

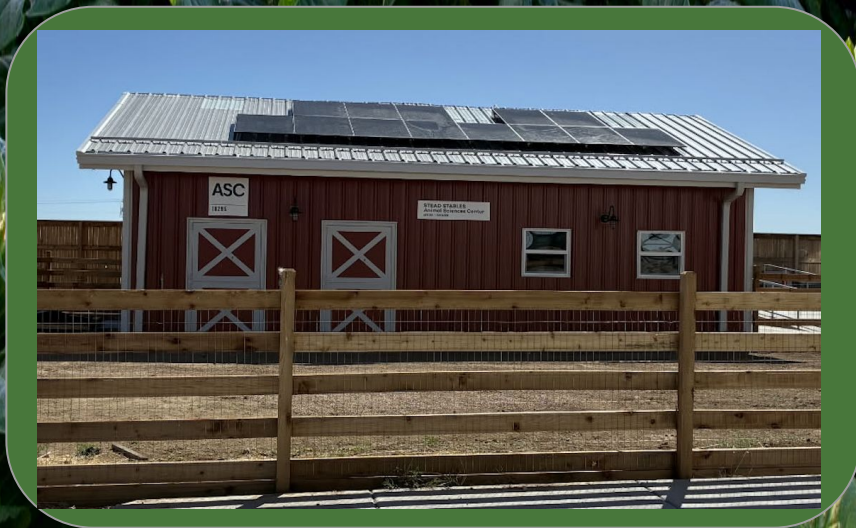


L.C. Fulenwider Campus

MicroGrid Resilience Hub Discussion

Town of Erie Sustainability Advisory Board

July 1st, 2026





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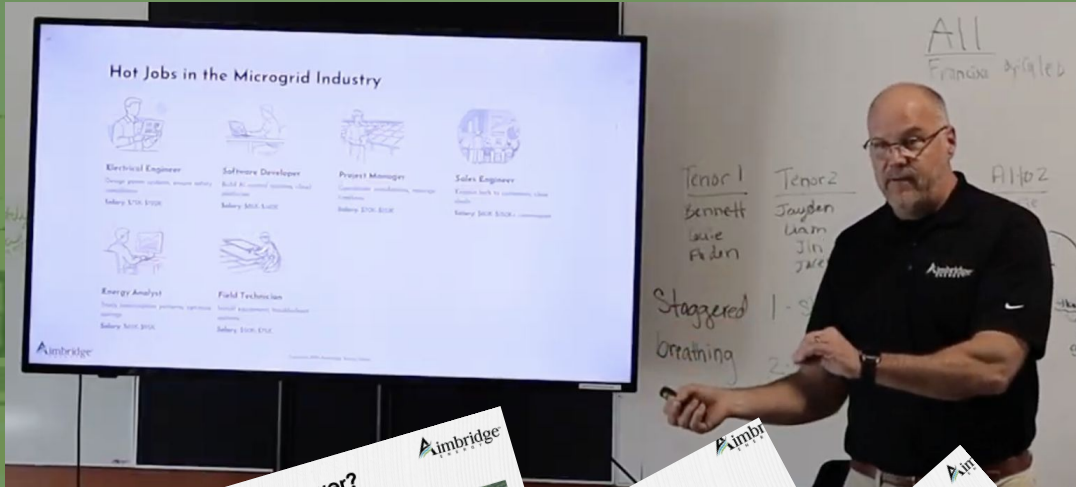


David Lindsey
Aimbridge Energy
President/COO

Project Details

- STEAD–Aimbridge partnership powers campus microgrid(s)
- Renewable energy for Animal Sciences Center, outdoor classroom, future agrivoltaics and entire building for resilience hub
- Students learn alongside engineers and professionals
- Hands-on training in systems and circuits
- Real-time energy monitoring and analysis
- Living lab and training for careers and innovation
- Advancing STEAD as a Resilience Hub





SOLAR MICROGRID



What is it?

A solar microgrid is a local energy system that uses solar panels, batteries, and a system controller to power a building independently. This barn operates off-grid, producing and storing electricity on-site for daily agricultural use safely and reliably.



11.3 kW SOLAR ARRAY
26 panels collect sunlight to power the barn.



8 kW POWER OUTPUT
Maximum usable power available for building loads.



28.6 kWh BATTERY STORAGE
Stored energy supports night use and cloudy weather.

14,000 kWh PER YEAR

This system is expected to generate about 14,000 kWh of electricity each year, enough to support this building's electrical loads without utility grid power during normal operations.

Why is it important?

Reliable electricity helps protect animals and students by keeping ventilation, exhaust fans, circulation fans, lighting, outlets, equipment, and heating blowers available. Consistent airflow helps reduce ammonia and carbon dioxide buildup, supporting healthier indoor conditions during changing weather, animal activity, and daily operations.



What is the impact of solar microgrids on agriculture?

Solar microgrids help farms operate independently, keep critical systems running, reduce grid dependence, and show students how clean energy supports modern agriculture practices.



Local solar, battery storage, and backup energy work together on-site daily.

Careers in Solar Microgrids

Examples of positions for students interested in solar, construction, and agricultural energy systems.

- Electrician
- Solar Installer
- Solar Designer
- Electrical Engineer
- Agricultural Engineer
- Energy Systems Technician
- Battery Storage Technician
- Microgrid Controls Specialist
- Construction Project Manager
- Building Automation Technician
- Operations and Maintenance Technician
- PV System Inspector
- Electrical Estimator
- Energy Data Analyst
- Renewable Energy Consultant



100% OFF-GRID ELECTRICAL SYSTEM

14,000 kWh PER YEAR

POWERED BY **imbridge ENERGY**

What Does a Microgrid Power?

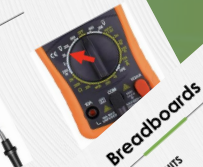
- Loads are the things that use electricity
- Microgrids are designed to power specific loads **inside their boundaries**
- **Different Types of Loads Exist**
 - Indoor building systems and outdoor agricultural equipment can have different power needs
- **Microgrids are Flexible**
 - They can be designed to power many different types of loads
- **Microgrids can also connect to Each Other**
 - This allows power to be shared between systems



Digital Multimeter (DMM)

A DMM or Meter LETS US SEE WHAT ELECTRICITY IS DOING

- Voltage is measured **across**
 - **Red Probe is Positive**
 - **Black Probe is Negative**
 - Measured in Volts (V)
 - Turn the dial to voltage
- Resistance is measured **across**
 - Polarity doesn't matter
 - Always measure with power off
 - Read in Ohms (Ω)
 - No resistance



Breadboards

- **BREADBOARDS LET US EASILY BUILD CIRCUITS**
 - They are **reusable**
 - Wires and components **plug into the holes**
 - Behind the holes are **power rails** that connect holes together
 - The top and bottom are **power rails** (marked + and -)
 - **Red rows are connected together**



- All Points North Foundation
- State level funding for microgrids
- Federal funding for resilience hubs
 - HB 26-1051, Continue Microgrid Community Resilience Grant Program
 - As yet unfunded
- Collaborative grant proposals—work-based learning endeavors, municipalities, school districts





TOWN OF ERIE

RESILIENCE
ACTION
PLAN

My advocacy: Erie Community Center as a holistic resilience hub, with microgrid(s) and local farm food access.