



CEC Advanced Energy Communities

Building Resilience Through Interconnected Place-Based Solutions

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Lessons from Nature...

What constitutes a resilient ecosystem?

- Diverse
- Interconnected
- Balanced (equitable access)
- Place-dependent



The importance of a
systems approach...

**The Diversity of
Challenges Calls for
Diverse,
Integrated Solutions**

CEC's EPIC Research Program

Supporting a Just Transition to a Clean Energy Future

CEC EPIC Research Program Invests \$133 Million Annually

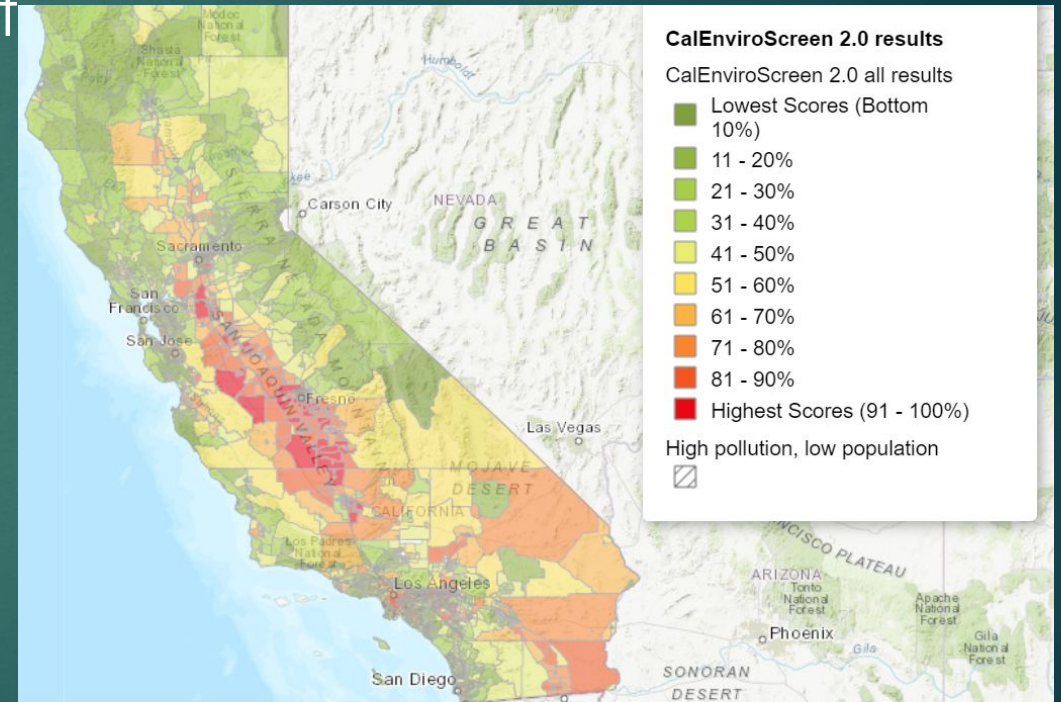
Technology Demonstration & Deployment
Funds

65%

Disadvantaged- & Low-income Communities

\$21M

CA Native American Tribes





RESILIENCY AND SAFETY

Blue Lake Rancheria



10K

Californians who still had power during a planned grid outage, thanks to EPIC investments in community microgrids

78

number of minutes the microgrid powered the central command center for fire crews during a wildfire in 2017

