and assessments associated with the Project. Individual Customers shall be responsible for all personal property taxes associated with their Customer Solar Property.

10. Payment; RECs; Investment Tax Credit

10.1. Agreement Payments. Customer payments to The City of Escanaba Electric Department for the use of a portion of the Escanaba Solar Project Site and Facility on the terms and condition set forth herein shall be a one-time payment of \$407 per solar panel, to be paid for the Initial Term when Customer purchases the solar panel. This payment includes the cost of all ongoing maintenance, repairs, and related costs for the Term.

10.2. Renewable Energy Credits. By using renewable resources to produce electricity, the Escanaba Solar Project becomes eligible for renewable energy certificates (RECs). A REC is created by every megawatt-hour of electricity generated from the Escanaba Solar Project. The RECs generated from this project belong to the City of Escanaba Electric Department. The economic value of the REC is included in the participant's Billing Credit.

10.3. Investment Tax Credit It is the sole responsibility of the Customer to take any steps necessary to determine Customer's eligibility and claim any tax credit to which Customer may be eligible for costs related to Customers solar panel. Customer has sole responsibility to determine Customer's eligibility for, or claim to, any tax credit or other benefit (other than the Solar Agreement Credit described in this Agreement) which may be available to Customer as a result of ownership of the Customer Solar Property.

10.4. No advice or warranty by the City of Escanaba Electric Department (EED) regarding tax credits or other benefits.

Customer acknowledges and agrees the EED has not provided Customer with any advice regarding any tax credit or other benefit of Customer's ownership of the Customer Solar Property. Further, Customer acknowledges and agrees the EED has no responsibility for demonstrating Customer's eligibility for any tax credit or other benefit of Customer's ownership of the Customer Solar Property.

11. Assignment; Transfer

11.1. Transfer of Beneficiary Property and Customer Solar Property. If the Customer no longer owns or leases the Beneficiary Property, and the Customer sells the Customer Solar Property to the subsequent Beneficiary Property owner or lessee, the Customer may transfer and assign its rights and duties under this Agreement, subject to the terms of this Agreement. The assignee/ transferee must meet all qualifications to become a "Customer" in this Agreement and must sign a new agreement with EED assuming all obligations of the Customer and agreeing to comply with the terms of this Agreement, including application of this section to any future owners or lessees of the Beneficiary Property. The transfer or assignment is not effective until approved by EED in writing, which approval shall not be unreasonably withheld if the Transferee/Assignee meets the requirements in this Agreement. After an effective transfer by the Customer to an approved transferee/assignee, the Customer will thereafter be relieved of all liabilities and obligations pursuant to this Agreement that arise after the transfer date except to the extent that they arise out of the actions of the Customer.

11.2. The City of Escanaba Electric Department (EED) Purchase of Customer Solar Property. Other than when the Customer is transferring ownership of the Customer Solar Property along with ownership or leasing rights to the Beneficiary Property as provided in Section 11.1, the EED shall have the first right of refusal to purchase the Customer Solar Property according to the price listed in the depreciation schedule attached as Exhibit B, which EED may exercise at the following times: (i) at any time during the Term when Customer wishes to sell Customer Solar Property; (ii) at any time during the Term when the Customer notifies EED or EED becomes aware that the Customer no longer owns or leases the Beneficiary Property; OR (iii) effective on the date of the termination of the Term, provided that EED notifies Customer at least 30 and no more than 90 days prior to the termination of the Term that it intends to purchase the Customer Solar Property. Customer shall receive payment for Customer Solar Property within 30 days of EED exercising its right to purchase the Customer Solar Property. The Customer shall have no further right to payments under this Agreement for any solar panel purchased by EED.

11.3. Other Customer Transfer. If a Customer no longer owns or leases the Beneficiary Property, or no longer owns Customer Solar Property, and the Customer's rights under this Agreement have not been transferred according to Section 11.1 or 11.2, then neither Customer nor the Customer's transferees or assignees will be entitled to

any payments under this Agreement and the Customer shall return to EED any funds paid to the Customer from the date the Customer transferred ownership of Customer Solar Property or was no longer an owner or lessee of the Beneficiary Property.

11.4. EED Assignment. EED may transfer or sell the Escanaba Solar Project Site property and may assign rights and obligations under this Agreement to successors in interest without the prior consent of Customer, provided that the transferee/assignee assumes all responsibilities of ESP under this Agreement and the transfer/assignment is subject to the terms of this Agreement.

