



# Addressing Equitable Electrification through Advanced Energy Communities

Genaro Bugarin, Director of Energy Innovation

# Nice to meet you



**Genaro Bugarin Jr.**  
Director of Energy Innovation  
The Energy Coalition (TEC)

- 10 years with TEC
- Personal: Grew up in Mexico, engineer by training, found my passion
- Service: CPA Community Advisory Committee, Boyle Heights STEM Magnet HS

# TEC: Our “Why”

TEC = The Energy Coalition



Our mission is to empower communities to leap into the future of clean energy.

We envision a future in which **communities produce clean energy** that is **affordable and accessible** for everyone.

A customizable suite of service options:

Program Design & Project Implementation

Education & Workforce Development

Marketing & Outreach

Policy & Master Planning

# Early Takeaways

## Practical and Policy Barriers

- Prohibitive (upfront) costs
- Business model innovation
- Organized community engagement
- Monetizing grid services
- Net energy metering, rate reform

## Bold steps

- More community level solutions
- Turnkey models that work for everyone
- Uplifting, wellbeing, and wealth creation for families

CEC Program:  
EPIC Advanced Energy Community Challenge  
GFO-15-312



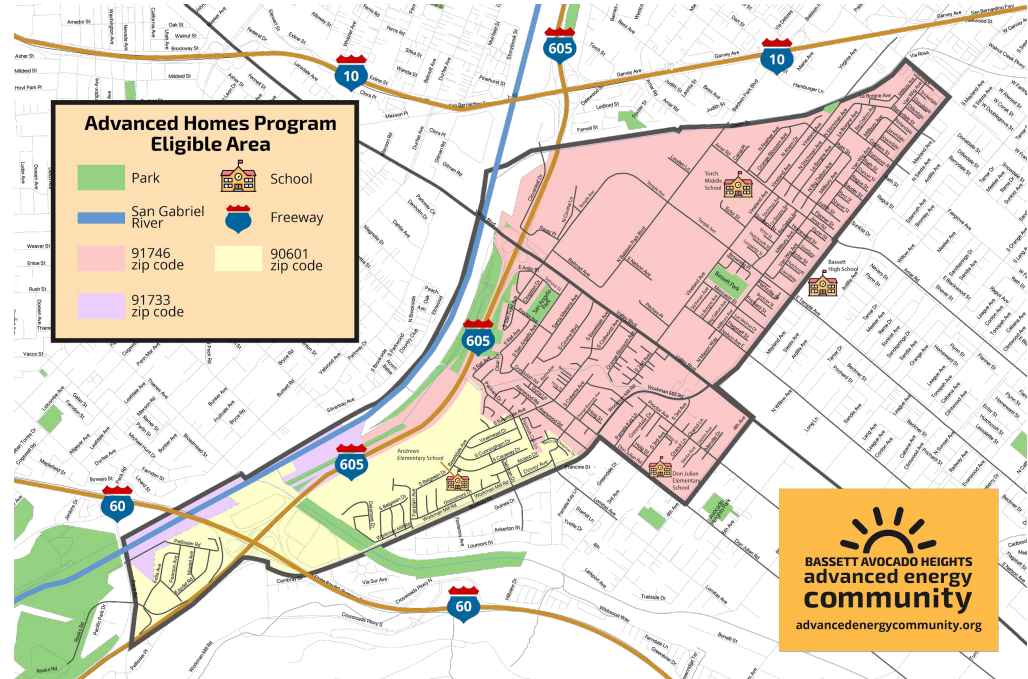
**CALIFORNIA**  
**ENERGY COMMISSION**

# **The Electric Program Investment Charge (EPIC) Challenge: Accelerating the Deployment of Advanced Energy Communities**



## BAAEC Location

- Unincorporated LA County
- DAC census tracts
- 60% of residents on CARE
- 84% Hispanic
- \$60,000 median income
- Predicted to experience over 40 additional extreme heat days per year by 2050



