

ModZe

MODULAR ZERO-ENERGY DWELLINGS

Introducing

Project Aurora

Empowering The Unhoused & Underserved

Vision: Collaborate with the City of LA and the LADWP to install the first of many semi-permanent transitional homeless villages and ultra-affordable permanent housing communities in LA and throughout SoCal



The Urgent Challenge: Homelessness Is In a State Of Emergency

Homelessness State Of Emergency Declaration In L.A. Confirmed By Board Of Supervisors; Mayor Bass Promises An “Urgent & Strategic Approach”

The world is now in the midst of a climate, energy, and housing crisis. There were over 580,000 people experiencing homelessness in the U.S. in 2022. According to the National Alliance to End Homelessness 400,000 were individuals and 175,000 were individuals in families with children. Nearly 70,000 homeless in LA County alone.

Introducing ModZe – Affordable Modular Zero-Energy Dwellings

People with a Passion for Helping Others Most in Need

Three socially minded California-based companies, NetZero Energy Systems, Foldum and Advanced Building Systems recently established the ModZe JV with the lofty goal to provide truly affordable, on or off-grid powered, homeless shelters and very affordable homes.

The group is working to transition from a shelter output capacity of 2 dwellings per day to start building a state-of-the-art automated shelter and affordable modular home manufacturing facility in CA with 10X+ the ADU and affordable modular home unit output capability for up to 400 units per month in 2 years.



RAAD off-grid, HUBe powered, semi-permanent homeless/disaster emergency shelter showcased @ LaKretz Innovation Campus/Los Angeles Cleantech Incubator (LACI)



Introducing RAAD™

**Rapid-install, Affordable,
Autonomous, Dwelling.**

RAAD dwellings are ideal for those MOST in NEED:

- Unhoused
- Disaster Relief
- FEMA
- DOD
- First Responders



Foldable Tiny Homes Powered by Solar to Help House Homeless Population Throughout the State

PUBLISHED Mar. 28, 2023 By Renee Eng Spectrum 1 TV Los Angeles



LOS ANGELES — Gov. Gavin Newsom recently announced plans to deploy 1,200 tiny homes to four cities throughout the state to help house the large homeless population, which numbered at least 170,000 last year according to federal data. The state will spend about \$30 million to build the homes which will go to Los Angeles, San Diego, San Jose and Sacramento.

One of the housing companies involved in the effort is **Foldum-NetZero Energy Systems**, which says their new semi-permanent tiny homes are equipped with beds, a kitchenette and full bathroom and can provide much needed housing for the homeless with more amenities than a tent or pallet shelter.

