

Embedding Equity into Tech Design



Rooftop solar is booming, but not everyone can join in



- ✓ Lower electricity bills
- ✓ Lower carbon footprint

Solar is rapidly being installed on single family homes across the globe



No ability to take control of their electricity



But despite needing the savings the most, multifamily residents have been missing out.



We didn't think this was fair, so we built the **SolShare**

The world's only hardware to connect apartments to a shared rooftop solar system.

- Award-winning, Australian made
- 2k+ apartments connected
- Installed in AUS, NZ, Germany, UK & US



SolShare: How does it work?

Distributes solar

Distributes solar from a single rooftop system to multiple apartments in a building

Connected centrally

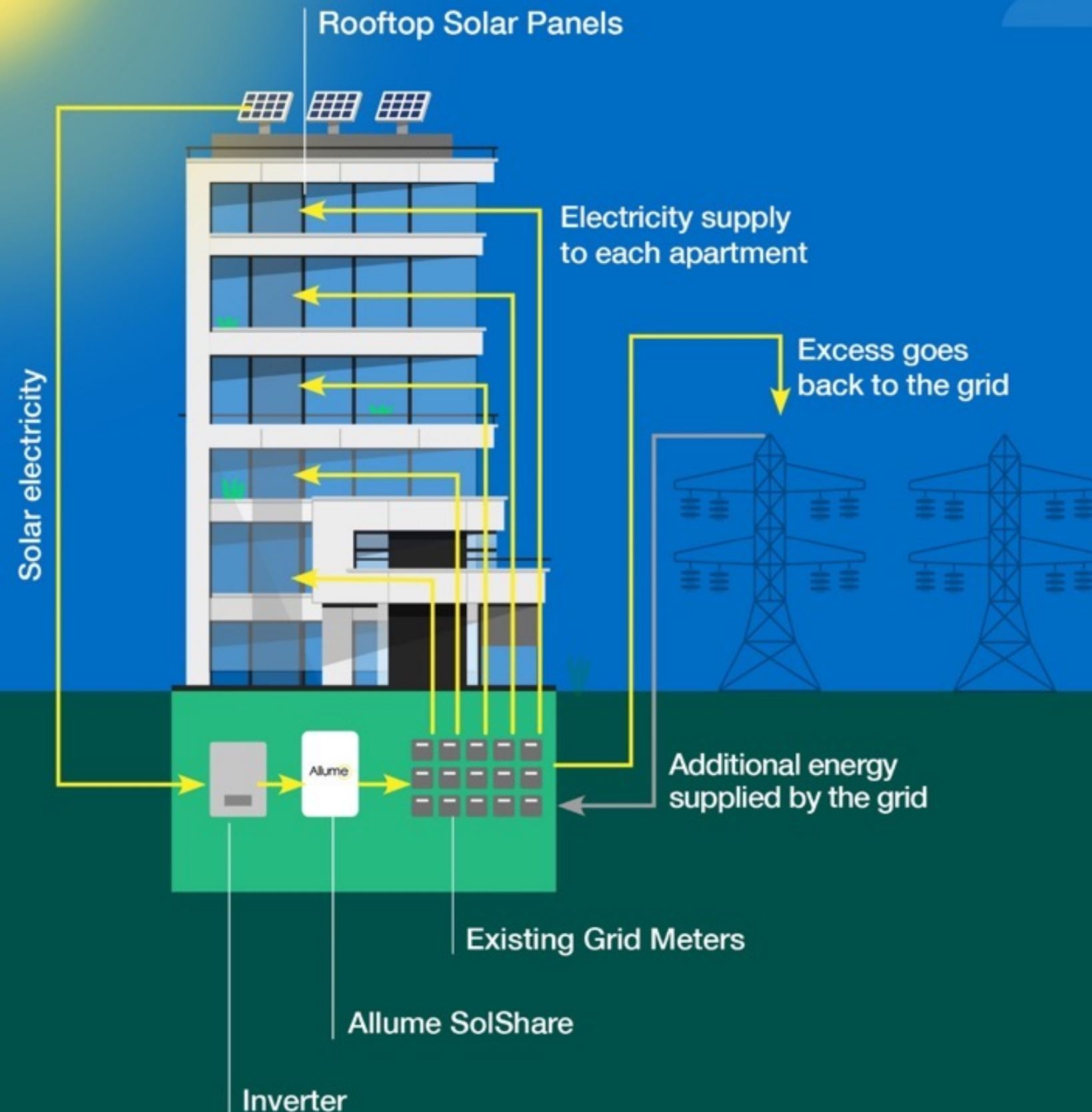
Outputs wire at the central meter panel, offering a non-invasive installation process

Tailored allocation

Each unit receives a specific allocation from the shared solar system, typically tied to their square footage

Behind-the-meter

No need for the utility to change their billing system or create a new solar program.