4

lives saved thanks to emergency power

3

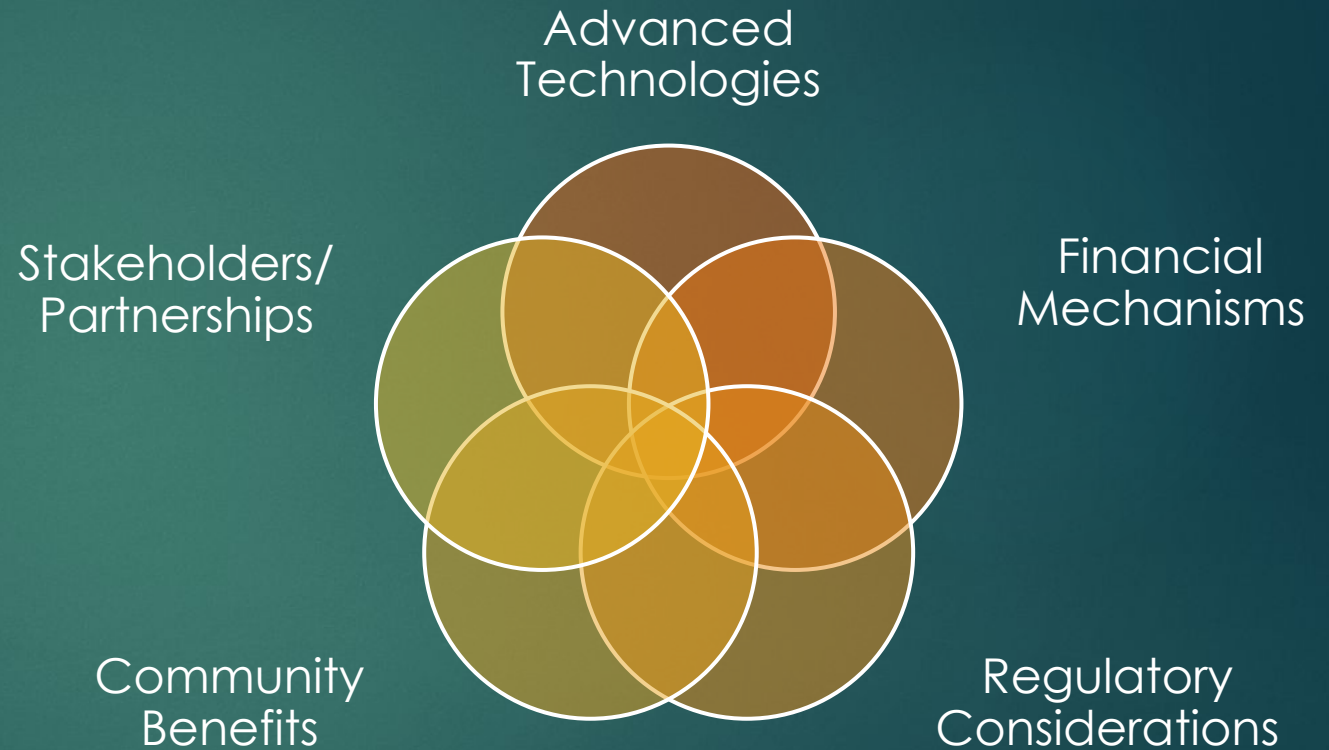
awards for project excellence

Benefits of Investing in Community Resilience

CEC's Advanced Energy Communities (AEC)

A Systems Approach to Advancing Clean Energy at a Community Scale

- ▶ Launched design-build competition in 2016
- ▶ Four projects were selected for construction



These projects provide a vision of the future electricity system.

Richmond AEC

Developing a DER Community
Rehabilitating Homes to Zero Net Carbon
Developing AEC Toolkit