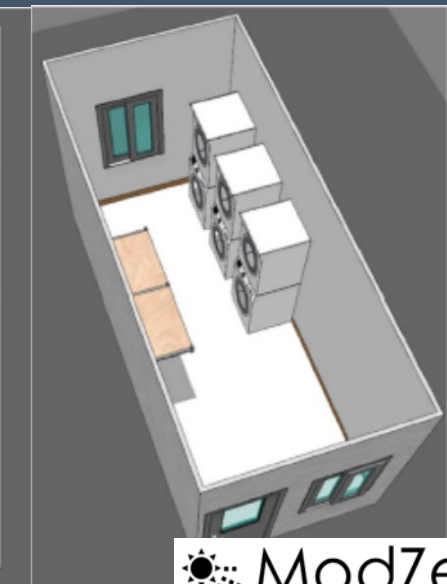
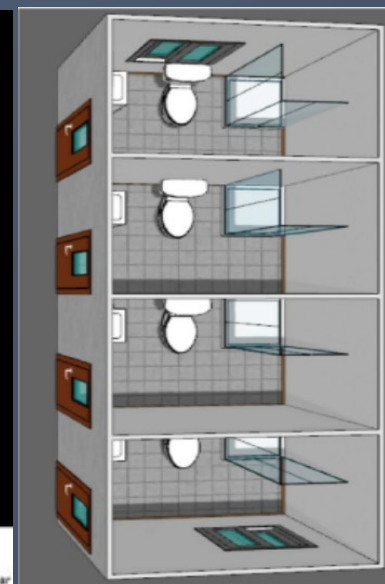
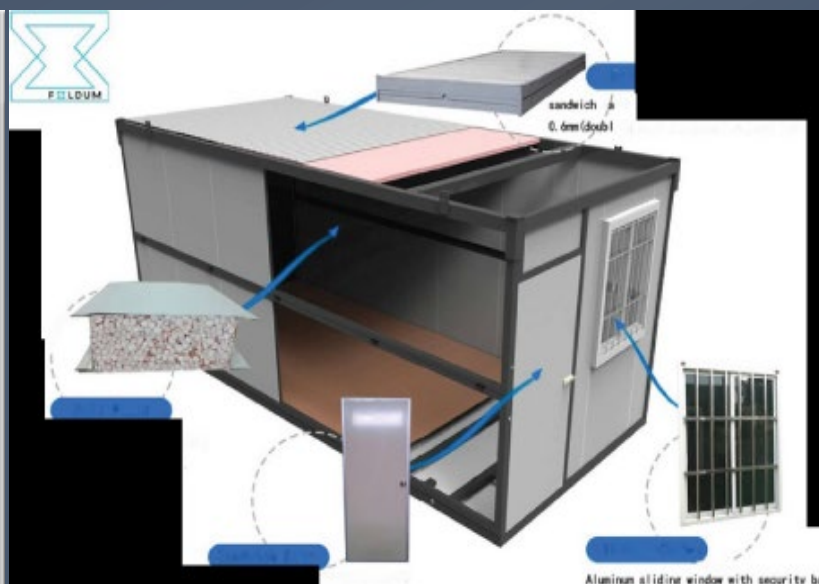
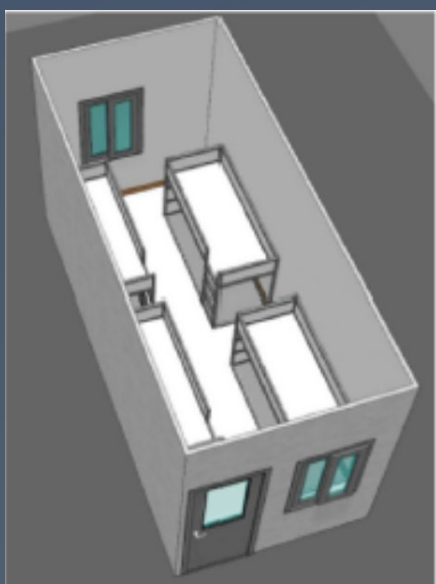
The units, which cost from \$25,000 to \$65,000, are self-powered with renewable clean energy from solar panels and a battery storage system and can operate off the grid. The tiny homes can also easily fold-up for transport.

[Foldable tiny homes powered by solar to help house homeless \(spectrumnews1.com\)](https://www.spectrumnews1.com)

Project Aurora Phase I: Deploy RAAD Homeless Shelters with Multiple Layout Options Very Quickly



- RAAD units are 8' x 19.5' with 8' height ceilings
- Power via grid/solar+batteries (generator optional)
- 156sf or (2) 78sf living space(s) with door/window
- Private bathroom/shower/kitchen/(1-4) bed options
- Units range from \$25,000 to \$65,000
- Structure placed on grade, blocks, jacks or concrete



HUBe

A Best-in-Class SOLAR+STORAGE MICROGRID PLATFORM SOLUTION

Designed and built to deliver homeowners, businesses and utilities an all-in-one “best-in-class” safe and cost-effective NextGen smart grid utility interactive, on or off grid Distributed Energy Resource (DER) solution platform with scalable solarPV, battery energy storage, V2G EV charging and microgrid energy management control systems.



