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# Rapid deployment of DERs in California's Energy Future: The importance of fiscally sustainable and scalable financial solutions to advance equity and inclusion

California Energy Commission Informational Proceeding on  
Distributed Energy Resources in California's Energy Future (Docket No. 22-OII-01)

June 1, 2022

# 2022: U.S. DOE and 5 California state agencies join dozens of public and private entities to accelerate commercialization of bidirectional chargers that support vehicle-grid integration



**Rima Kasia Oueid** · 1st

Commercialization Executive/Senior Energy Finance & Policy Advisor

3d · Edited · 🌐

The bidirectional electric vehicle revolution has officially begun!

It was an honor to lead the development of U.S. Department of Energy (DOE) Vehicle-to-Everything MOU which builds partnerships and brings together cutting-edge resources from DOE, national labs, state and local governments, OEMs, EVSEs, and utilities to accelerate and integrate bidirectional charging into energy infrastructure. Thank you to all the signatories and our partners for the courage to accelerate adoption of EVs in a thoughtful way!

This is truly a coalition of the willing and we look forward to creating more partnerships!

<https://lnkd.in/g/fejjaTKb>

[https://lnkd.in/g8c\\_RbMN](https://lnkd.in/g8c_RbMN)

[#departmentofenergy](#)

[#electricvehicles](#) [#v2gNow](#) [#electricvehiclesarethefuture](#)  
[#bidirectionalEVs](#) [#transportation](#) [#gridmodernization](#) [#resilience](#)  
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📍 with You and 28 others

# Imperative for 100%: Decarbonization Upgrades for Virtually Everyone, Everywhere

## EFFICIENCY



Insulation, air sealing & duct sealing



WiFi thermostats & water heater load control switch with demand response



Advanced power strips



LEDs



Water heater wrap & pipe insulation



Low flow fixtures



AC coil cleaning



ENERGY STAR windows



Solar water heater

## ELECTRIFICATION



Heat pumps



Heat pump water heater

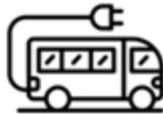
## OTHER POTENTIAL MEASURES



Induction cooktop



Automated building energy controls



Electric vehicle fleets



Community solar



Rooftop solar



ENERGY STAR Appliances



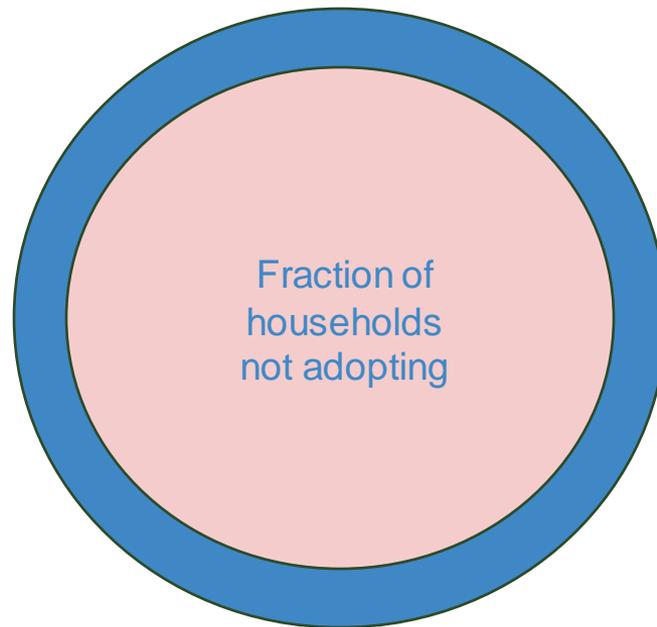
Home battery storage



Home electric vehicle charging station

The pace, scale, and distribution of DER deployment is critically constrained by options for overcoming the first cost barriers. Policies for funding and financing are reaching a tiny fraction.