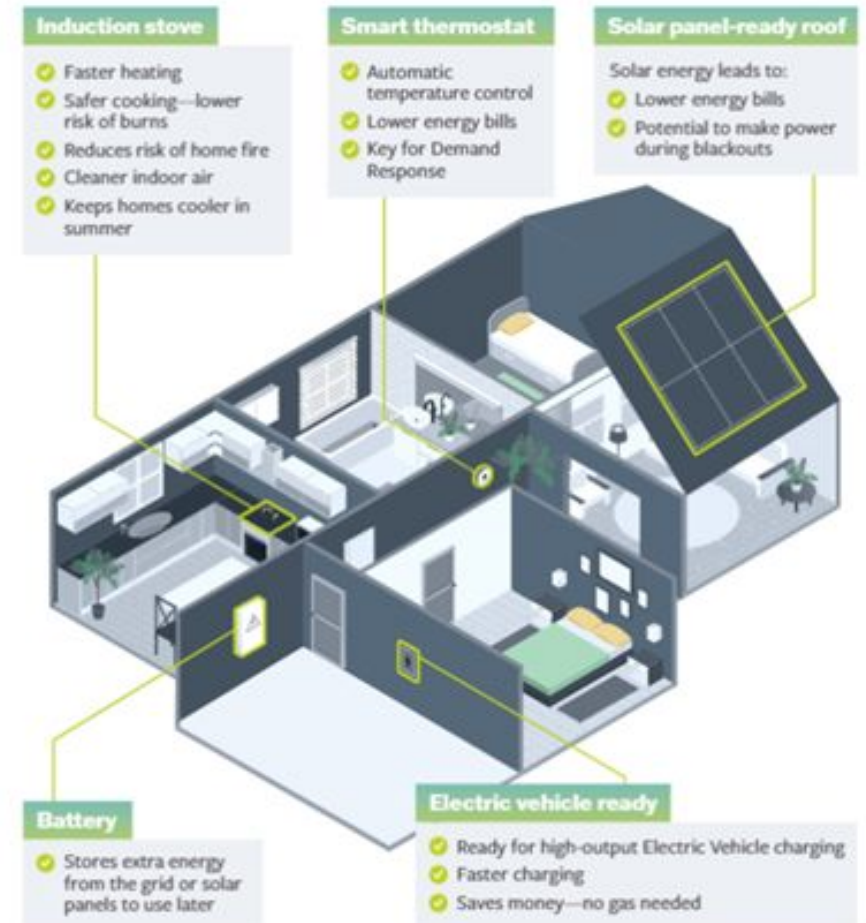
Residential
Homes



Community & Municipal
Buildings



Commercial & Industrial
(C&I) / Small & Medium
Businesses (SMB)



Homes will also come with:

Heat Pump Water Heater (Electric)

- ✓ 3–4x more efficient than gas water heaters
- ✓ Lower energy bills
- ✓ Lower fire risk

Space Heating (Electric)