SolCenter: Control and Monitoring Software

Monitoring

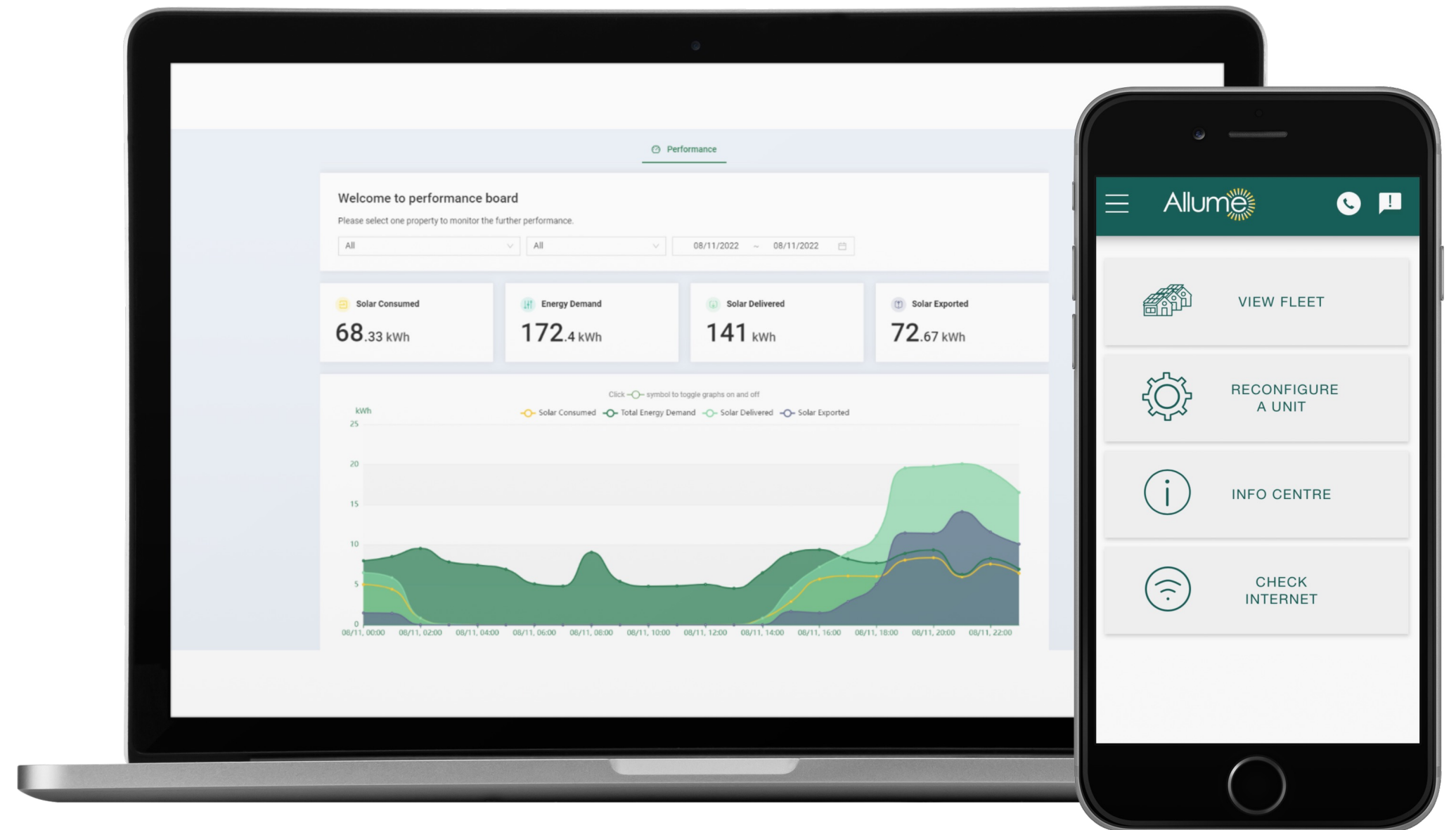
- Interfaces for tenant and asset owner to view the performance of the solar system

