

# Itasca Clean Energy Solar Plus Battery Storage Facility

## Solar Array

- 2 MW photovoltaic solar array.
- 6,742 individual 3'x8' panels, half Jinko modules and half bi-facial Heliene modules.
- Single-axis tracking, follows the sun east to west throughout the day.
- DC power produced is converted to AC power for the grid.
- Began generating power in April 2022.
- Anticipated 25-year lifespan.



## Battery Energy Storage System

- 1 MW-2.5 hour Ziegler Cat lithium ion battery.
- Began operating in October 2022.
- Operated by a comprehensive multi-variable load-management model.
- The solar array charges the battery when the model predicts an upcoming electric demand peak.
- The battery is discharged during the peaks to reduce the wholesale power need.



## Ownership

- The City of Grand Rapids owns the 15 acres of property.
- US Solar constructed and owns the solar array and battery, and provides the maintenance on them.
- Minnesota Power developed and operates the battery energy storage system load management model.
- Grand Rapids Public Utilities contracts to receive the solar and battery benefits.

## Frequently Asked Questions

- **Why was this location chosen?** The property is city-owned and within the GPZ airport zone B which has development restrictions so the project doesn't compete with economic development.
- **Does the solar array put power back on the grid when it's producing?** Yes, the solar power flows directly into the grid unless it is being used to charge the battery.
- **How much energy does a typical household use?** 886 kWh per month.
- **How much energy does the solar array produce?** To date, it has ranged from 63 MWh to 553 MWh per month.
- **Can the battery be charged off the power grid?** Not yet, the battery may only be charged using the solar array and cannot be charged from the grid until the investment tax credits have been realized.
- **Does the solar array generate power when it's covered with snow?** Yes, the Heliene bi-facial panels also generate from the under side of the panels.



*Grand Rapids Public Utilities Commission (GRPU) is a municipal utility established by the City of Grand Rapids, Minnesota. Utilities under the jurisdiction of the GRPU include electric distribution, water treatment and distribution, and wastewater collection and treatment.*

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