Fraction of households that can be served by available funding



Fraction of households that are able and willing to accept debt for clean energy upgrades

## 2016: SB350 charged the CEC to study barriers to efficiency and renewables upgrades in low-income communities and recommend solutions, leading to the landmark *Barriers Study*

*“The CPUC should consider developing a tariffed on-bill pilot for investments in energy efficiency that targets low-income customers regardless of credit score or renter status, and that do not pass on a debt obligation to the customer.*

*Utilities could use the program to make energy upgrade investments and recover the cost through the bill, so long as the recovery charge is less than the estimated savings.*

*The Energy Commission should encourage and provide technical assistance to POU's and other load-serving entities seeking to implement a tariffed on-bill pilot.”*

California Energy Commission  
COMMISSION FINAL REPORT

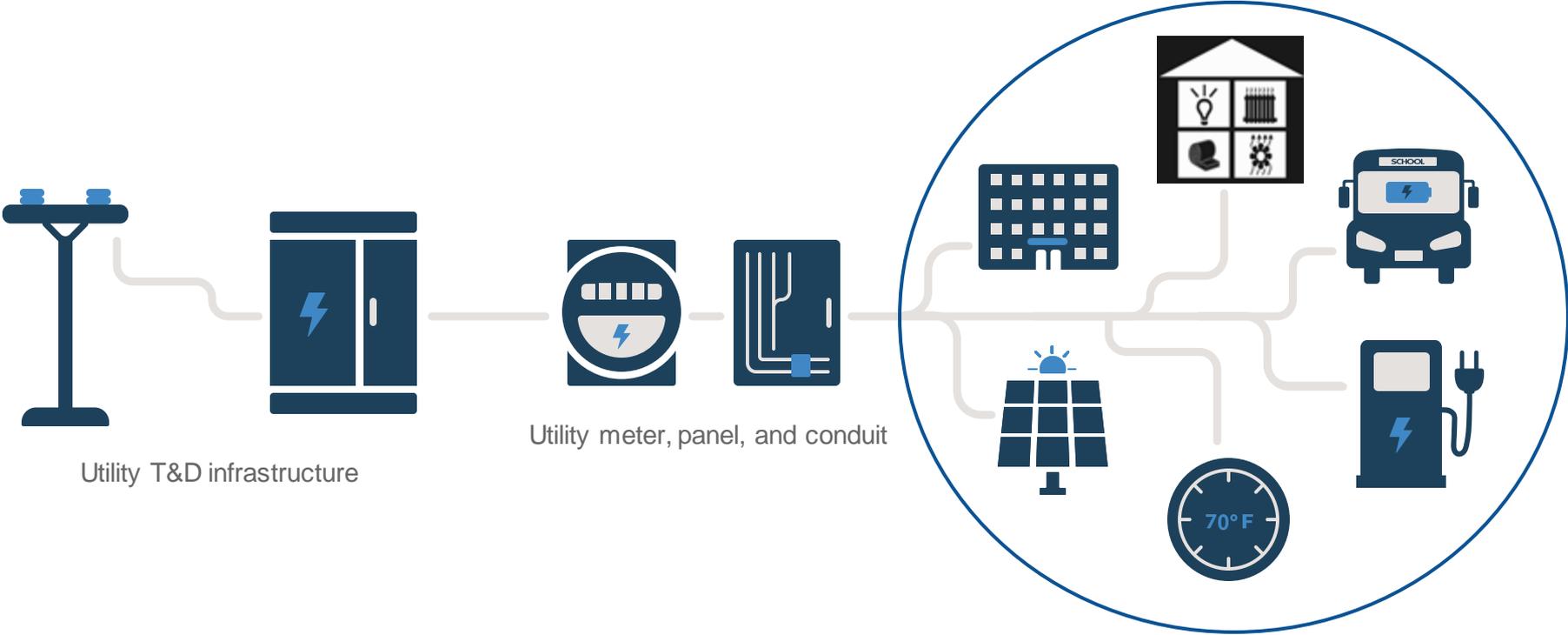
### **Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities**