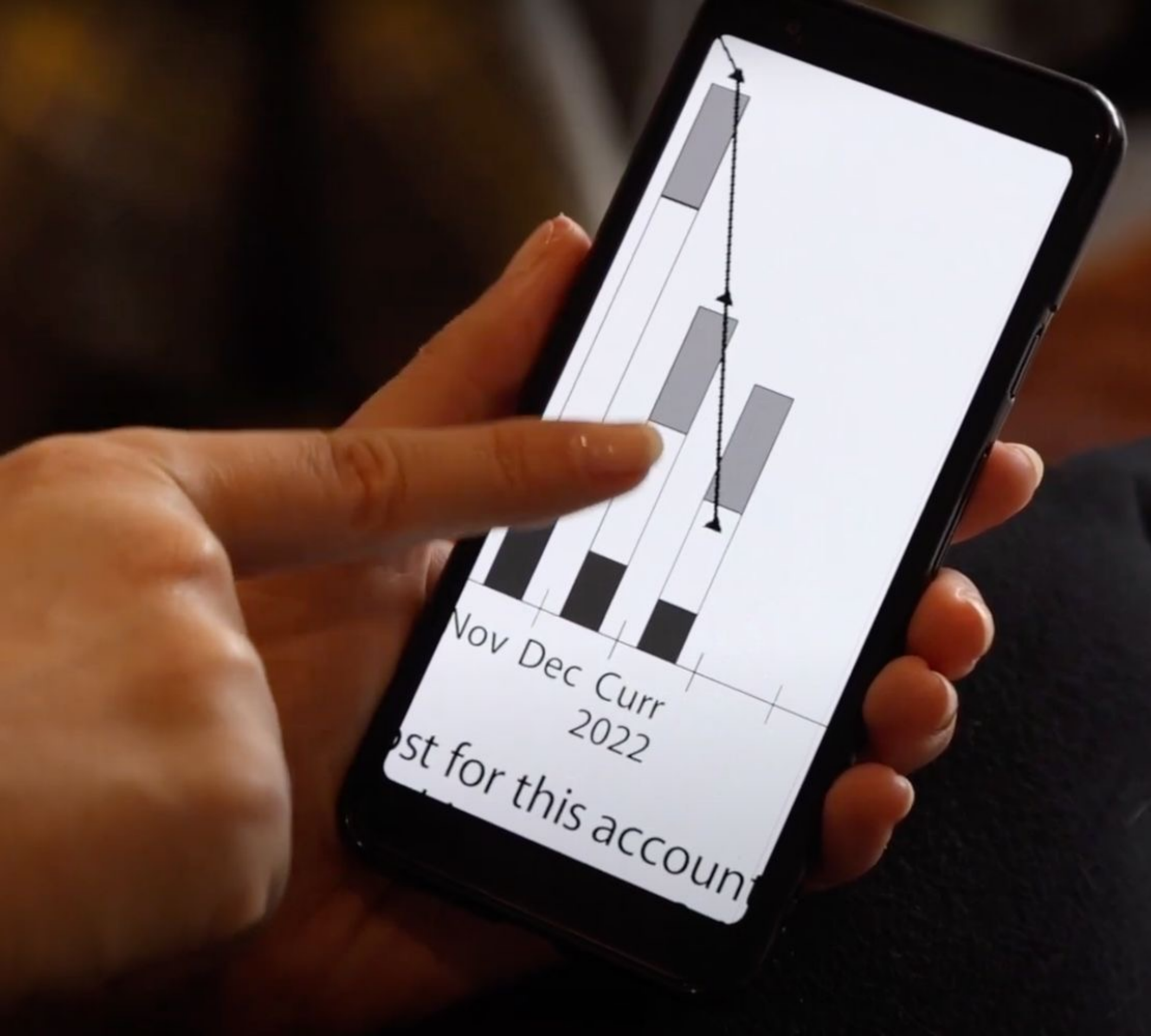
Management & control

- Asset owner can:
 - view the status of a fleet
 - connect/disconnect units
 - update % of solar each unit receives

