

**DOCKETED**

|                         |                                                                                                              |
|-------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Docket Number:</b>   | 21-IEPR-06                                                                                                   |
| <b>Project Title:</b>   | Building Decarbonization and Energy Efficiency                                                               |
| <b>TN #:</b>            | 238794                                                                                                       |
| <b>Document Title:</b>  | Presentation - Financing Decarbonization at ScaleInclusive utility investments with a path to site ownership |
| <b>Description:</b>     | S2.5A_Holmes Hummel_Clean Energy Works                                                                       |
| <b>Filer:</b>           | Raquel Kravitz                                                                                               |
| <b>Organization:</b>    | Clean Energy Works                                                                                           |
| <b>Submitter Role:</b>  | Commission Staff                                                                                             |
| <b>Submission Date:</b> | 7/9/2021 9:19:30 PM                                                                                          |
| <b>Docketed Date:</b>   | 7/9/2021                                                                                                     |

# **Financing Decarbonization at Scale: Inclusive utility investments with a path to site ownership**

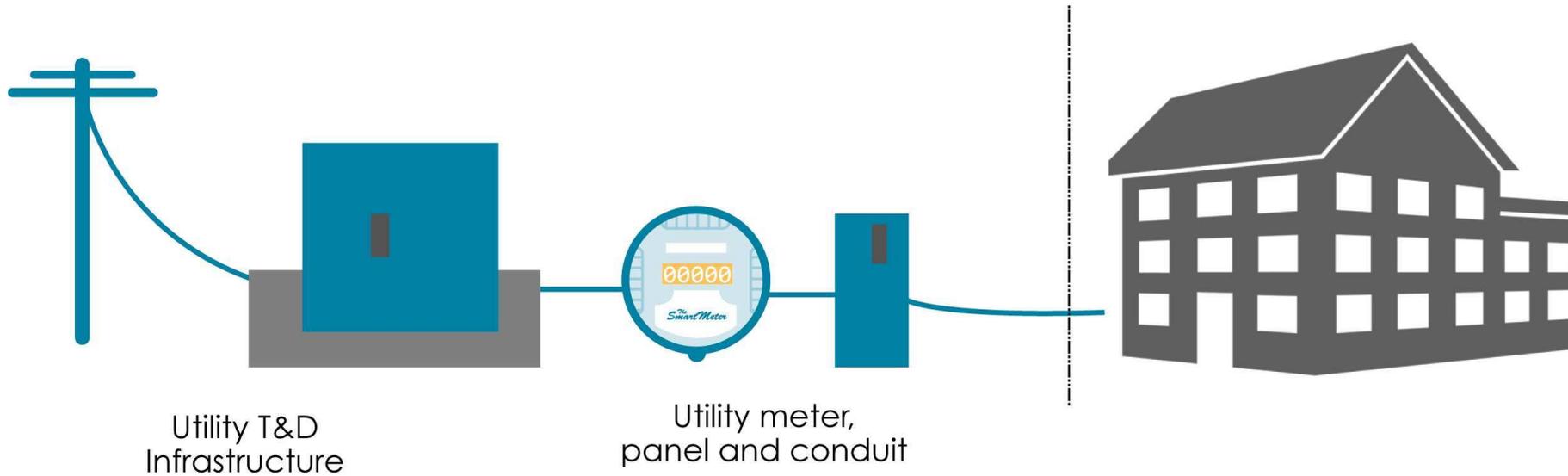
Holmes Hummel, PhD  
Executive Director  
Clean Energy Works