LKIC HUBe/RAAD Showcase System

HUBe system applications:

- Advanced Micro Grid and Hybrid Systems
- Remote Villages and Properties
- Lighting and Communications
- Residential and Small Commercial
- Grid Services- Resiliency and Stabilization
- Scalable Solar PV and Solar Canopy Structures



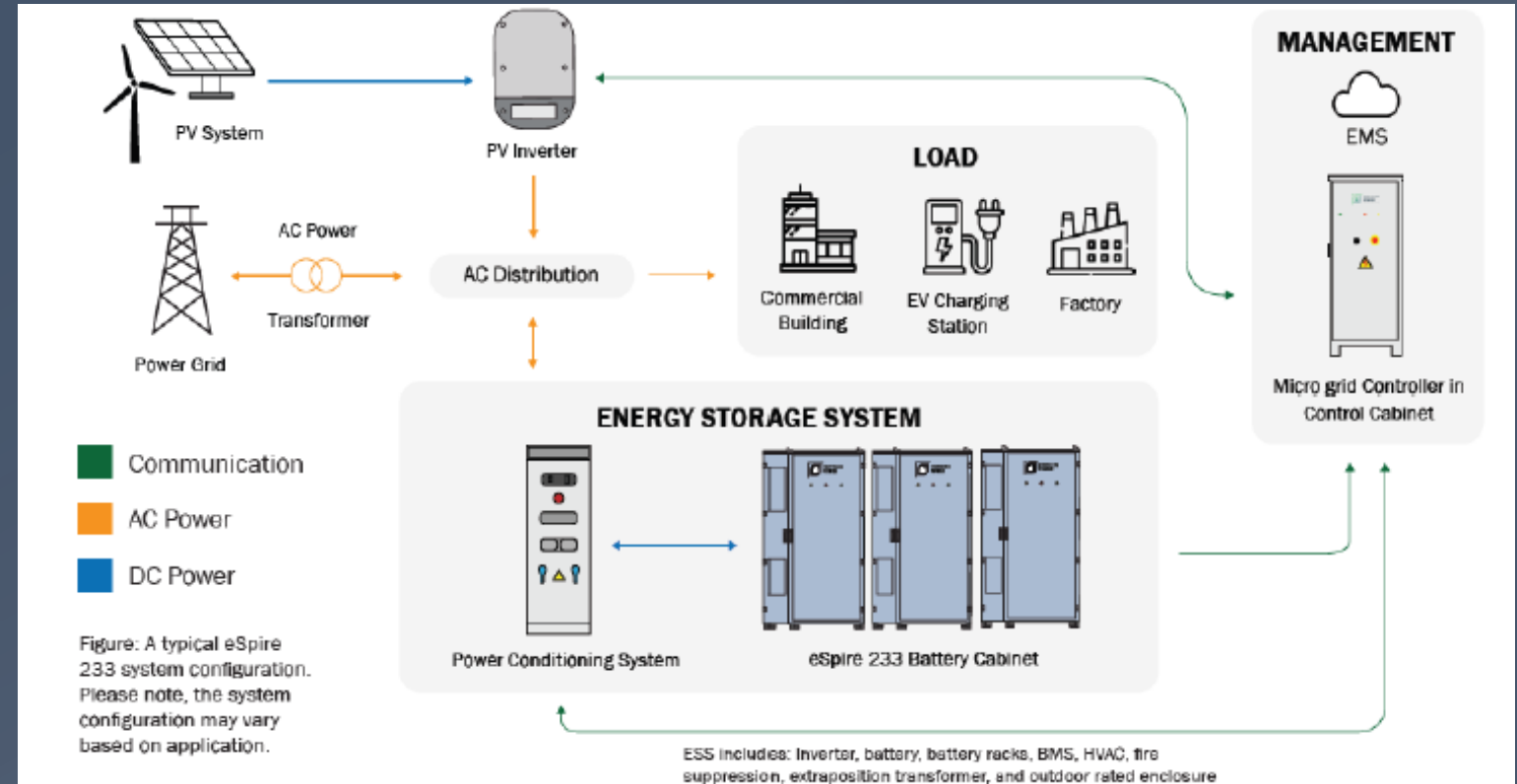
Resi-Port Solar Canopy



Residential/ADU ESS
On or Off-Grid LFP System
6.8 kW/19.9kWh

Fortress Power's Industry Leading LFP BES Systems and Keystone Microgrid EMS

1. Safe Technology & Multi-level Protection
2. Compact Design for Flexible Install
3. Advanced Liquid Cooling for Extended Battery Lifespan
4. Turnkey System for Fast Install
5. Easy & Flexible to scale
6. Excellent Local Support
7. 5-10 year warranty



