301 East Main Street
Lowell, Michigan 49331
Phone (616) 897-8457
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CITY OF LOWELL
JOINT MEETING - CITY COUNCIL/LOWELL LIGHT AND POWER
AND PARKS AND RECREATION COMMISSION
ON
MONDAY, AUGUST 4, 2025, 6:00 P.M.
CREEKSIDE PARK PAVILLION
IF INCLEMENT WEATHER – MEETING WILL BE HELD
IN COUNCIL CHAMBERS/LOWELL CITY HALL

1. CALL TO ORDER; ROLL CALL

2. APPROVAL OF THE AGENDA

3. CITIZEN COMMENTS FOR AGENDA ITEMS

   IF YOU WISH TO ADDRESS AN AGENDA ITEM, PUBLIC COMMENT FOR EACH ITEM WILL OCCUR AFTER THE INITIAL INFORMATION IS SHARED ON THE MATTER AND INITIAL DELIBERATIONS BY THE PUBLIC BODY. PUBLIC COMMENT WILL OCCUR BEFORE A VOTE ON THE AGENDA ITEM OCCURS

4. SOLAR PANELS AT CREEKSIDE PARK

5. CITIZEN COMMENT FOR ITEMS NOT ON THE AGENDA

5. COUNCIL COMMENTS

6. ADJOURNMENT

NOTE: Any person who wishes to speak on an item included on the printed meeting agenda may do so. Speakers will be recognized by the Chair, at which time they will be required to state their name and will be allowed five (5) minutes maximum to address the Council.

Countryside ENERGY

MI SOLAR FOR ALL

EGLE

About The MI Solar For All Grant

- $6.5 million in grant funding available for Community Solar projects in MI in 2025, from 2026-29 there will be additional $62 million available.
- No matching funds required.
- 50% or more of value of electricity must go to low-income households, through bill credit or other mechanisms.
- May 30, June 30, and July 30 application reviews. Funding is first-come, first-served.

About Countryside Energy

We are experienced project development professionals who specialize in solar photovoltaic deployments in Michigan, Ohio, and Pennsylvania.

We provide turnkey solutions for grant-funded projects, including application preparation, project design, installation, and on-going operational support. All services included in up-front project pricing.

Sarah McCuish Director of Development
sarah@countryside-energy.com
313.608.2034

Option A – System Layout

Design & Location

- Adequate flat ground for a ground mounted array.
- Economical installation providing the most energy to the community per dollar invested.
- Need to confirm soil type is adequate for ground mount solar racking.
- 30 degree south fixed tilt ground-mount solar array optimizes energy production.
- 15-foot row spacing to allow easy access for mowing and trimming.
- Proximity to water treatment plant load to allow for easier interconnection.
- Minor tree removal and grading may be required, included in quoted cost.

Equipment and Warranty

Modules – VSUN 550W
30-year energy production warranty, 12 years parts and workmanship

Inverters – Tigo 11.4 KW
12-year warranty

Labor and Installation Warranty
10 years

Example Ground Mount

Countryside ENERGY

Lowell Light & Power

Option B: Stony Lakeside Park

187 kW Solar Photovoltaic Array

PRODUCTION:
223,188 kWh per year

EQUIPMENT:
(340) Tier 1 550 W ground-mounted modules
(14) 11.4 kW three-phase grid tie inverters

System Cost	
Cash Price Range*	$748,000 - $935,000
Solar For All Grant	$673,200 - $841,500
LL&P Contribution (optional**)	$74,800 - $93,500
Net Cost	**$74,800 - $93,500**

*Range can be narrowed through additional scope discussions and review before grant submittal.
**Funds matching is not required for this grant. Applications with matching funds will receive up to five additional points. 10% is a suggestion; LL&P can choose to eliminate, increase or decrease the proposed amount.

Option B – System Layout

Design & Location

- 10-degree southeast-facing solar canopies, installed at 134-degree azimuth.
- More visible to the community, adds shade/weather protection amenity for park visitors.
- Center beam mounted canopies covering 52 parking spaces.
- Cost includes work directly associated with canopy and underground wiring; complete resurface and restripe of lot not included.
- More costly due to canopy steel structure, foundation work, parking lot repair, and engineering requirements.
- Canopy cost can vary more due to steel price volatility.

Equipment and Warranty

Modules – VSUN 550W
30-year energy production warranty, 12 years parts and workmanship

Inverters – Tigo 11.4 KW
12-year warranty

Labor and Installation Warranty
10 years

Example Canopy

Incentives Summary

MI Solar For All – 90% project cost coverage

Proposal Authorization & Disclosure

This proposal indicates the signatory's intent to proceed with the project and is nonbinding. If Lowell Light & Power receives its MI Solar For All grant through the State of Michigan, a contract will be executed between Countryside Energy and Hillsdale Board of Public Utilities.