- ✓ Cleaner indoor air
- ✓ Lower fire risk

High Efficiency Dryer & Washer

- ✓ Lower energy bills
- ✓ Lower fire risk

Insulation

- ✓ Increased comfort
- ✓ Lower energy bills

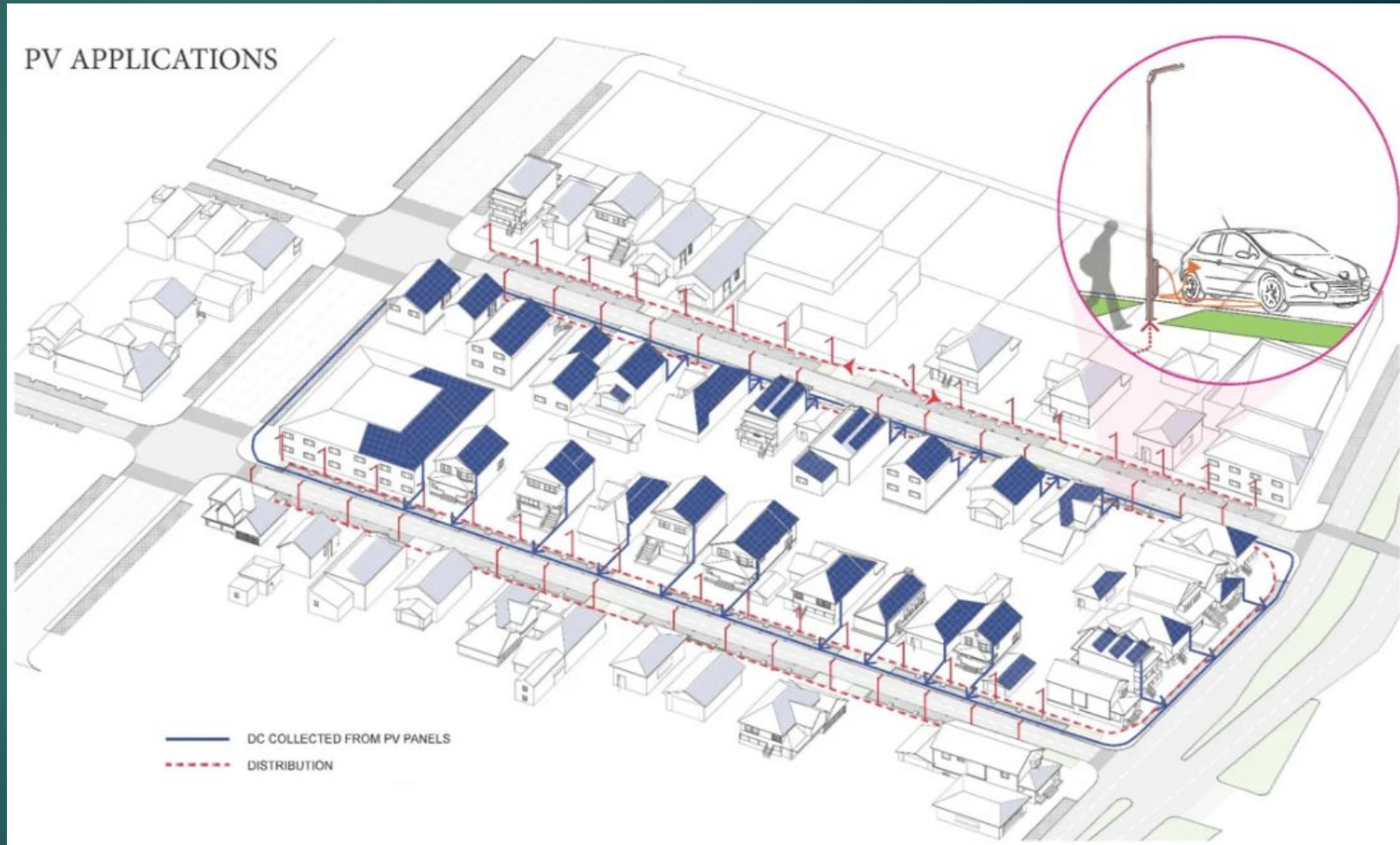
Energy-Efficient Windows

- ✓ Quieter, increased comfort
- ✓ Lower energy bills

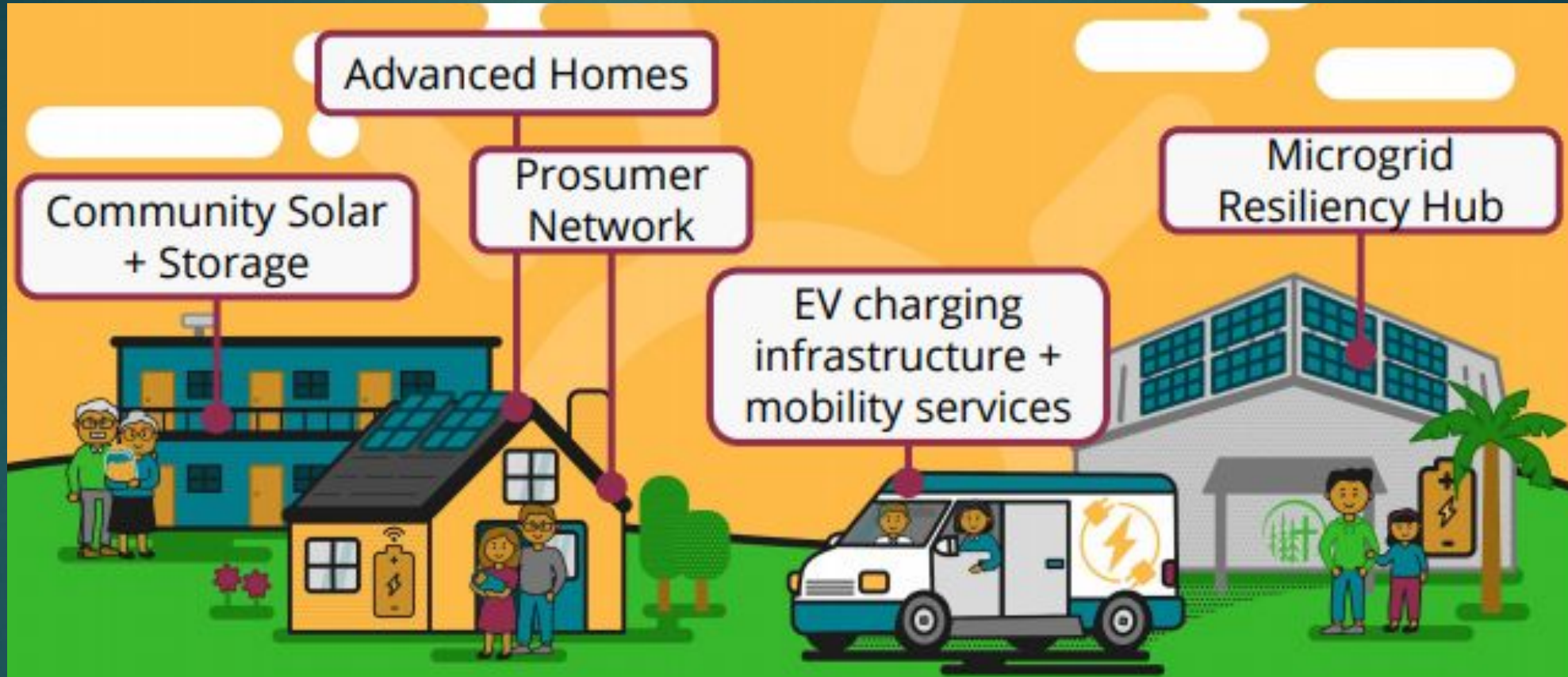
Oakland Ecoblock