# Timeline



**Time to Scale is NOW**

Air Quality

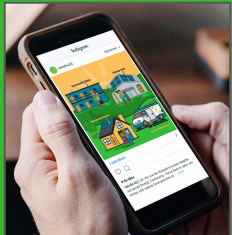
Community Solar

Energy Hub

Advanced Homes

Prosumer Network

Clean Commuters





# AEC Guiding Principles

- People First (customer centric)
- Uplift Community
- Community wide transition
- Decentralized and Local Grid
  - Community solar
  - Rooftop solar
  - Storage and Demand flexibility
- Resiliency
  - Microgrid
  - Interconnected residential batteries
  - Small plug and play residential batteries
- Electrification
  - Electric Vehicle Charging Stations
  - Mobility Options
  - Home electrification

# Community Outreach and Engagement

**Mission:** to inspire, educate and engage community members to actively take part in the implementation of their advanced energy community.

**Vision:** to create a participatory, collaborative community engagement approach that centers equity and community decision making to address historic system injustices and inequalities.

ACTIVE  
SGV

do  
day one



Los Angeles County Supervisor

**HILDA L. SOLIS**  
First District • Chair



# Community Outreach and Engagement

## Early insights

- Consistent, physical presence is important
- Time is precious
- Address distrust with familiar stakeholders

## Up next

- Manage expectations through the installation phase

## Excited about

- Creating energy champions and advocates



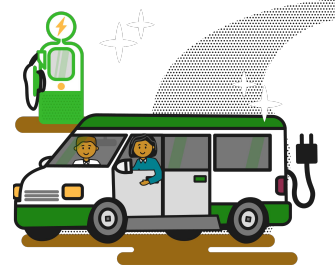
# Clean Commuters

## What is it?

- EV Charging infrastructure
- Zero-emissions vehicle mobility programs
  - Vanpool, microtransit

## It matters because

- Need infrastructure in all communities
  - A trigger for decision making
- Less dependency in single passenger cars



# Clean Commuters

## Early insights

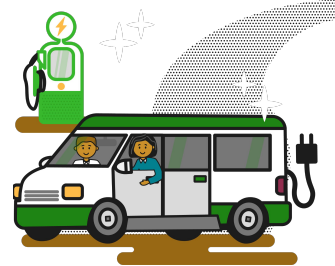
- EV charger installs are not a straightforward business model
- Vanpools best with employer-centric approach vs. community approach

## Up next

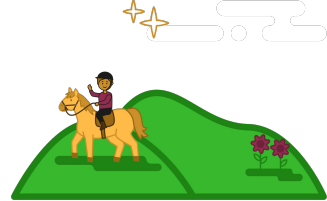
- Stakeholder and Community engagement
- Microtransit Program Design

## Excited about

- PHEV/EV accessibility



# Air Quality

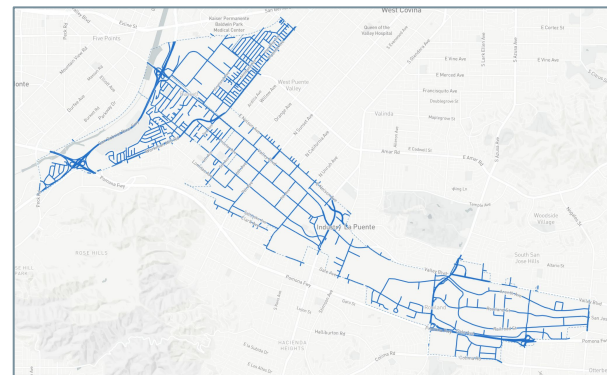


## What is it?

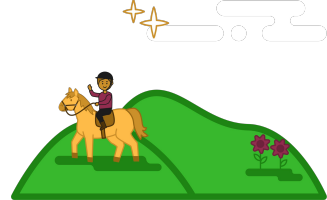
- Ambient and tailpipe emissions air quality monitoring

## It matters because

- Identify sources and hotspots of pollutants
- Prioritize mitigation strategies, upgrade higher polluting vehicles