This is a budgetary cost proposal; the final proposal and contract will have confirmed costs following a site walk and detailed scope delineation review with Lowell Light & Power.

In the event the grant is not awarded, there will be no charge for Countryside Energy's work completed to date. Authorizing this proposal allows Countryside Energy to allocate resources to the grant application.

Name

Title

Signature

Date

EI Inverter

TSI-3.8/7.6/11.4K-US

The hybrid Tigo EI Inverter is the centerpiece of the Tigo Energy Intelligence (EI) solution. It orchestrates energy production and consumption when coupled with a Tigo EI Battery. In addition, it enables module-level monitoring, optimization, and rapid shutdown when paired with Tigo TS4 MLPE.

Features

- Up to 200% DC oversizing (2:1 DC/AC ratio)
- 80 V starting voltage
- Multiple MPPTs (2, 3, and 4)
- Powered by the Tigo Energy Intelligence platform
- NEC 690.12 rapid shutdown compliant
- Built-in Wi-Fi
- Cellular communications for data backup (optional)
- 152 month standard warranty
- Lightweight (32/45 lb.)
- <10 min. commissioning (including Tigo TS4s) with EI mobile app

Specifications

	3.8K[1]	7.6K	11.4K
Input (PV)			
Max. recommended power (STC)	7600 W	15200 W	22800 W
Max. DC system voltage		600 V	
MPPT voltage range		80 V ~ 550 V[2]	
Full-load voltage range	150 V~500 V	200 V~500 V	220 V~500 V
MPPT	2	3	4
PV strings per MPPT		2	
Max. input current per MPPT (I_{MP}/I_{SC})		13.5 A/16.9 A	
Battery (DC)			
Nominal DC voltage		400 V	
I/O DC current	Up to 11.1 A	Up to 21.7 A	Up to 32.5 A[3]
I/O DC power	4000 W	7800 W	11700 W[4]
Output (AC)			
Nominal power @208V/240 V	3290 W/ 3800 W	6580 W/ 7600 W	9880 W/ 11400 W
Max. apparent power	3800 VA	7600 VA	11400 VA
Nominal voltage		208 V/240 V	
Grid frequency		50/60 Hz	
Max. output current	16 A	32 A	48 A
Power factor (@nominal power)		>0.99	
Adjustable power factor		0.8 leading ~ 0.8 lagging	
THDI		<3%	
Grid connection type		L1/L2/N/PE	

[1] Not available in Puerto Rico
[2] Inverter will remain on standby above 550 V.
[3] Only compatible with GO Battery. With EI Battery, the limit is 10,300 W.

tigoenergy.com

Specifications

	3.8K[1]	7.6K	11.4K
Output (Backup)			
AC nominal power	3800 W	7600 W	11400 W
Max. AC power output	6000 VA[4]	12000 VA[4]	18000 VA[4]
Nominal AC voltage		240 V	
Max. output current	25 A[5]	50 A[5]	75 A[5]
THD		2% linear load ~ 5% non-linear load	
Efficiency			
Max. efficiency	98.0%	98.4%	98.5%
CEC efficiency @240 V/@208 V	97.0 %/ 97.0%	97.5%/ 97.0%	98.0%/ 97.5%
Protection			
DC reverse polarity		Yes	
DC disconnect switch		Yes	
DC surge		Type II	
Insulation resistance monitoring		Yes	
AC surge		Type III	
AC short-circuit		Yes	
Ground fault monitoring		Yes	
Grid monitoring		Yes	
Anti-islanding		Yes	
Residual-current monitoring unit		Yes	
AFCI Protection		Yes	
PVRSS rapid shutdown		with TS4-A-F/2F, TS4-A-O/S	
Module-level monitoring		with TS4-A-O/M/S	

[4] Only compatible with GO Battery with duration of 300 ms.
EI Battery: 4560 VA (3.8K), 9120 VA (7.6K), 13600 VA (11.4K)
[5] Only compatible with GO Battery with duration of 300 ms.
EI Battery: 19 A (3.8K), 38 A (7.6K), 56.7 A (11.4K)