**Prepared for the California Energy Commission:**

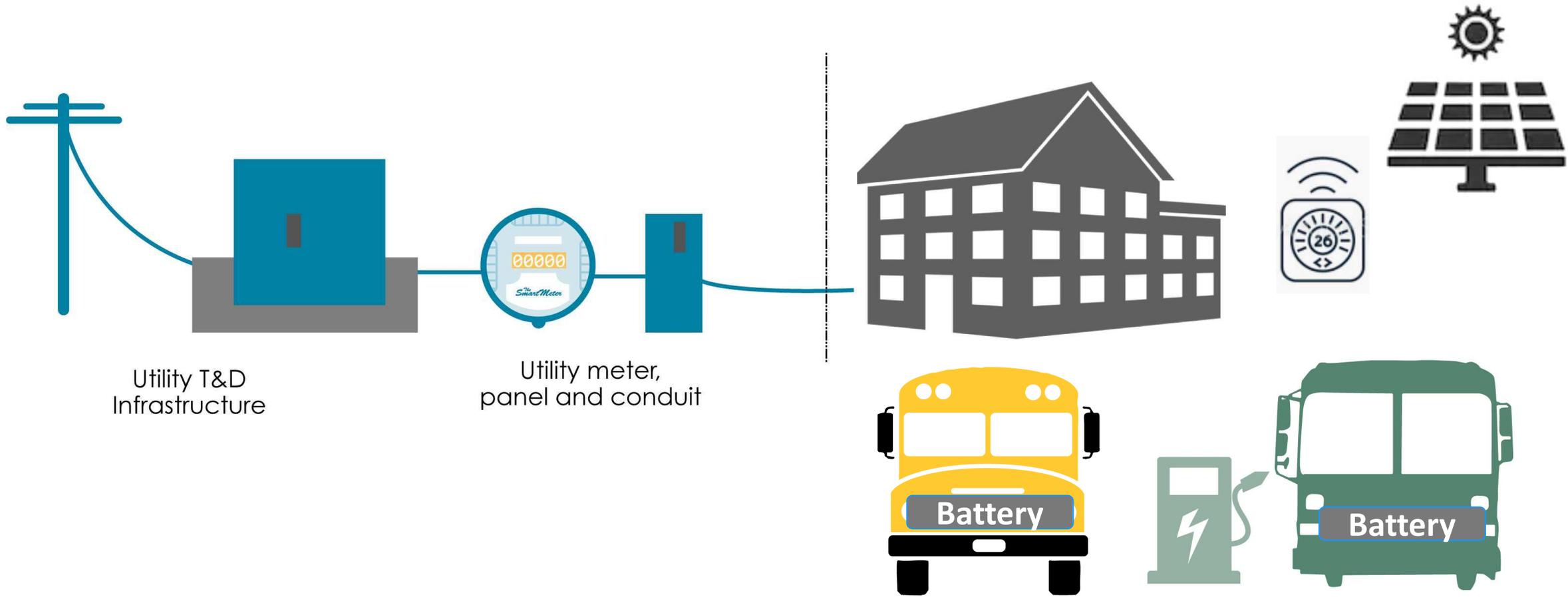
**Financing Decarbonization Session  
Building Decarbonization Workshop  
2021 Integrated Energy Policy Report**

**July 12, 2021**

Inclusive utility investments can capitalize many solutions at the grid edge, while still providing a path to ownership and assurance of consumer protection



Inclusive utility investments can capitalize many solutions at the grid edge, while still providing a path to ownership and assurance of consumer protection

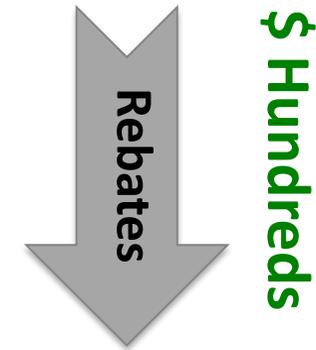


# Ratepayer funds and other polluter pays funds can buy down upfront cost barriers

After all rebates and public funds are applied,  
the remaining balance yields these options:

- Pay Cash
- Pay on Credit
- Decline the upgrades

**Rate-payer or  
Public funds**



**Customers**

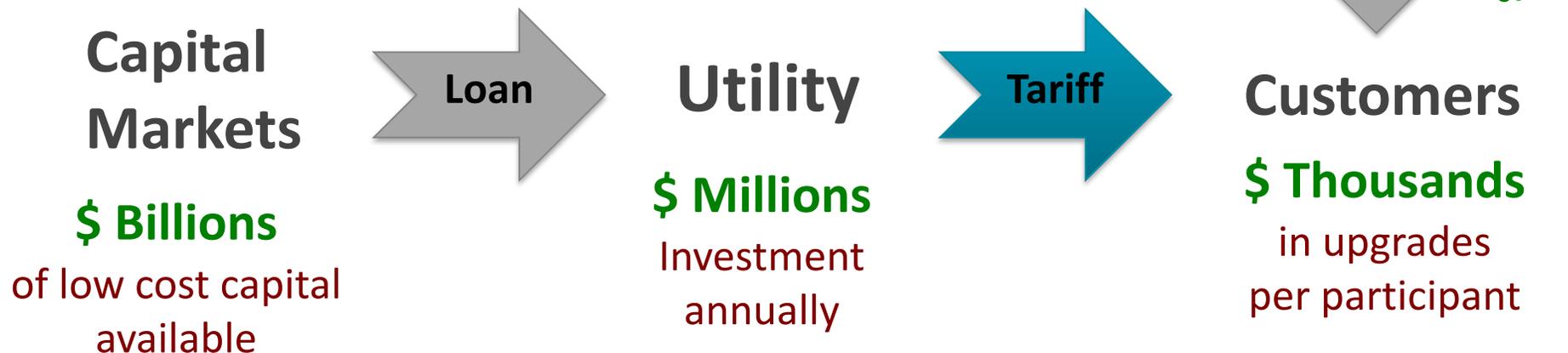
**\$ Thousands**

in upgrades  
per participant

Leveraging funding to mobilize *much more capital* with **inclusive utility investment** in site-specific upgrades with consumer protections and a pathway to ownership

After all rebates and public funds are applied, the remaining balance yields these options:

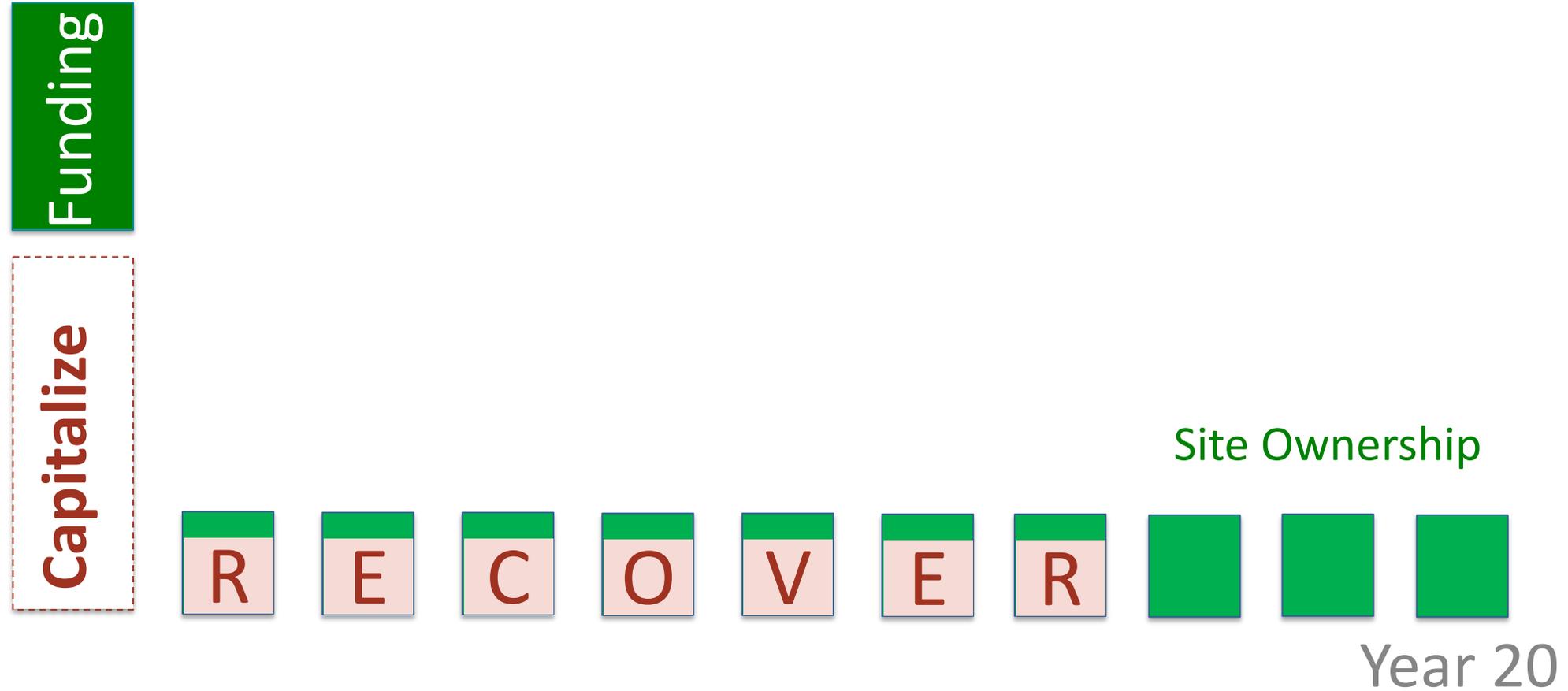
- Pay Cash
- Pay on Credit
- Decline the upgrades
- ✓ **Inclusive utility investment**