Block-by-Block Approach

Existing homes
retrofitted to be energy
efficient, all-electric,
and powered by a
block-scale Microgrid
for resilience



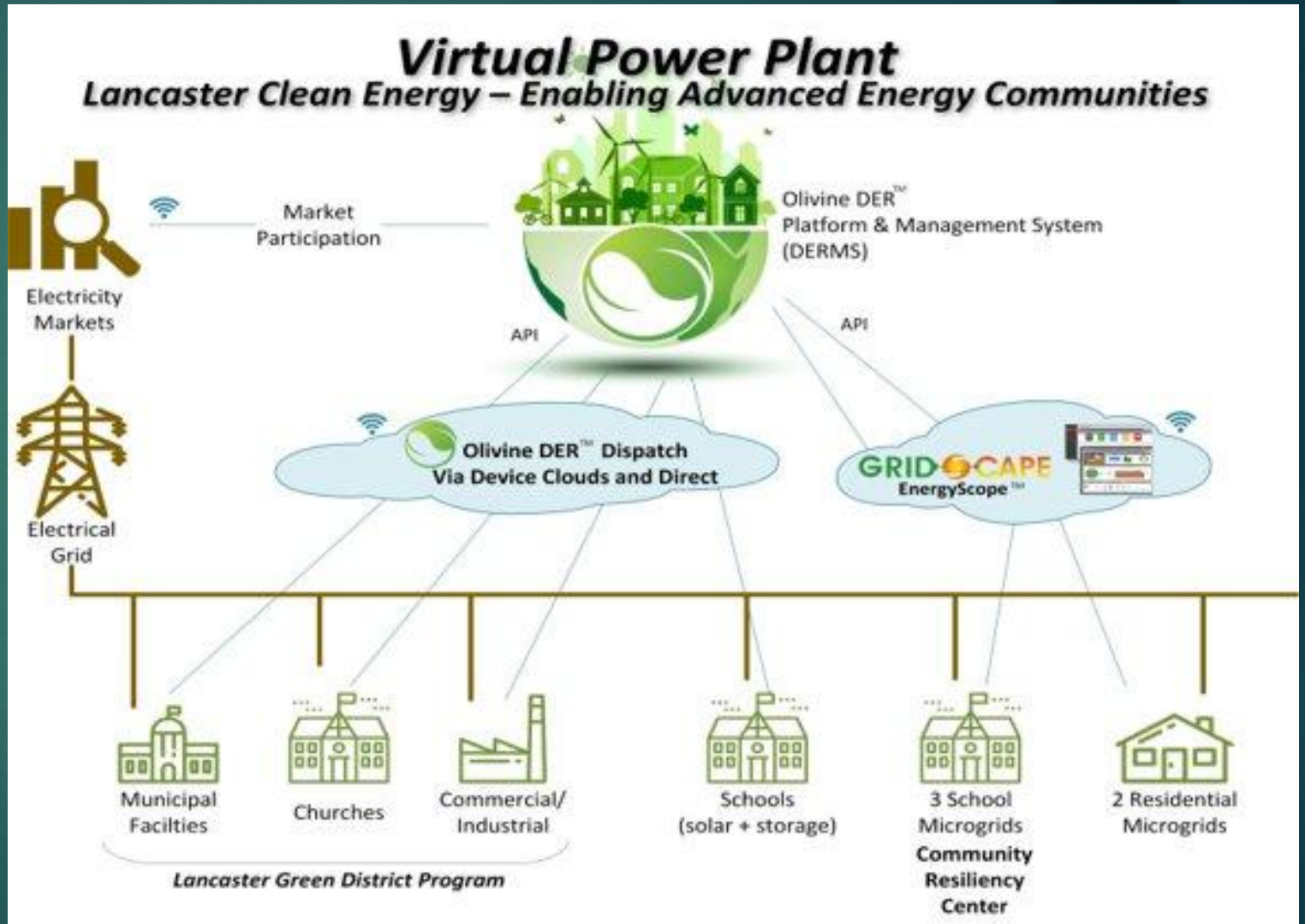
Basset-Avocado Heights AEC



Project features empower residents to be part of a local energy-producing network where clean energy is affordable and accessible