	3.8K[1]	7.6K	11.4K
General			
Dimensions (W x D x H)	400 x 170 x 570 mm (15.8 x 7 x 22 in.)		400 x 187 x 638 mm (15.8 x 7.4 x 25.2 in.)
Weight	14.7 kg (32.3 lb.)		20.5 kg (45.2 lb.)
Operating temperature range	-25 °C ~ 60 °C (-13 °F ~ 140 °F) de-rating above 45 °C/113 °F		
Altitude	3000 m (9843 ft.)		
Internal consumption at night	<1 W PV/<5 W storage		
Cooling	Natural convection		
Enclosure	NEMA 4X/IP65		
Relative humidity	0~95%		
Certifications	FCC Part15B, UL1741:2021 Ed.3, UL1741:2021 Ed.3 (PVRSS) (SA) (SB), CSA 22.2-107.1:2016,UL1741 CRD: PCS, UL1699B, IEEE 1547:2018, IEEE 1547.1:2020, HECO-SRD1547.1:2020 Ed.2		
Listings	CA-CEC, CA Rule21 CSIP, CA CPUC-SGIP, Hawaii Rule 14H, Rule 22, Rule 27 and Rule 32,Puerto Rico-OGPe		
Interfaces			
RS-485	Yes		
Wi-Fi/4G communication	Wi-Fi standard, 4G optional		
Warranty	152 months		
Revenue-grade meter	ANSI C12.20 (meets 0.5% accuracy)		

Resources

Home | Downloads | Help Center | Green Glove

Ordering Information

Part Number	Description
601-2103K8-0002[1]	3.8kW hybrid inverter, built-in Wi-Fi. Compatible with 50A ATS
601-2107K6-0002	7.6kW hybrid inverter, built-in Wi-Fi. Compatible with 50A ATS
601-2107K6-0003	7.6kW hybrid inverter, built-in Wi-Fi. Compatible with 200A ATS
601-2111K4-0003	11.4kW hybrid inverter, built-in Wi-Fi. Compatible with 200A ATS
301-300000-0001	Cellular Dongle Kit with 5 year prepaid plan

[1] Not available in Puerto Rico.

VSUN
Innovative & Smart

VSUN550-144BMH-DG

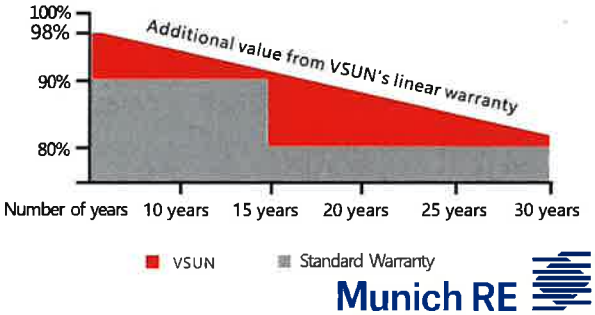
VSUN550-144BMH-DG VSUN545-144BMH-DG
VSUN540-144BMH-DG VSUN535-144BMH-DG

550W
Highest power output

21.29%
Module efficiency

12years
Material & Workmanship warranty

30years
Linear power output warranty



- MBB technology with Circular Ribbon
- Higher output power
- Half-cell Technology
- Positive tolerance offer
- Non-destective cutting
- Up to 30% extra power generation yield from the back side
- Certified for salt/ammonia corrosion resistance
- Load certificates: wind to 2400Pa and snow to 5400Pa
- Lower LCOE

VSUN, a BNEF Tier-1 PV module manufacturer invested by Fuji Solar, has been committed to providing greener, cleaner and more intelligent renewable energy solutions. VSUN is dedicated to bringing reliable, customized and high-efficient products into various markets and customers worldwide

Engineered in Japan
www.vsun-solar.com

Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN550-144BMH-DG	VSUN545-144BMH-DG	VSUN540-144BMH-DG	VSUN535-144BMH-DG
Maximum Power - Pmax (W)	550	545	540	535
Open Circuit Voltage - Voc (V)	49.92	49.81	49.65	49.5
Short Circuit Current - Isc (A)	13.99	13.92	13.85	13.78
Maximum Power Voltage - Vmpp (V)	42	41.8	41.65	41.5
Maximum Power Current - Impp (A)	13.1	13.04	12.97	12.9
Module Efficiency	21.29%	21.10%	20.90%	20.71%

Standard Test Conditions (STC): irradiance 1,000 W/m²; AM 1,5; module temperature 25°C. Pmax Sorting : 0~5W. Measuring Tolerance: ±3%.
Remark: Electrical data do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

Electrical Characteristics with different rear side power gain(reference to 545 front)

Pmax (W)	Voc (V)	Isc (A)	Vmpp (V)	Impp (A)	Pmax gain
575	49.76	14.69	41.80	13.76	5%
602	49.76	15.39	41.80	14.41	10%
656	49.81	16.79	41.75	15.72	20%
684	49.81	17.49	41.75	16.38	25%