California Energy Commission  
Edmund G. Brown Jr., Governor

December 2016 | CEC-300-2016-009-CMF

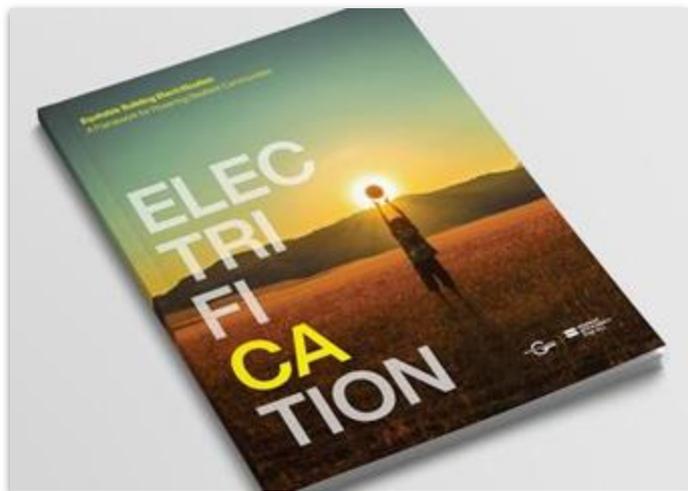


# Utilities can be authorized to capitalize DERs with strong consumer protections, expanding participation and pathways to ownership with high acceptance rates

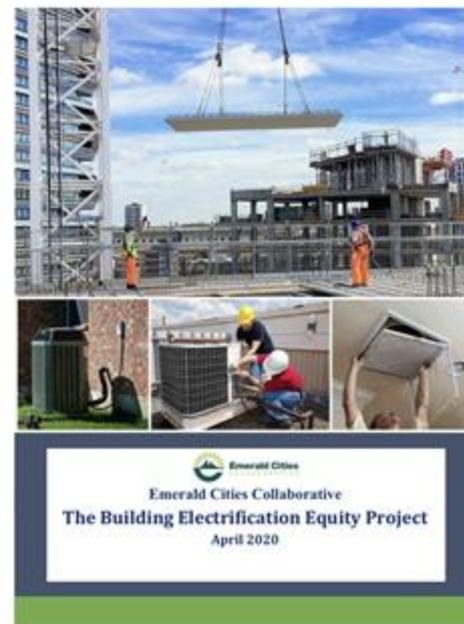


## 2018: California set its sights on building decarbonization with SB1477

SB1477 funds the TECH pilot, which awards funding to develop an inclusive utility investment program. Meanwhile, champions for equity collaborate to develop a vision for inclusion...



Greenlining Institute and Energy Efficiency for All lead publication of Equitable Building Electrification framework



## 2020: Building Decarbonization Coalition engaged 150 stakeholders who developed and applied design criteria that led to recommendation of a tariffed on-bill program

### Towards an Accessible Financing Solution

A POLICY ROADMAP WITH PROGRAM IMPLEMENTATION CONSIDERATIONS FOR TARIFFED ON-BILL PROGRAMS IN CALIFORNIA



A 2020 report by the Building Decarbonization Coalition concluded that utility tariffed on-bill programs are the best way to realize clean energy targets at scale AND to be truly inclusive such programs must demonstrate:

1. Ability to finance over long periods (10-15 yrs) even in rental units with multiple changes in tenancy
2. Ability to leverage utility bill savings to defray investment costs, rather than rely on consumer credit or equity
3. Cash-positive outcomes that assure LMI customers will not experience increased energy burdens
4. Ability to scale to serve millions of households

*“A threshold research finding that guided the Project’s subsequent investigations is that **consumer credit finance products are ill suited** to meet the design criteria above. This knowledge already has motivated multiple public agencies to develop policy recommendations and solutions that would facilitate site-specific clean energy investments with utility or societal capital and site-specific cost recovery consistent with regular terms of service offered by utilities.” (p.3)*



Assigned Commissioner  
Genevieve Shiroma

### A clear vision of success:

“As we look to expand clean energy financing strategies, the Commission will look to **ensure** that new options will be **accessible to populations that face issues of creditworthiness and barriers to accessing affordable capital.**”

“These strategies will be informed by existing efforts to **ensure equitable access to clean energy.** An example is the Low-Income Barriers Study initiated pursuant to Senate Bill 350 (De León, 2015).”