Lancaster AEC

Virtual Power Plant
aggregating commercial
and residential distributed
energy resources



The Next EPIC Challenge

Can we design and build mid-rise, mixed-use development that is affordable, equitable, climate-resilient, cost-competitive and emissions-free?

Concept Applications

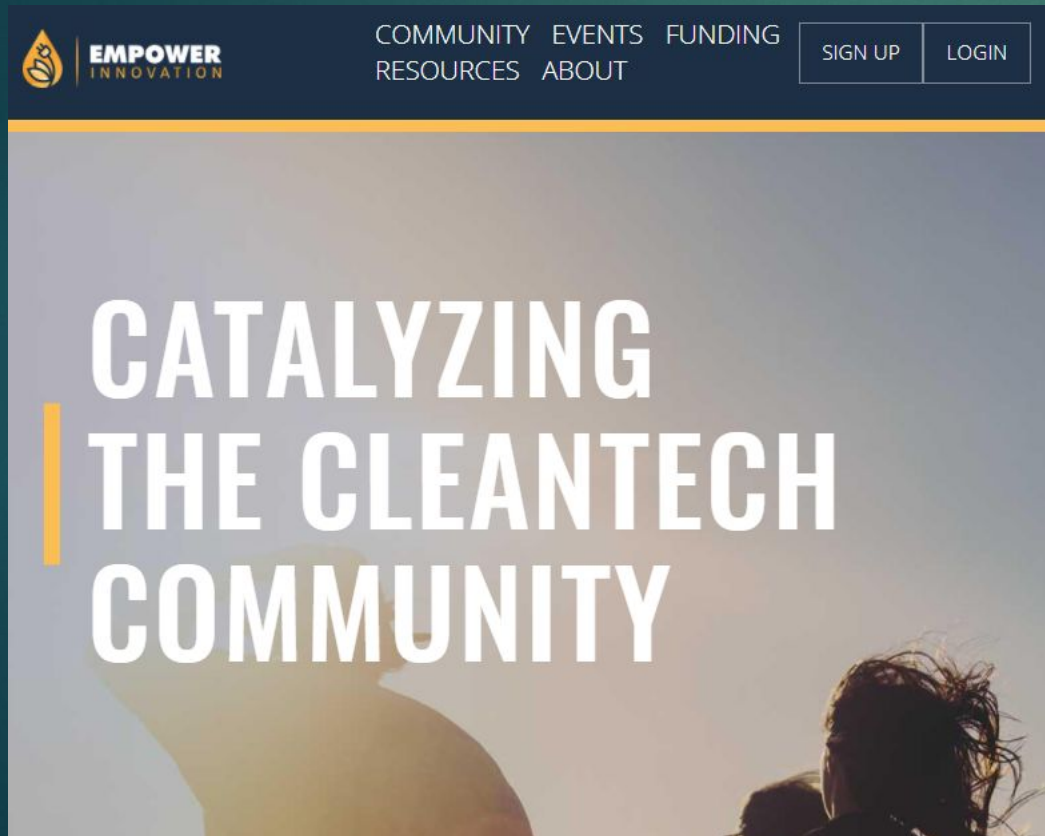
Due May 7, 2021

The Next EPIC Challenge: Reimagining Affordable Mixed-Use Development in a Carbon-Constrained Future (empowerinnovation.net)



How to Connect and Stay Informed

One Key Takeaway – Visit [EmpowerInnovation.net](https://www.empowerinnovation.net)



- ▶ Find a Partner and other resources on [EmpowerInnovation.net](https://www.empowerinnovation.net)
- ▶ Learn more about other projects on [EnergizeInnovation.com](https://www.energizeinnovation.com)
- ▶ Subscribe to CEC EPIC Program Listserv to receive emails on new funding opportunities:
<https://ww2.energy.ca.gov/listservers/>
- ▶ Check the CEC Calendar for upcoming events: <https://www.energy.ca.gov/events>