Temperature Characteristics

NOCT	45°C(±2°C)
Voltage Temperature Coefficient	-0.27%/°C
Current Temperature Coefficient	+0.048%/°C
Power Temperature Coefficient	-0.32%/°C

Maximum Ratings

Maximum System Voltage [V]	1500
Series Fuse Rating [A]	30
Bifaciality	70%±5%

Material Characteristics

Dimensions	2278×1134×35mm (L×W×H)
Weight	32.7kg
Frame	Silver anodized aluminum profile
Front Glass	AR-coating Semi-toughened glass, 2.0mm
Cell Encapsulation	EVA or POE
Back Glass	Glazed & Semi-toughened glass, 2.0mm
Cells	12×12 pieces bifacial monocrystalline solar cells series strings
Junction Box	IP68, 3 diodes
Cable&Connector	Potrait: 500 mm (cable length can be customized) , 1×4 mm 2 , compatible with MC4

Packaging

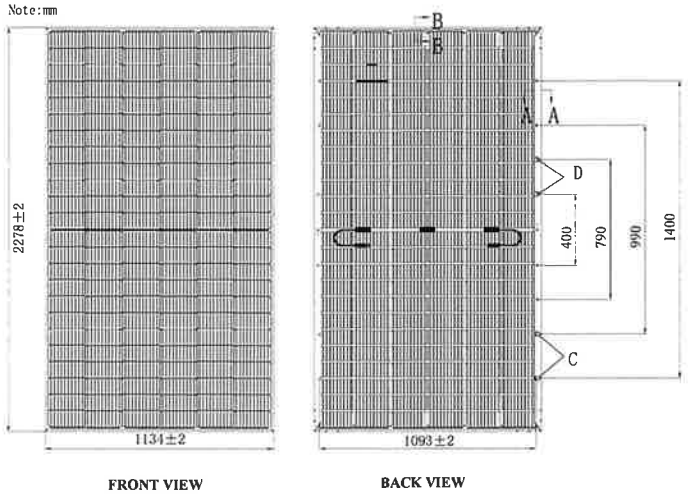
Dimensions(L×W×H)	2310×1125×1253mm
Container 20'	150
Container 40'	300
Container 40'HC	600 or 540 (only for US)

System Design

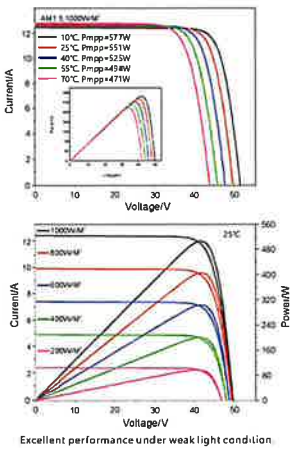
Temperature Range	-40 °C to + 85 °C
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s
Maximum Surface Load	5,400 Pa
Application class	class A

Note:mm

Dimensions



IV-Curves



Excellent performance under weak light condition

Revision date: 2022-08-01

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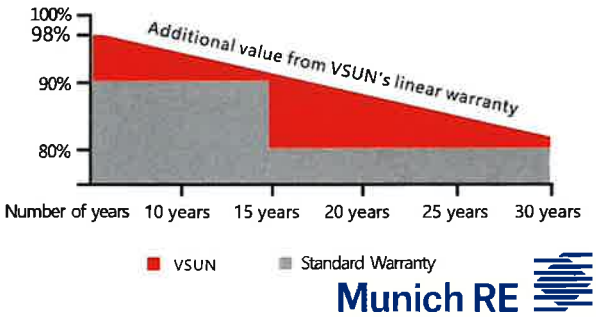

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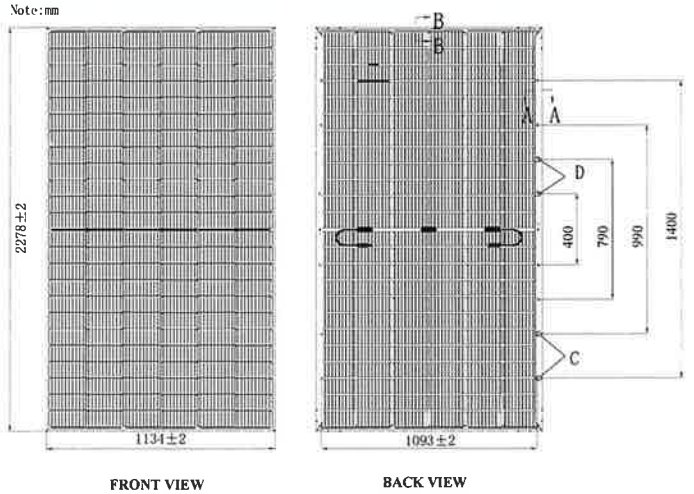

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