Data & reporting

- Receive ESG reports and/or distribution data for billing purposes





Benefits to low-income communities

Reduced electricity bill

Low-income tenants can reduce energy burdens at no upfront cost

Direct solar access is an effective way to protect vulnerable communities from energy poverty

Lower carbon footprint

The SolShare empowers multifamily tenants to participate in the renewable energy transition

Visibility into energy usage and savings

Tenants can have confidence about savings with their own solar monitoring portal



Benefits to asset owners

Reduced carbon footprint of assets

Increased net operating income & rent recovery

- With a Solar Access Fee, solar can act as a revenue stream for asset owners. Allume works with lenders to ensure tenant savings are maintained

Control over solar distribution

Visibility into renewable energy data



Case Studies

Location:
Canopy Villa Apartments,
Orlando, FL

Solar system size:
392 kW

Building type:
Multi-family rental units

residences connected:
64 apartments



Outcomes for tenants

On average, each apartment benefitted from



~\$97 / month

bill savings amounting to
\$1166 / year*



37.6%

reduction in electricity use
from the grid



* Savings calculation utilises average US utility bill of \$125 (Forbes). Budgets and savings are estimates and will vary based on site conditions, energy usage patterns, and tariffs. These savings take into account California's NEM new Net Billing Tariff policy for solar, which credits homeowners for excess (unused) solar energy generated and fed back into the grid.

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Location:
Belhaven Residential,
Jackson, MS

Solar system size:
22 kW

Building type:
Multi-family rental units

residences connected:
10 apartments



Outcomes for tenants



"I gotta say, it's been a game-changer for my utility bills. I've seen them drop to less than 20 bucks some months! It's seriously impressive how much money I've saved. Just wanted to give you a thank you for making this place energy-efficient and wallet-friendly. Keep up the good work, I like it here!"

Resident at Madison St

About this project

Allume engaged a broad range of stakeholders to bring this project to fruition, including policy makers, the utility (Entergy), the utility regulator, the building owner & manager, and the Mississippi Development Authority.

Mississippi has no net metering policies, making the business case for solar tricky. SolShare's 'dynamic sharing algorithm' ensures that energy consumed by the solar system is maximised (as opposed to being fed back into the grid), making a SolShare solar system ideal.

Equity opportunity for utilities

Projects & Contracts

Companies Collaborate on Advanced Multifamily Solar Solution for Orlando Complex

By Ariana Fine - June 28, 2022



Allume Energy, RENU Communities and esaSolar have successfully commissioned Orlando's first behind-the-meter shared solar system in a multifamily building. SolShare is a hardware for sharing rooftop solar with multiple apartments in the same building.

One of the first of its kind in the U.S., the shared solar system will generate clean renewable



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ORLANDO CLOSER TO CARBON NEUTRALITY WITH NEW MULTI-FAMILY SOLAR SOLUTION

July 1, 2022



Benefits unlocked for tenants through ground-breaking shared solar project

Solar energy shared at Mississippi multifamily building thanks to Allume Energy SolShare

By Chris Crowell March 20, 2023



Mississippi currently ranks 35th in the nation for solar adoption, and a recent solar installation at an apartment building at 805 Madison Street is an example of a scalable model to not just install more solar, but to add PV where it directly benefits people that need it most.

Florida multi-family solar installation uses SolShare behind-the-meter hardware

SolShare technology enables the residents in 65 of the units to subscribe to a portion of the solar energy produced on the roof, offsetting the cost of their individual electricity bills.