Fortress Keystone Microgrid EMS

Directs the microgrid's operations for optimal results
Manage the rising cost of power & provide power resilience



ModZe Netzero Autonomous (on or off grid) Homeless Village Concept

Best-in-Class Solar PV Canopy + BES System

Turnkey 7kW/20kWh-250kW/1MWh+

- *Fast ADU and Microgrid Install
- *Compact Design for Flexible Installations
- *Tier 1 Quality LIB+INVERTER Technologies
- *Advanced Liquid Cooling Long Battery Lifespan

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SOLAR CANOPY - LOOKOUT DR., LOS ANGELES

Long Span Canopy		T Canopy	
Description	Units	Value	
Facility	Name	PROJECT AURORA	
	# Homes	100 @ 10Amp 120V	
	Load	120kW Peak	
System	kWdc	199.8	
	kWac	180	
	dc/ac	1.11	
Performance	kWh	330,000	
	kWh/kWp	1.652	
Annual Derate	%/Year	0.50%	
PV Module	Manufact	Tier 1	
	Wdc	450	
	Num	440	
Inverter	Manufact	Tier 1	
	Voltage	480VAC	
	kWac	60	
Racking	Num	3	
	Size	260' x 40'	
	Style	Long Span Canopy	
	Layout	6 x 74	
	Azimuth	180	
	Tilt	7.0	
	Height (ft)	9.5	

***Install 10 (100 units)
RAAD unhoused villages
in 24 months, while
simultaneously
expanding operations to
manufacture large
volumes of netzero
affordable modular
ADUs and homes and
solar canopies with
battery storage in
state-of-the-art highly
automated facilities.**

GOVERNMENTS

Quick to install homeless/refugee/natural disaster/military shelters

BUSINESSES

Remote contractors / event venues / medical and special needs

CONSUMERS

Homeowners / Cities/ NGOs/ Military/ utilities w/on or off grid power



ModZe JV partner ABS Provides Proven Cost-effective, Sustainable Home Building Process

Advanced Building Systems (ABS) located in Downey, CA is a Project Aurora JV partner and a manufacturer of a complete line of affordable modular prefabricated living units using light gauge steel frames.

Dwellings are configurable for 1 person or in the thousands.

Project Aurora JV is transitioning from a manual production operations to a higher-volume automated netzero modular home production operation over the next 18-24 months.

Project Aurora Phase II dwellings will be built in CA with light gauge steel (LGS) building systems and sustainable SIPS (Structurally Insulated Panels) that will offer significant cost and time saving benefits over competitive building processes and materials when the total cost of construction is considered.

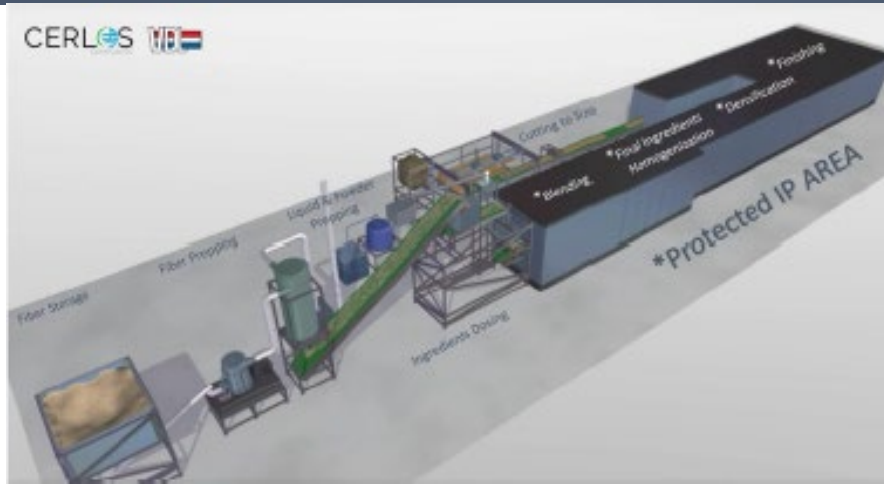
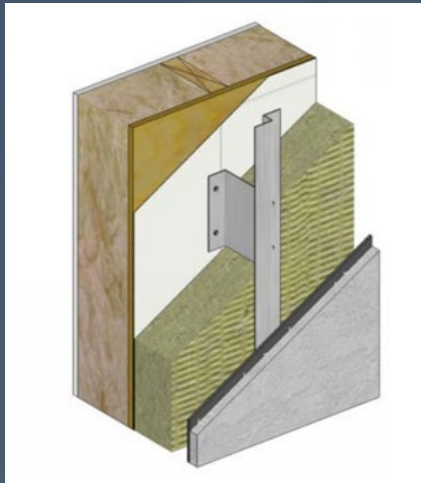