## Reconciling a profound contrast in scale of deployment foreseen by CEC and CPUC: CEC estimated rate of deployment compared to proposals received by CPUC

With a goal of 6 million heat pumps deployed by 2030, the CPUC Energy Division staff reminded participants of a recent public workshop that this implies an average deployment rate of ~62,000 per month.

However, the proposals made thus far to the CPUC for facilitating *deployment of capital* for *deployment of DERs* would amount to several thousand *over a few years*.

The engagement between CEC and CPUC to reconcile this massive mismatch in anticipated need for scale compared to the instruments for mobilizing investment may be essential for addressing concerns about distributive equity and climate justice in California.

# 2021: EPA announced it would work to accelerate adoption of inclusive utility investment (described as tariffed on-bill investment), five years after the CEC's 2016 recommendation



## ACCELERATING BUILDING DECARBONIZATION: A WHITE HOUSE ROUNDTABLE WITH GOVERNMENT & INDUSTRY



*"We are working on accelerating emerging models of success at expanding the scale of efficiency deployment in underserved and overburdened communities, such as...inclusive utility investment approaches with robust consumer protections like the Pay As You Save® (PAYS®) model. "*

*- EPA Administrator Michael Regan  
White House Roundtable on Accelerating Building Decarbonization with Government and Industry*



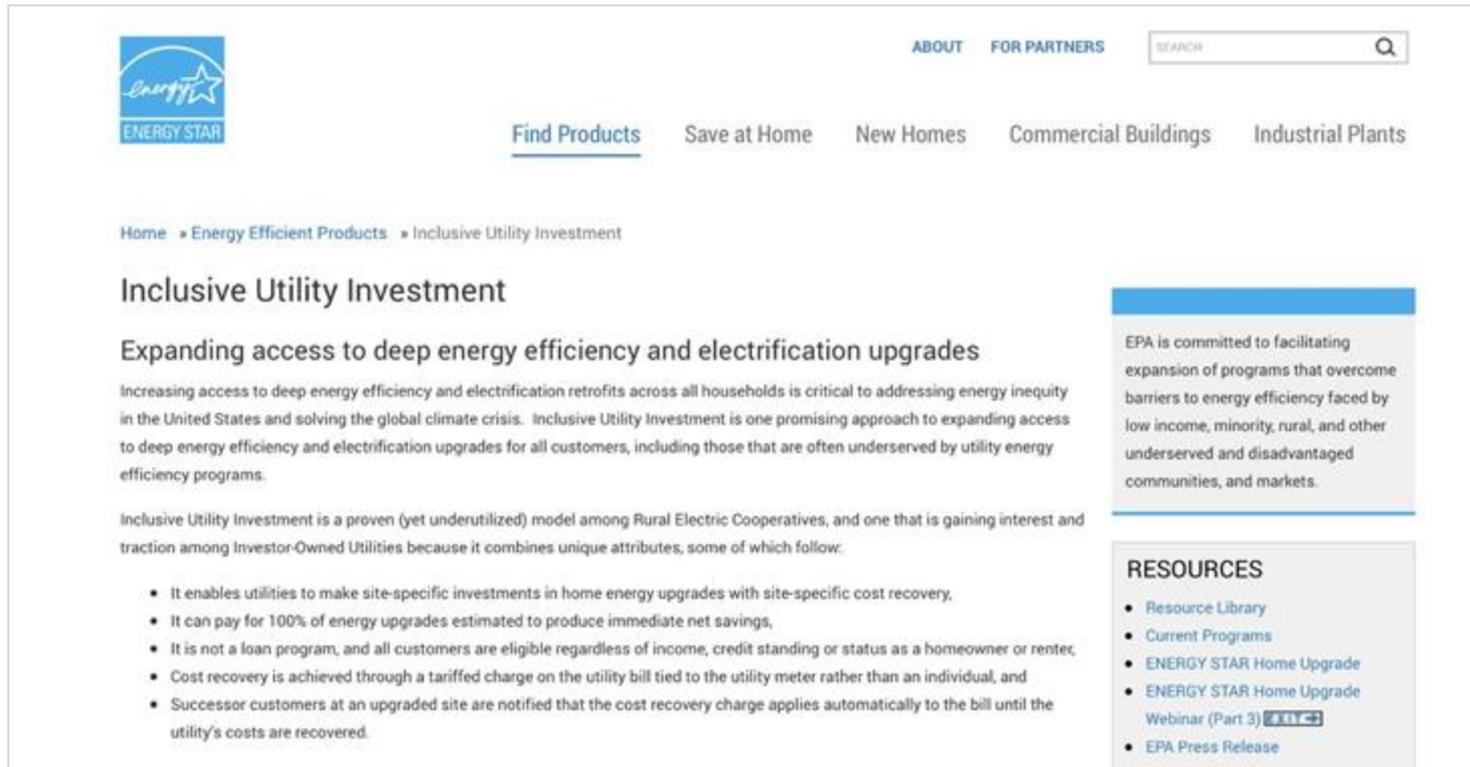
EPA launches ENERGY STAR Home Upgrade and promotes the use of Inclusive Utility Investment. Webinar features PAYS® practitioners including an investor owned utility