MARCH 3, 2023 ANNE FISCHER

GRIDS & INTEGRATION MARKETS MARKETS & POLICY RESIDENTIAL PV FLORIDA UNITED STATES



Enhancing service offerings to LMI communities, deepening goodwill

Strengthening multifamily building resiliency

Improving public relations with positive media stories

Reaching equity & clean energy goals

Reducing energy burdens in territory



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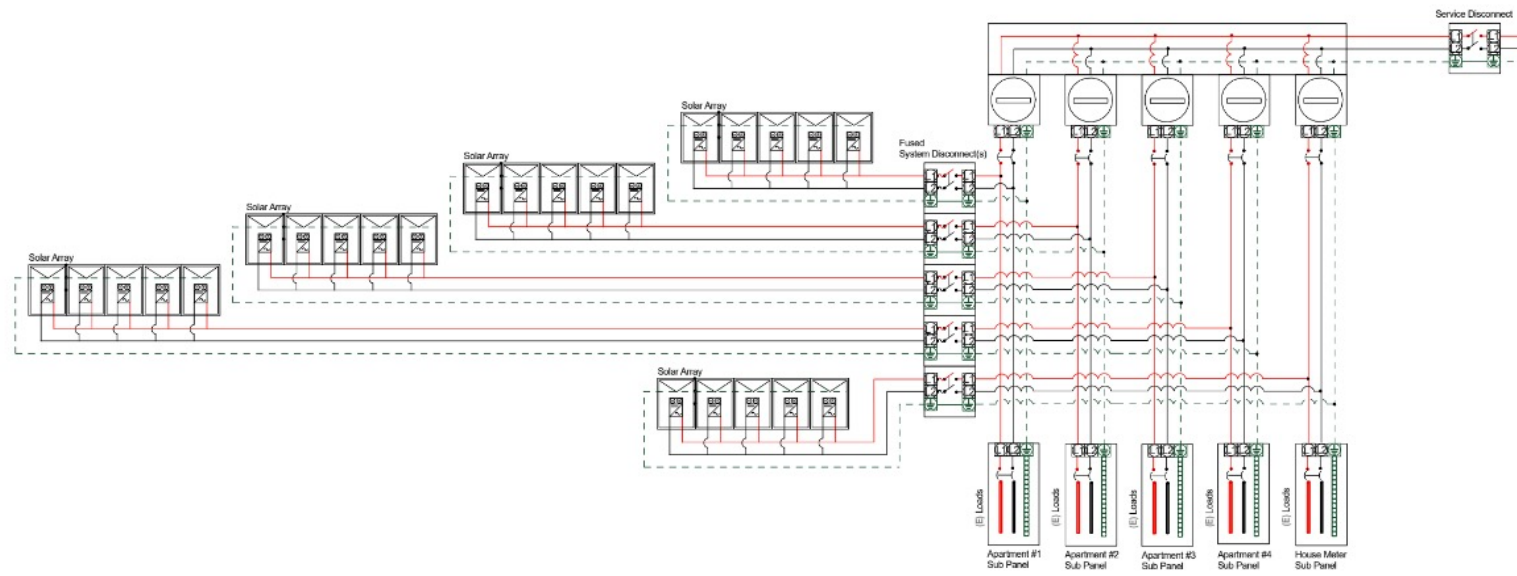


A person wearing a blue lab coat is shown from the chest down, holding a small red radish with green leaves in their hands. The person is standing in a laboratory or cleanroom environment, with a white surface and a metal frame visible in the background. The entire image is overlaid with a semi-transparent teal color.

