



Intro to the Sesame Solar Unit

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Objectives



- Introduce Ann Arbor's Sesame Solar Unit.
- Outline the actions staff have taken so far.
- Review potential use cases for the unit.
- Provide an outlook for 2026 and address questions.

Ann Arbor's Mobile Unit



- Mobile nanogrid capable of operating independently from the grid using 100% renewable energy.
- Utilizes a solar array, solar storage, and a hydrogen fuel cell system.
- Funded by the Community Climate Action Mileage funds.



Ann Arbor's Mobile Unit (cont.)

- The unit requires a commercial driver's license for transport.
- Battery life varies depending on usage and context.
- Support and maintenance are provided by Sesame Solar, based in Jackson, MI.

TECHNICAL SPECIFICATIONS

Model No	NT_H_53
Solar Array Power	8 kW
Total Battery Storage	52.8 kWh
Inverter Rating – 110/220 VAC	15 kW
Electrolyzer	500 NL/h
Fuel Cell	4 kW
H2 Storage	2.4 Kg
G.V.W.R	~14000 Lbs.
Exterior Dimensions (Fully Closed System) (LxW)	30 Ft x 8.5 Ft
Exterior Dimensions (Fully Open System) (LxW)	~22 Ft x 42.5 FT
Nanogrid Height	~8 Ft
Form Factor	Tri Axle Trailer
Standard Shipping	Tow using a Truck
Installation	Fully configured < 15 minutes

Timeline



- **March 2024:** Council approves purchase of the Unit
 - Supply chain disruption delays manufacturing process
- **June 2025:** OSI staff receives unit
- **June – September 2025:** Internal training, engagement, and safety
- **September 2025:** Green Fair debut, newsletter spotlight, and naming contest



Photo Walkthrough: Exterior (cont.)



Hydraulic Panels



Photo Walkthrough: Exterior (cont.)

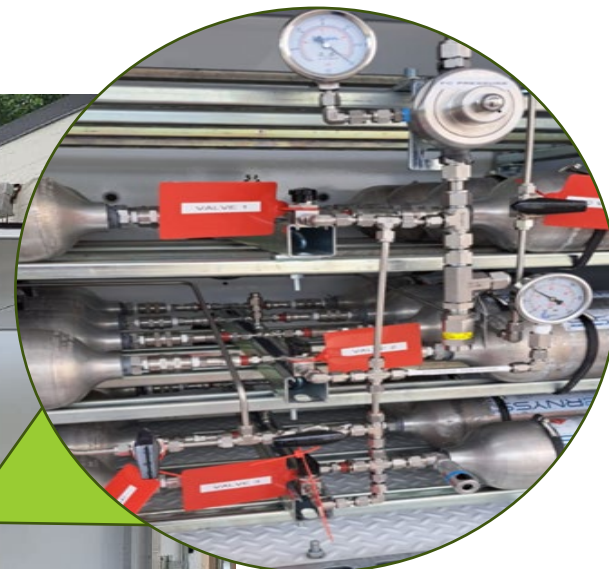
Solar Panels



Photo Walkthrough: Exterior (cont.)