# Air Quality



## Early insights

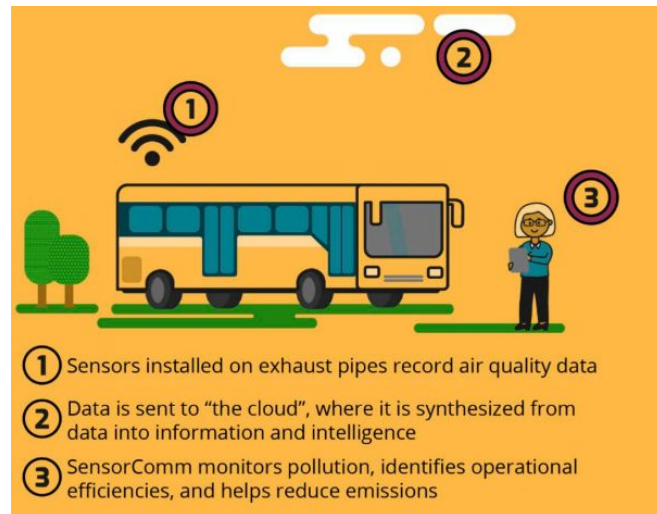
- Actionable information
- Personal data and privacy concerns

## Up next

- Continued monitoring
- Community engagement

## Excited about

- Expanded area
- Portfolio of vehicles







# Community Solar

## What is it?

- Share the benefits of community-sited solar
- Guaranteed savings to subscribers
- State-regulated / Utility programs

## It matters because

- Households with limited resources
- Homes not suitable for solar
- Renters







# Community Solar

## Early insights

- Policy is king. Program details shape stakeholder support process
- Utility interconnection
- Mapping suitable locations
- Managing customer experience

## Up next

- Potential programs (CA) revisions

## Excited about

- Maturing Industry (>2x avg. annual growth capacity)
- States enabling legislation

## Community Solar in CA

- Now DAC-GT and CS-GT
- AB 2838 (O'Donnell, 2022) - green tariff shared renewables program
- AB 2316 (Ward, 2022) - community solar and storage program
- SB 846 - keeping Diablo Canyon
- Inflation Reduction Act (IRA) - added "bonus" ITC credit(s)

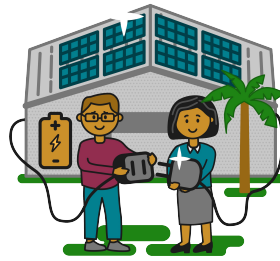
# Energy Hub

## What is it?

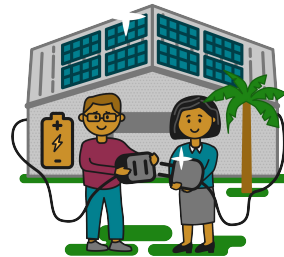
- Solar + storage with islanding capability
- Critical (trusted) facility
- Meets the unique needs of each community

## It matters because

- It's a place for refuge year-round
- It can be a place for community building
  - Social and wellbeing infrastructure outside of climate events
- Helps most vulnerable population



# Energy Hub



## Early insights

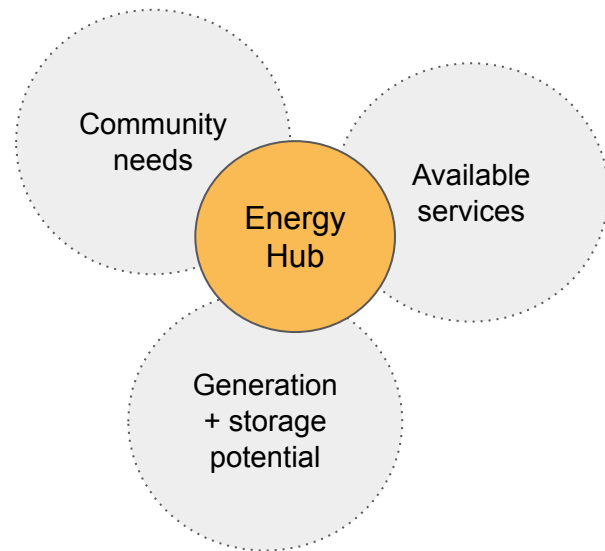
- Obtain community input on location
- Allow plenty of time for public agency facilities
- Confirm site/interconnection feasibility early in the process