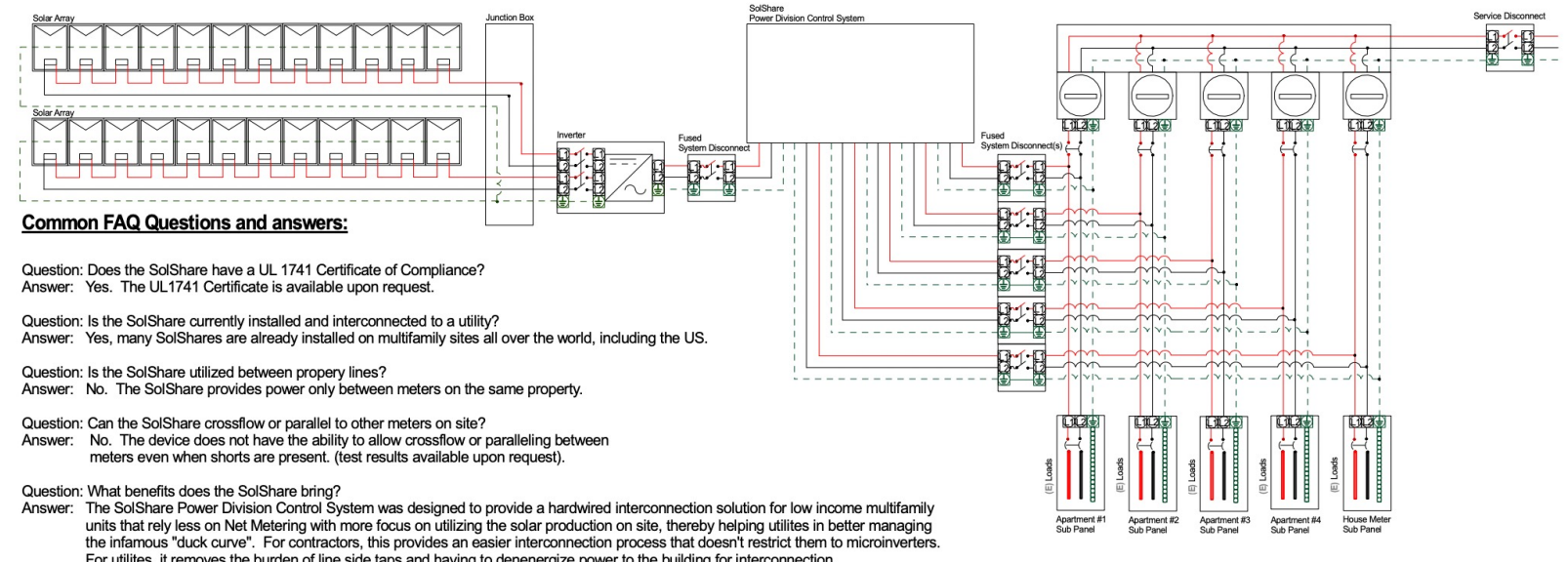
Additional Product Information

No Impact to Utility Metering or Billing

INDIVIDUAL SOLAR SYSTEMS



SOLAR SYSTEMS

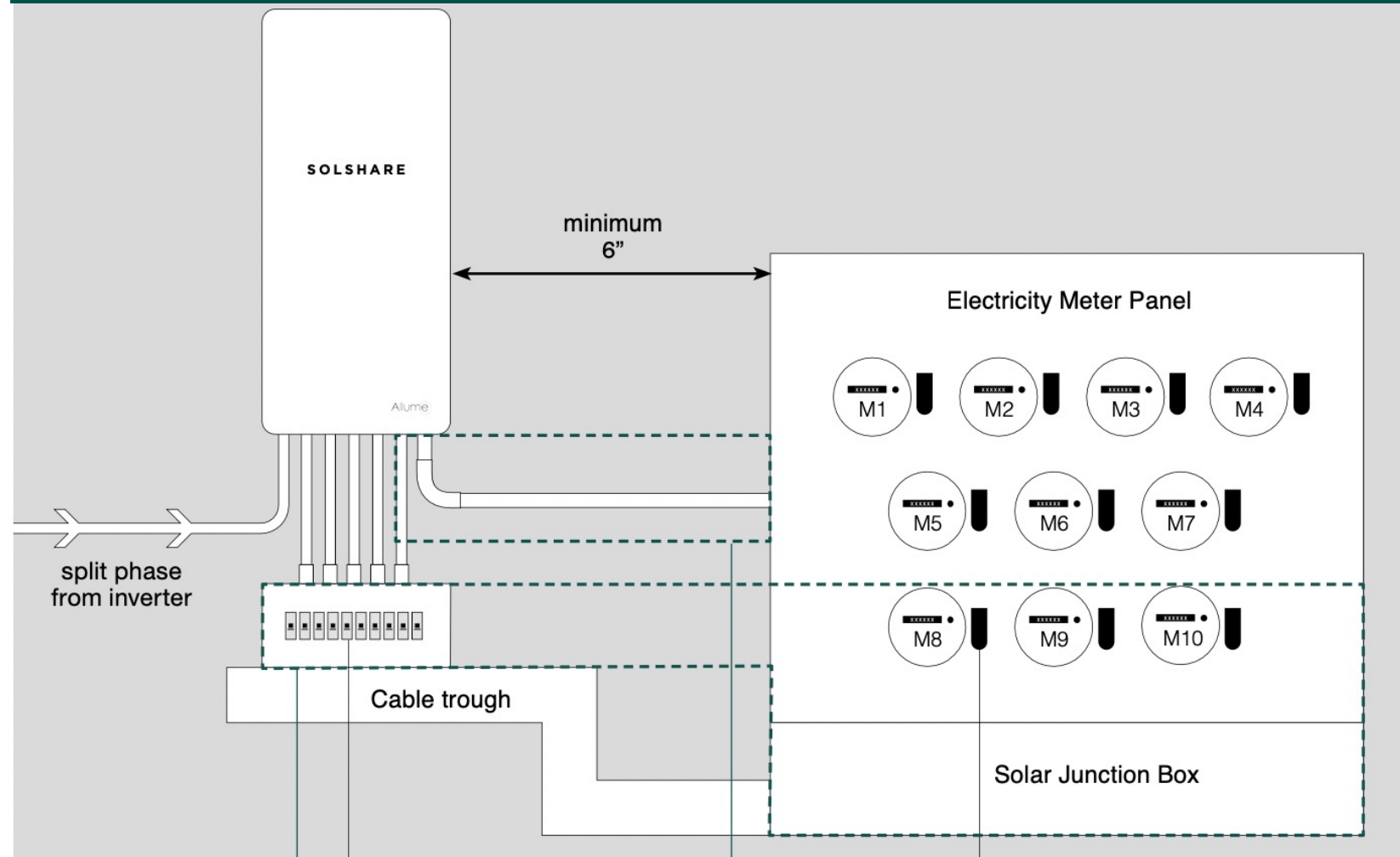


For utilities, the SolShare's behind-the-meter sharing means its system acts equivalently to individual solar systems

- ✓ Interconnection can utilize existing NEM frameworks
- ✓ AHJs responsible for inspection and sign off on installation method differences
- ✓ UL1741 certification
- ✓ Prior approval from LADBS and OCDBS (Orlando)