## 2021 ENERGY STAR Products Partner Meeting



Source: [White House](#), [EPA](#)

# 2022: EPA launches a new resource hub for Inclusive Utility Investment in conjunction with the launch of ENERGY STAR's building decarbonization upgrade program



The screenshot shows the EPA ENERGY STAR website. At the top left is the ENERGY STAR logo. To the right are navigation links for 'ABOUT' and 'FOR PARTNERS', and a search bar. Below the logo is a horizontal menu with 'Find Products' (underlined), 'Save at Home', 'New Homes', 'Commercial Buildings', and 'Industrial Plants'. The breadcrumb trail reads 'Home » Energy Efficient Products » Inclusive Utility Investment'. The main heading is 'Inclusive Utility Investment', followed by the sub-heading 'Expanding access to deep energy efficiency and electrification upgrades'. The main text describes the program's goal to increase access to deep energy efficiency and electrification retrofits across all households, addressing energy inequity and the global climate crisis. A list of five bullet points follows, detailing program features like site-specific investments, 100% cost recovery, and eligibility for all customers. On the right side, there are two callout boxes: one with a blue header stating EPA's commitment to expanding programs for underserved communities, and another with a grey header titled 'RESOURCES' listing links to a Resource Library, Current Programs, ENERGY STAR Home Upgrade, ENERGY STAR Home Upgrade Webinar (Part 3), and EPA Press Release.

**ENERGY STAR**

ABOUT FOR PARTNERS SEARCH

Find Products Save at Home New Homes Commercial Buildings Industrial Plants

Home » Energy Efficient Products » Inclusive Utility Investment

## Inclusive Utility Investment

### Expanding access to deep energy efficiency and electrification upgrades

Increasing access to deep energy efficiency and electrification retrofits across all households is critical to addressing energy inequity in the United States and solving the global climate crisis. Inclusive Utility Investment is one promising approach to expanding access to deep energy efficiency and electrification upgrades for all customers, including those that are often underserved by utility energy efficiency programs.

Inclusive Utility Investment is a proven (yet underutilized) model among Rural Electric Cooperatives, and one that is gaining interest and traction among Investor-Owned Utilities because it combines unique attributes, some of which follow:

- It enables utilities to make site-specific investments in home energy upgrades with site-specific cost recovery,
- It can pay for 100% of energy upgrades estimated to produce immediate net savings,
- It is not a loan program, and all customers are eligible regardless of income, credit standing or status as a homeowner or renter,
- Cost recovery is achieved through a tariffed charge on the utility bill tied to the utility meter rather than an individual, and
- Successor customers at an upgraded site are notified that the cost recovery charge applies automatically to the bill until the utility's costs are recovered.

EPA is committed to facilitating expansion of programs that overcome barriers to energy efficiency faced by low income, minority, rural, and other underserved and disadvantaged communities, and markets.

#### RESOURCES

- [Resource Library](#)
- [Current Programs](#)
- [ENERGY STAR Home Upgrade](#)
- [ENERGY STAR Home Upgrade Webinar \(Part 3\)](#)
- [EPA Press Release](#)



# Thank You

[www.cleanenergyworks.org](http://www.cleanenergyworks.org)