Auxiliary Components



Hydrogen Storage



Photo Walkthrough: Exterior



Mini-split for heating and cooling

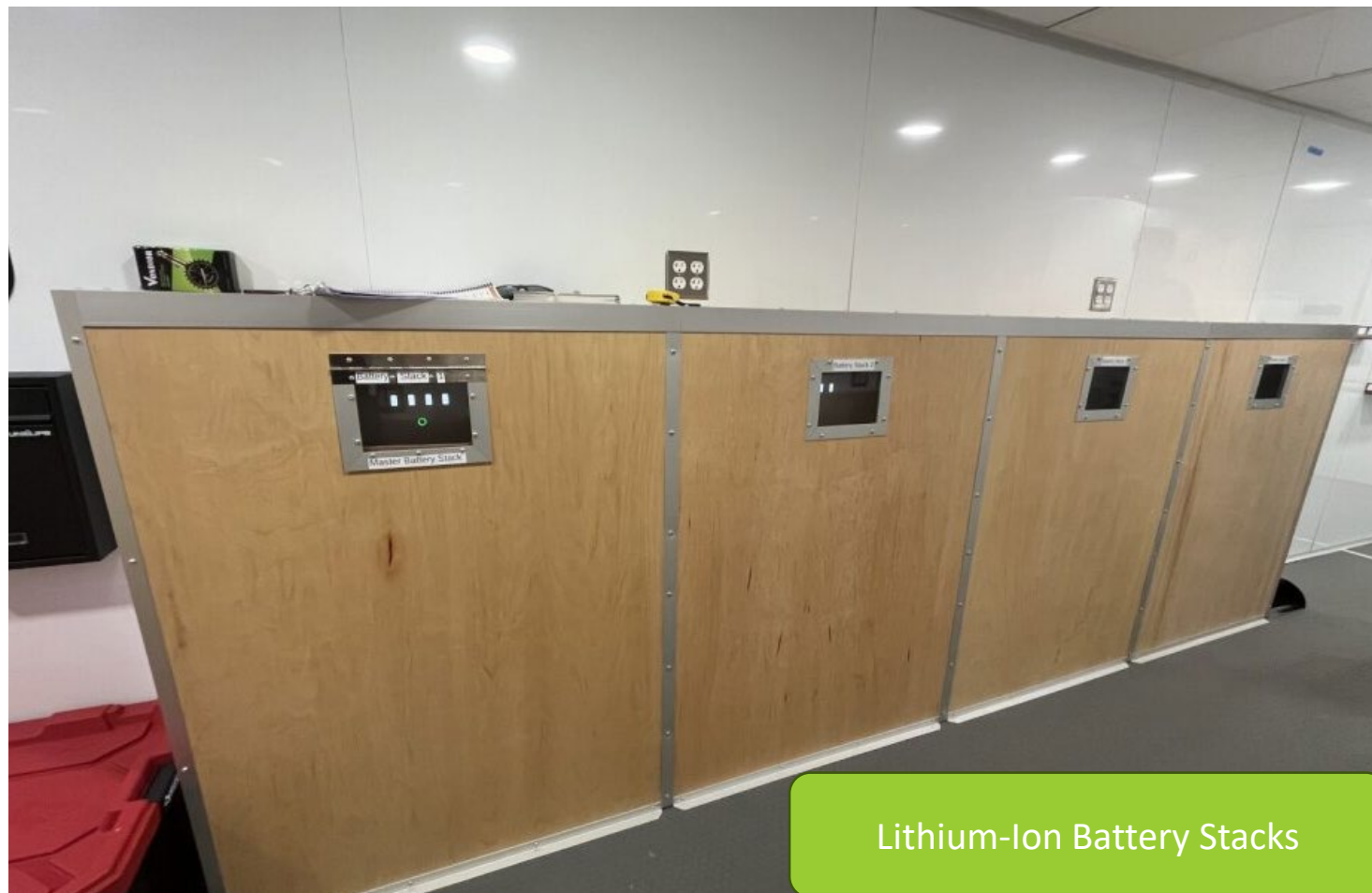
Photo Walkthrough: Interior



Hydrogen Cabinet



Photo Walkthrough: Interior (cont.)



Lithium-Ion Battery Stacks



Control and Power Panels

Photo Walkthrough: Components



Refrigerator



Atmospheric Water Generator



Hydrogen Leak Detector



Portable Power Station

Anticipated use cases



1. Living learning lab



TITLE

2. Community Decarbonization Tool



3. Disruption Response



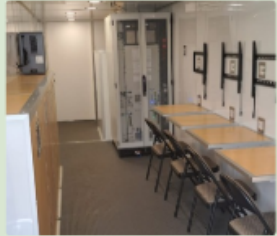
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Disruption Response



- Use case that will require time to determine its efficacy
 - Support critical care services at Ann Arbor Resilience Hubs

Living learning lab



SESAME SOLAR UNIT ENGAGEMENT GUIDE

A framework for OSI
staff to effectively
implement the SEE
framework into
Sesame
programming

reDirect



August 2025

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Supportive Environments for
Effectiveness (SEE) Model

- The primary use case for The Unit and staff focus is deep engagement.
- Integrate our community into A²ZERO.

Community Decarbonization



- Utilizing The Unit to support important community events
- Enhance engagement
- Provide renewable energy for events' power needs

Planning for 2026



- **Residencies** – Hosting The Unit at community-centered partner locations to be able to activate in place and utilize The Unit's engagement potential
- **Key community sustainability events**
 - Earth Day
 - A²ZERO Week
 - Local Food Fest

A LIVING LEARNING LAB GET TO KNOW THE SOLAR MOBILE NANOGRID UNIT



The Sesame Solar Unit can operate independently on renewable energy that can be used to support community engagement."

FUTURE RESILIENCE USES

While the early focus of the Unit will be on engagement, OSI will work in conjunction with the Ann Arbor Fire Department and the Office of Emergency Management to determine how the Unit can best be strategically deployed during disruptions and extreme weather events.

This will include piloting its capabilities during simulated or real power outages to understand its effectiveness in

power source, OSI can help ensure that vital programs continue, even when the grid goes down. Ultimately, this work will help our community develop a blueprint for how mobile clean-energy units can not only educate and inspire local climate action but also serve as a key support system during emergencies, keeping Ann Arbor residents connected, supported, and safe.



THANK YOU

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