ModZe will Build its own SIPs for Sustainable Wall/Siding/Roof/Flooring Building Materials

- A Project Aurora dwelling using SIPs will have a tighter building envelope and the walls, floors, ceiling, and roof will have higher insulating properties, which leads to fewer drafts and a decrease in operating costs.
- Due to the standardized and all-in-one nature of SIPs, construction time can be less than for a stick-built home.

MOXY's CERLOS: The only CO2-negative building material

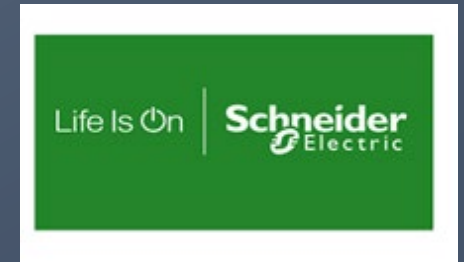
20+ businesses embed CO2 in cement but MOXY has discovered how to 'mineralize' plant scraps to make building materials that are fire- & water-resistant, recyclable, and cheaper than comparables. Mineralization sequesters plants' embedded CO2, enabling CO2-negative production.



In 2024 ModZe Homes will Include an All-in-One Smart Modular Home Energy Management Solution

In contrast to existing renewable home energy management system solutions which require separate apps and disjointed hardware, ModZe dwellings will offer automated energy production, storage, measurement and control by incorporating the “Schneider Home” – a first-of-its-kind home energy management solution including:

- 1) a Li-ion battery energy storage system
- 2) a high-power solar inverter,
- 3) a smart electrical panel,
- 4) electric vehicle charger and
- 5) connected electric sockets and light switches –
- 6) all controlled by the Schneider Home app.



The Schneider Home solution intelligently orchestrates home energy by bringing together utility power, solar, back up battery and EV charging. It offers the ability to monitor energy consumption by individual appliance, decide where to prioritize power during an outage to extend available back up power, and avoid expensive electrical service upgrades when purchasing an EV. The solution also allows homeowners to save by enrolling in utility programs and qualify for tax incentives.

Plans to Build a Project Aurora Community with Automated Modular Home Manufacturing Facility in CA

Location of a proposed ModZe community project site in Imperial, CA. This location has many benefits, including pre-existing grid connection, water and sewer infrastructure. The nearby town of Heber (7 miles) has schools and services for potential community members. Most of the nearby census tracts are DAC communities and many are close to the SDAC (severely disadvantaged communities) threshold.



Future Automated Modular Dwelling Manufacturing Facility in CA

HUB^e

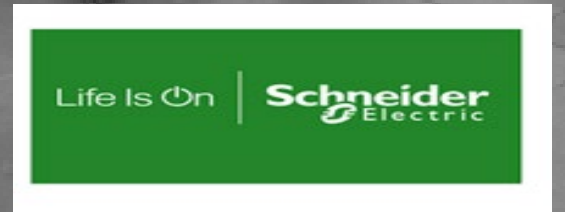
PLATFORM

Utilities around the country are connecting homeowners and businesses by employing renewables in new Demand Response (DR) programs to meet and lead the transition to a carbon-free energy system.

We provide partnerships not just equipment



Los Angeles
Department of
Water & Power



Having a space where residents can lock their door and sleep peacefully is where the transformation in so many people starts.

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