# Addressing first-cost barriers with funding and financing



# Addressing first-cost barriers with funding and financing



# Funding for initial deployments is critical to getting started

| Instrument                      | Sustainable           | Scalable            | Customer Balance Sheet Treatment |
|---------------------------------|-----------------------|---------------------|----------------------------------|
| Taxpayer funding                | Yellow                | Red                 | Green                            |
| Polluter funding (carbon price) | Red/Yellow Diagonal   | Red/Yellow Diagonal | Green                            |
| Ratepayer funding               | Green/Yellow Diagonal | Red                 | Green                            |

Highly sought grants

Covering the incremental upfront cost with grants is not scalable or sustainable.

# Financing options can extend the impact of funding available for the incremental upfront cost

| Instrument                          | Sustainable            | Scalable             | Customer Balance Sheet Treatment |                      |
|-------------------------------------|------------------------|----------------------|----------------------------------|----------------------|
| Taxpayer funding                    | Yellow                 | Red                  | Green                            | Highly sought grants |
| Polluter funding (carbon price)     | Red diagonal stripes   | Red diagonal stripes | Green                            |                      |
| Ratepayer funding                   | Green diagonal stripes | Red                  | Green                            |                      |
| Debt financing                      | Green                  | Green                | Balance sheet liability          | Financing            |
| Operating leases / services         | Green                  | Green                | Balance sheet liability          |                      |
| Utility tariffed on-bill investment | Green                  | Green                | Green                            |                      |





# 2016: SB350 mandates the CEC to produce a landmark report on Barriers to Low-Income Customers

## Recommendation on financing:

“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 POUs 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