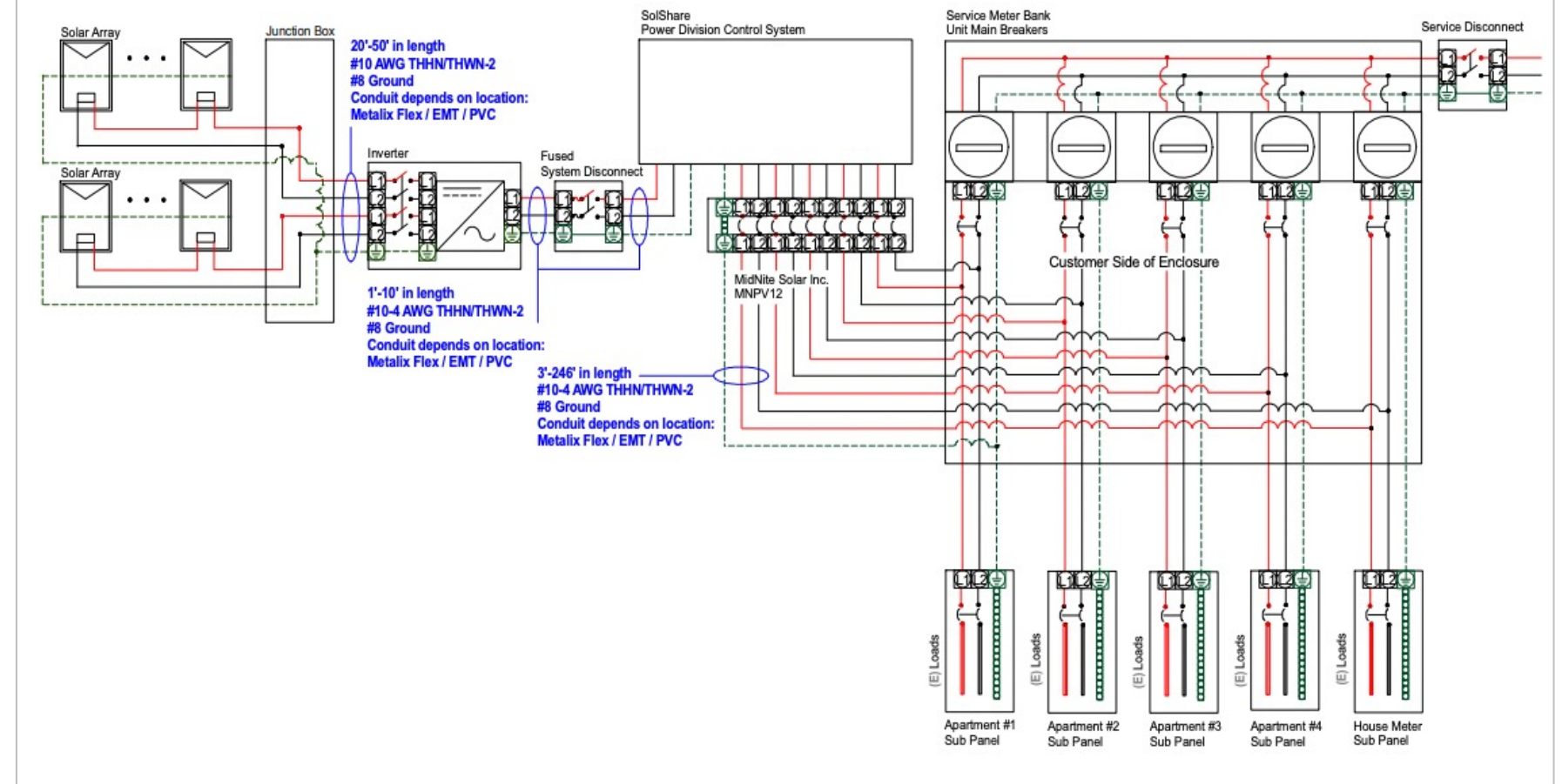
Schematic Example

PHYSICAL INSTALLATION CONFIGURATION



SINGLE LINE DIAGRAM

SolShare Interconnection



We go above and beyond to ensure all stakeholders understand and appreciate the SolShare's potential

- Manufacturer-provided customer service, support, and frequent review of designs
- Updated installation manual
- Continued equipment testing through OSHA approved labs
- Manufacturer-created training modules for contractors, designers, inspectors, and installers

Safety & Compliance

CERTIFIED



- ✓ UL 1741
- ✓ UL 1741-SA
- ✓ UL 514
- ✓ UL 94HB



ADDITIONAL
CERTIFICATION



Appendix D – FCC Compliance Statement

SolShare ZP-100
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product contains the radio transceiver modules below:

Radio Transceiver:	Huawei-EB372 Cellular Transceiver	Pyboard Wi-Fi Transceiver	Raspberry Pi Zero W Wi-Fi Transceiver
FCC ID:	QISE8372H-609	2AT9i-PYBD	2ABCB-RPI0W

Note:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ADDITIONAL
TESTING



A person wearing a white lab coat is shown from the chest down, holding a small red radish in their right hand. They are standing in a laboratory or cleanroom environment, with a white cabinet or counter visible in the background. The entire image is overlaid with a semi-transparent teal color.

Product & Installation FAQs

Product FAQs

1. Is the SolShare UL-certified under the correct UL standard for its application?

YES, Allume worked extensively with UL staff to develop and test the SolShare equipment under the proper UL standards (1741, 514, 94HB). Additionally, UL created the *Power Division Control Systems* category, under which the SolShare was the first to be tested and certified.

2. In the off chance the SolShare is inactive, do all apartment tenants have uninterrupted utility power access?

YES, the SolShare interconnects the solar to the electrical infrastructure. It neither interrupts nor severs the path between the meter and the apartment loads.

3. Does the SolShare protect itself from paralleling or crossflowing from meter to meter?

YES, as a *power division control system*, the SolShare must protect itself and the electrical system around it from crossflowing meter to meter. One of the ways this is achieved is by functioning like an automatic transfer switch. The SolShare allows solar to be connected to only one meter at a time. See our crossflow testing documentation for more details.

Installation FAQs

1. Is the installation of a SolShare system code compliant?

YES, the SolShare interconnects the solar to the electrical infrastructure. It neither interrupts nor severs the path between the meter and the apartment loads.

2. Would all apartment tenants have uninterrupted utility power access during future servicing?

YES, the isolation switches for service are located downstream from the tap interconnection. There are no disconnecting means for the SolShare located between the meter/main breaker and the apartment panel board. This ensures no utility disruption for the apartment tenants during servicing of the SolShare system.

2. Does a SolShare system continue to operate if the grid has an outage?

NO, as per UL1741 the SolShare will only operate if there is a grid connection. The SolShare and inverter both have anti-islanding functionality to shut off any solar supply to the units if the grid connection is interrupted.
However, when the solar system is paired with energy storage, the SolShare can assist in distributing the stored energy in the system's stand alone state.



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