## Up next

- How to pay for enhanced community and emergency ongoing services

## Excited about

- State, CCAs, local governments taking initiative
- States enabling legislation



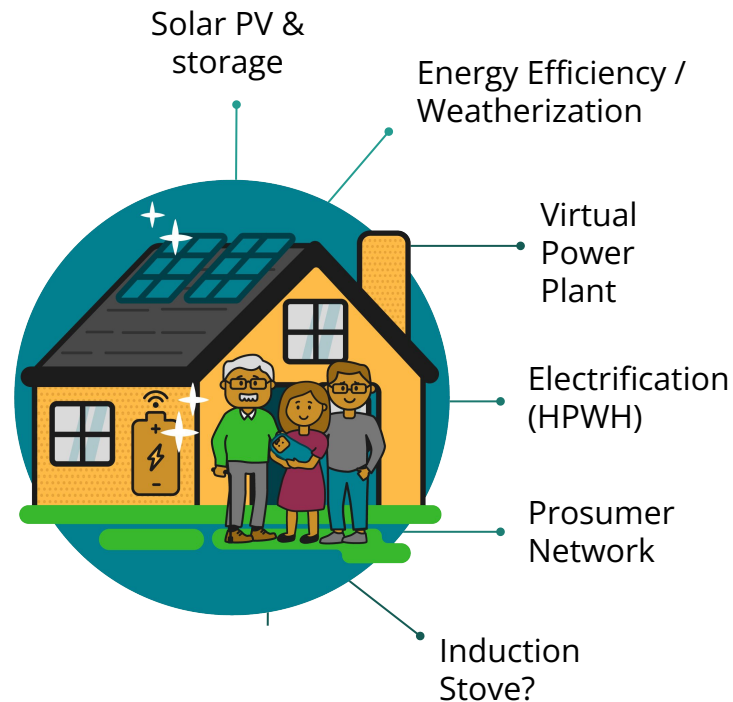
# Advanced Homes

## What is it?

- Single-family residential effort at electrification and decarbonization

## It matters because

- Local generation (solar and batteries) are best source of reliability and resilience
- Electrification can be a path for healthier and more comfortable homes



# Advanced Homes



## Early insights

- Partner with trusted CBOs and public agencies - distrust in “free solar”
- Address deferred maintenance and unpermitted structures
- “One Stop Shop” - Build coalition of implementers - coordinate among restrictive and siloed income-qualifying programs

## Up next

- Exploring BTM load management
- Insights from installations

## Excited About

- Partnering with families for a home upgrade journey
- Energy champions
- Customer-centered VPP model



# Prosumer Network



## What is it?

- A prosumer **pro**duces and **con**sumes energy. Is it only for self-consumption? No.
- A transactive energy platform simulation that measures and validates the selling of electricity and carbon emission credits

## It matters because

- Innovative business models
- Optimize for the customer
  - Virtual Power Plant programs
  - Dynamic/Transactive utility tariffs

# Prosumer Network



## Early insights

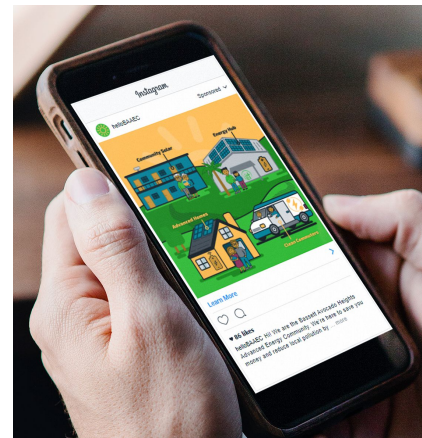
- Difficult to monetize grid services
- Opportunity for whole house coordination
- Customer agreement vs. program participation

## Up next

- Technology integration
  - Hardware and software
- Use case architecture

## Excited about

- Simulation scenarios
- Policy recommendations



# Thank you

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