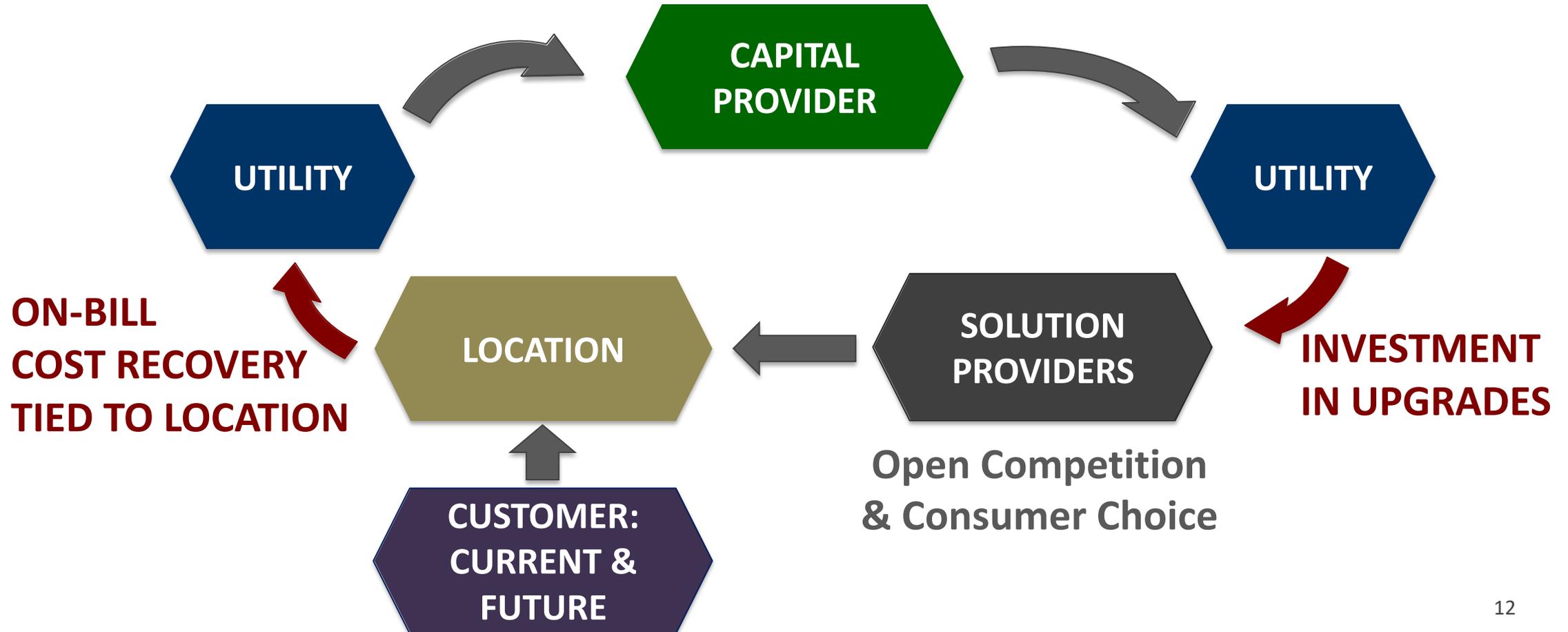


December 2016 | CEC-300-2016-009-CMF

# Tariffed On-Bill Investments

## deploy and recover capital for site specific upgrades

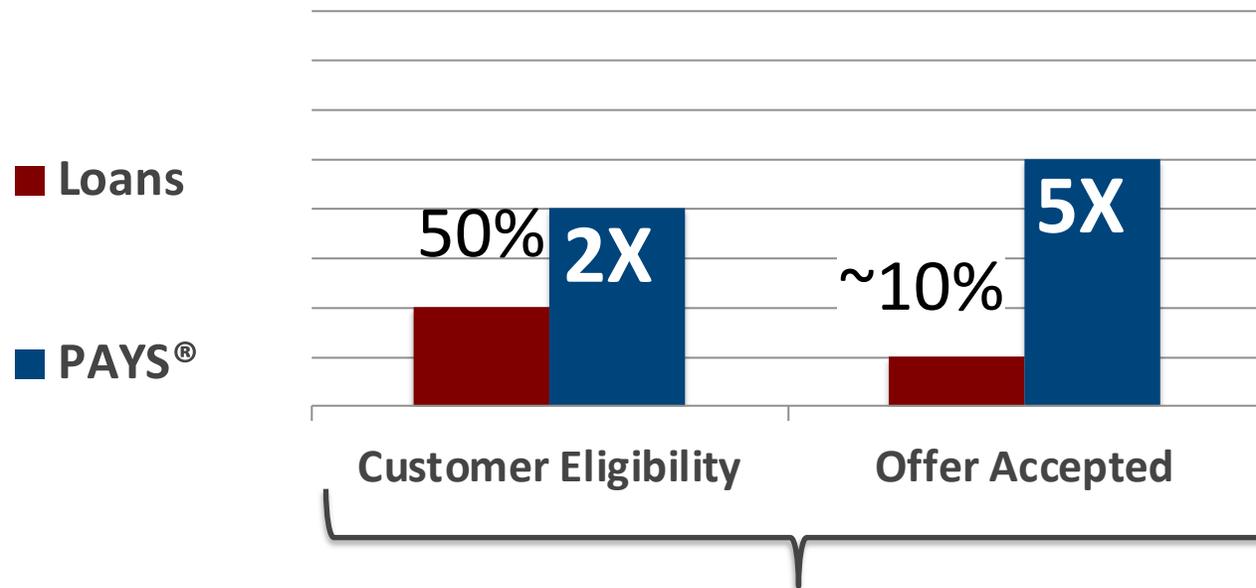
Tariffed on-bill programs offer all utility customers the option to access cost effective energy upgrades using a proven investment and cost recovery model that benefits both the customer and utility.



| Attributes                                                                                                                                                                         | On-Bill<br>Loan | PAYS <sup>®</sup><br>Tariff |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------------------|
| <ul style="list-style-type: none"> <li>No upfront participant cost for cost effective upgrades</li> </ul>                                                                          | ✓               | ✓                           |
| <ul style="list-style-type: none"> <li>No credit or income qualification required</li> </ul>                                                                                       |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Renters are eligible</li> </ul>                                                                                                             |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Estimated savings <u>must exceed</u> cost recovery charges</li> </ul>                                                                       |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Participant accepts terms of a utility tariff <u>tied to the location</u></li> </ul>                                                        |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Cost recovery is through a fixed charge on the utility bill</li> </ul>                                                                      | ✓               | ✓                           |
| <ul style="list-style-type: none"> <li>Participant agrees to disconnection for not paying utility bills</li> </ul>                                                                 |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Payments end if upgrade fails and is not repaired</li> </ul>                                                                                |                 | ✓                           |
| <ul style="list-style-type: none"> <li>Cost recovery runs with the location and remains in effect for subsequent customers at that site until cost recovery is complete</li> </ul> |                 | ✓                           |