12. Agreement Termination/Suspension. The parties will have the right to terminate or suspend this Agreement only as provided in this paragraph.

12.1. ESP Suspension. ESP may suspend the Customer's rights under this Agreement to receive solar agreement credits at any time if the Customer no longer owns or leases the Beneficiary Property and/or Customer Solar Property and the Customer has not received approval for a transfer of its rights as provided in Section 11, The Customer shall have no right to receive payments for electricity generated by the solar panel, as credits or otherwise, until or unless the Customer again owns or leases the Beneficiary Property or otherwise receives approval for a transfer pursuant to this Agreement.

12.2. Termination by Either Party. Any party may terminate the Agreement if the other party is in default under the Agreement and fails to take significant steps to substantially cure the default within 30 days of written notice by the other party.

13. Customer Acknowledgments. Customer agrees and acknowledges the following:

13.1. Subject to Customer Agreement. The Customer's use of the Escanaba Solar Project Site is subject to the terms of this agreement and any other agreement made between Customer and ESP.

13.2. No Profit Expectation. Customer acknowledges and agrees that this license is not an investment and the Customer has not been promised or led to expect any profit from the Project. Customer warrants and represents that Customer is entering into this Agreement and purchasing the Customer Solar Property for the Customer's personal benefit and use. Customer's purpose for entering into this Agreement is to generate "clean" electricity for the Customer's consumption and to support and participate in generating greener energy in the City of Escanaba Electric Department service area.

14. Notices. Notices required by this Agreement shall be deemed effective when delivered at the written address provided for each party above; or other contact information provided in writing to the other party.

15. Effective Date. This Agreement shall be effective the date last signed by the parties.

16. Miscellaneous. This Agreement constitutes the entire agreement between the parties with respect to this subject matter and may only be amended in writing signed by the Customer and all parties affected by the amended term. If any provisions of this Agreement are determined to be illegal or unenforceable, then the remaining provisions shall nevertheless be binding with the same force and effect as if the illegal or unenforceable parts were deleted. The parties agree that this Agreement is governed by the laws of Michigan and venue for any dispute arising out of or related to this Agreement shall be proper in Delta County, Michigan. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

The parties agree to the foregoing:

Date: Customer(s) _____

By _____

Date: City of Escanaba, Electric Department

By: _____

Its: **???** _____

EXHIBIT A

Escanaba Solar Project Site Map and Property Description

The Escanaba Solar Project address is 3610 Airport Road, Escanaba, MI 49829.

Part of SW ¼ of the NW ¼ of Section 1 T.38N., R.23W. And Part of SE1/4 of NE1/4 of Section 2 T.38N., R.23W City of Escanaba, Delta County, Michigan.