# Inclusive utility investment with tariffed on-bill terms powerfully expands access to economic opportunity

Comparison for building efficiency upgrades

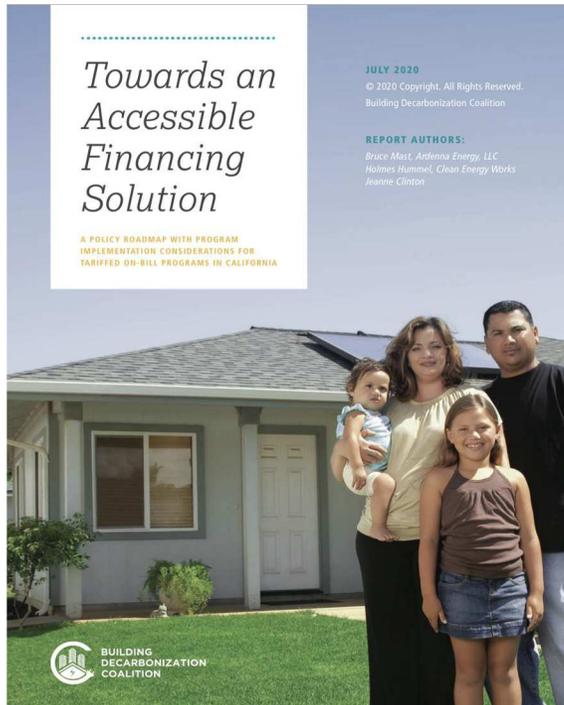
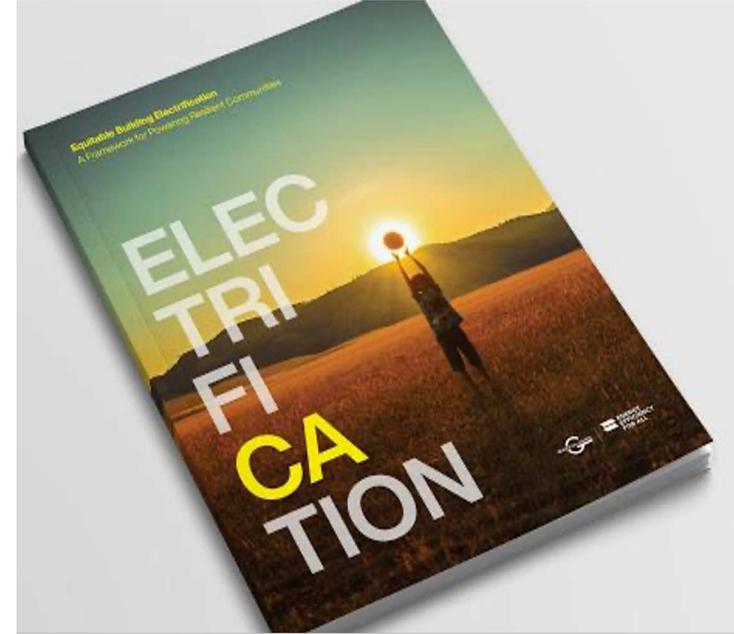


**Investment acceleration is a product of these multiples.**

- ✓ No consumer loan, lien, or debt
- ✓ Reaches renters and low-income
- ✓ Deeper energy & carbon savings
- ✓ Higher uptake rates

# 2018: 100% clean electricity (SB100) + building decarbonization (SB1477)

**2019:** *Equitable Building Electrification* framework, released by Greenlining Institute and Energy Efficiency for All in 2019, calls for supporting ESJ households through alternative financing such as tariffed on-bill investments.



**2020:** The Building Decarbonization Coalition completed a stakeholder process to chart a policy roadmap called *Towards an Accessible Financing Solution*, which recommends tariffed on-bill investment combined with complementary funding.