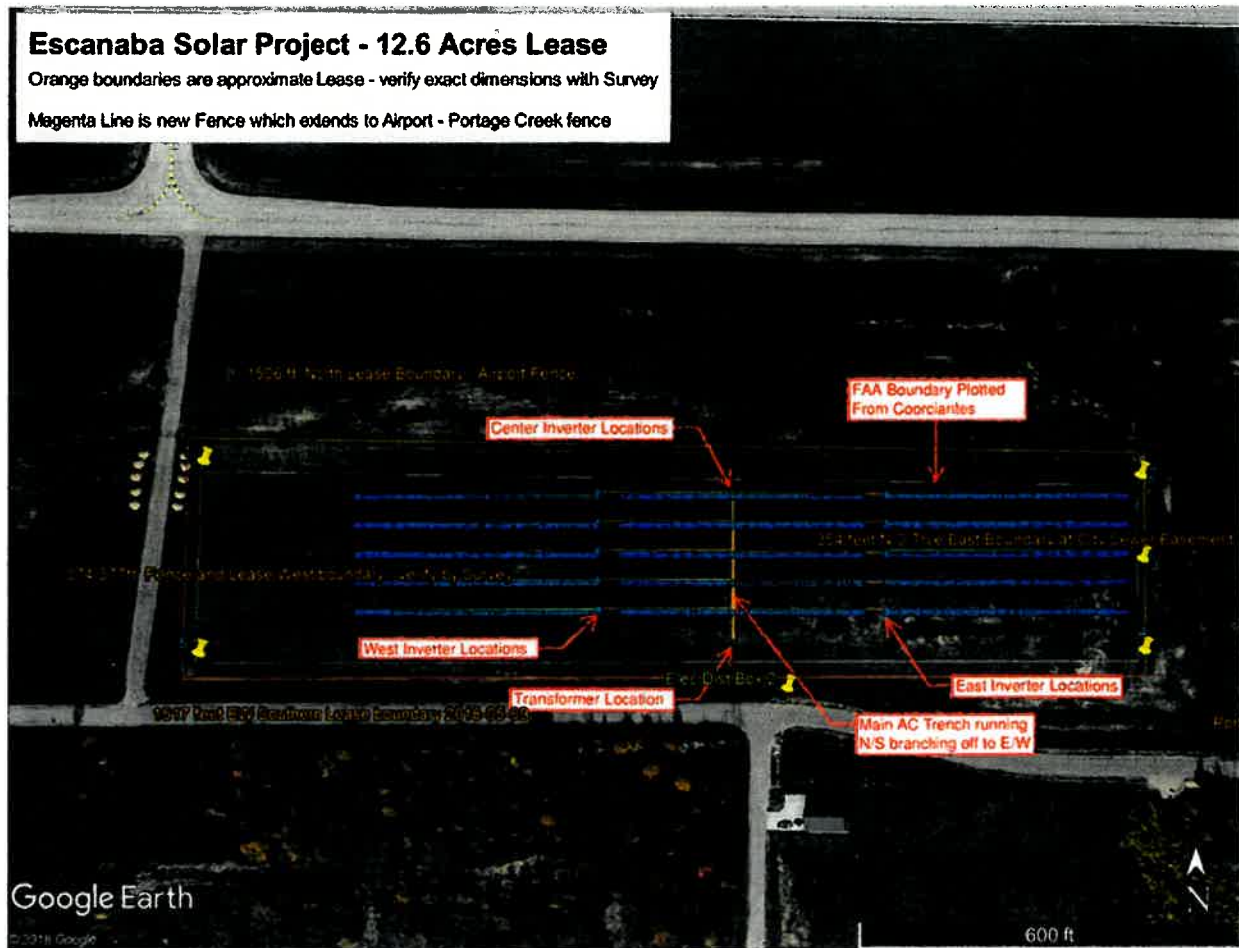


EXHIBIT B
Solar Panel Depreciation Schedule
Method: Straight Line Depreciation

Year #	Year	Beginning Value	Depreciation Expense	Accumulated Depreciation	Ending Value
1	2019	407.00	16.28	16.28	390.72
2	2020	390.72	16.28	32.56	374.44
3	2021	374.44	16.28	48.84	358.16
4	2022	358.16	16.28	65.12	341.88
5	2023	341.88	16.28	81.4	325.60
6	2024	325.60	16.28	97.68	309.32
7	2025	309.32	16.28	113.96	293.04
8	2026	293.04	16.28	130.24	276.76
9	2027	276.76	16.28	146.52	260.48
10	2028	260.48	16.28	162.8	244.20
11	2029	244.20	16.28	179.08	227.92
12	2030	227.92	16.28	195.36	211.64
13	2031	211.64	16.28	211.64	195.36
14	2032	195.36	16.28	227.92	179.08
15	2033	179.08	16.28	244.2	162.80
16	2034	162.80	16.28	260.48	146.52
17	2035	146.52	16.28	276.76	130.24
18	2036	130.24	16.28	293.04	113.96
19	2037	113.96	16.28	309.32	97.68
20	2038	97.68	16.28	325.6	81.40
21	2039	81.40	16.28	341.88	65.12
22	2040	65.12	16.28	358.16	48.84
23	2041	48.84	16.28	374.44	32.56
24	2042	32.56	16.28	390.72	16.28
25	2043	16.28	16.28	407	0.00

DRAFT KEY NEXT STEPS IN ESCANABA SOLAR PROJECT

- **Have City Attorney review and approve solar panel sale contract language.**
- **Work with other City Departments to define and implement Utility Billing system modifications required to provide solar generation credit for Electric billing.**
- **Seek City Council approval for contract language, terms and promotional material for solar panel sales.**
- **Offer solar panels to residents and businesses within the City of Escanaba Electric Distribution Systems.**
- **Define process and timeline for ATC and MISO approval of solar capacity expansion. (e.g., an additional 40% Capacity increase at the Airport site)**