# Towards an Accessible Financing Solution

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

JULY 2020  
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Building Decarbonization Coalition

REPORT AUTHORS:  
Bruce Mast, Ardenna Energy, LLC  
Holmes Hummel, Clean Energy Works  
Jeanne Clinton



## RECOMMENDATIONS FOR ENABLING LARGE SCALE CAPITAL DEPLOYMENT FOR BUILDING DECARBONIZATION

The following recommendations aim to expand complementary public funding opportunities for core tariffed on-bill programs enacted as a part of the Near-Term Pathway.

| DECISION-MAKERS                                                                               | ACTIONS NEEDED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>CPUC and POU regulators</b></p>                                                         | <ul style="list-style-type: none"> <li>• Authorize terms of a tariff that includes broad and common definitions of eligible households, improvements, and any necessary qualification criteria applicable to any/all decarbonization measures financed.</li> <li>• Continue to incorporate decarbonization measures into all EE programs, prioritizing attention to customers residing in disadvantaged communities, those already qualified for LMI programs, and those demonstrating the greatest opportunities for energy cost savings.</li> <li>• Consider integrating into one overall initiative accessible financing to complement funding for all decarbonization, EE, solar, and EV- charging efforts, and prioritize attention to low income households.</li> </ul>                                                                                       |
| <p><b>CPUC or CEC with State Treasurer's Office or the California Infrastructure Bank</b></p> | <ul style="list-style-type: none"> <li>• Conduct due diligence on capital requirements and sources for an accessible financing mechanism for site-specific investment and cost recovery:               <ul style="list-style-type: none"> <li>• Potential annual California transaction volumes needed over time</li> <li>• Capital source options</li> <li>• Reserve fund options</li> <li>• Structures of finance administration models with low administrative costs and transaction fees.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                |
| <p><b>State legislature</b></p>                                                               | <ul style="list-style-type: none"> <li>• Enable broad and deep participation in decarbonization by authorizing government funding to leverage deployment of even larger private capital flows through tariffed on-bill investment programs.</li> <li>• Assign responsibility to a state agency to identify workable mechanisms to combine funding resources to achieve GHG reductions.<sup>92</sup></li> <li>• Consistent with recommendations from the CEC's 2019 Energy Efficiency Action Plan, require agencies to work towards structural alignment across relevant program administrators and investment siloes.<sup>93</sup></li> <li>• Allow "siloed" public and ratepayer funding resources to be channeled to a unified decarbonization investment mechanism that can support broad sets of decarbonization improvements to California housing.</li> </ul> |

This is an excerpt. Full set of recommendations is in the report:  
[https://www.buildingdecarb.org/uploads/3/0/7/3/30734489/bdc\\_whitepaper\\_final\\_small.pdf](https://www.buildingdecarb.org/uploads/3/0/7/3/30734489/bdc_whitepaper_final_small.pdf)

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

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## RECOMMENDATIONS FOR STATEWIDE PROGRAM ADMINISTRATION

### DECISION-MAKERS

### ACTIONS NEEDED

#### CPUC and POU regulators

- Authorize utilities to deploy capital and recover cost for building decarbonization upgrades via tariffed on-bill structures that enable participation regardless of income, credit score, or renter status.
- Take a statewide portfolio approach to guide cost-effective climate investment decisions rather than site- or silo-program specific cost-effectiveness criteria.

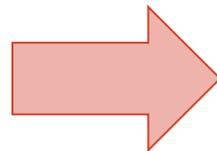
#### State legislature

- Establish parameters for public funding that reflect the full social benefits of decarbonization.
- Designate CEC or another state entity, in partnership with CARB, CPUC, and HCD among others, to oversee implementation and progress with building decarbonization investment adoption strategies.
- Approve assigning tariffed on-bill notices for building energy upgrades to property records, as already authorized in the California Water Bill Savings Act (Senate Bill 564) for water efficiency upgrades.<sup>94</sup>

#### Designated State Agency

- Determine what entity or entities should administer building decarbonization investment transactions.
- Encourage and reward innovative approaches to achieve high levels of participation, prioritizing disadvantaged communities.

Time is a critical factor in capitalizing tariffed on-bill investments at a scale sufficient to achieve California's policy objectives. While these recommendations may be taken up in any order, near-term pathway actions by utilities and utility regulators are critical to getting started at an initial scale. Supporting actions by the state legislature and governor can facilitate accelerated implementation.



# Recent newsmakers are validating field interest

*EPA Administrator draws attention to inclusive utility investment programs at White House Roundtable on Better Buildings*



*Forbes introduces a larger audience to inclusive utility investments*



*DOE Loan Program Director welcomes applications for tariffed on-bill programs in keynote for VERGE Electrify*

