

TECH Clean California Tariffed On-Bill Investment Pilot

Stakeholder Working Group, Workshop #1

September 23, 2021

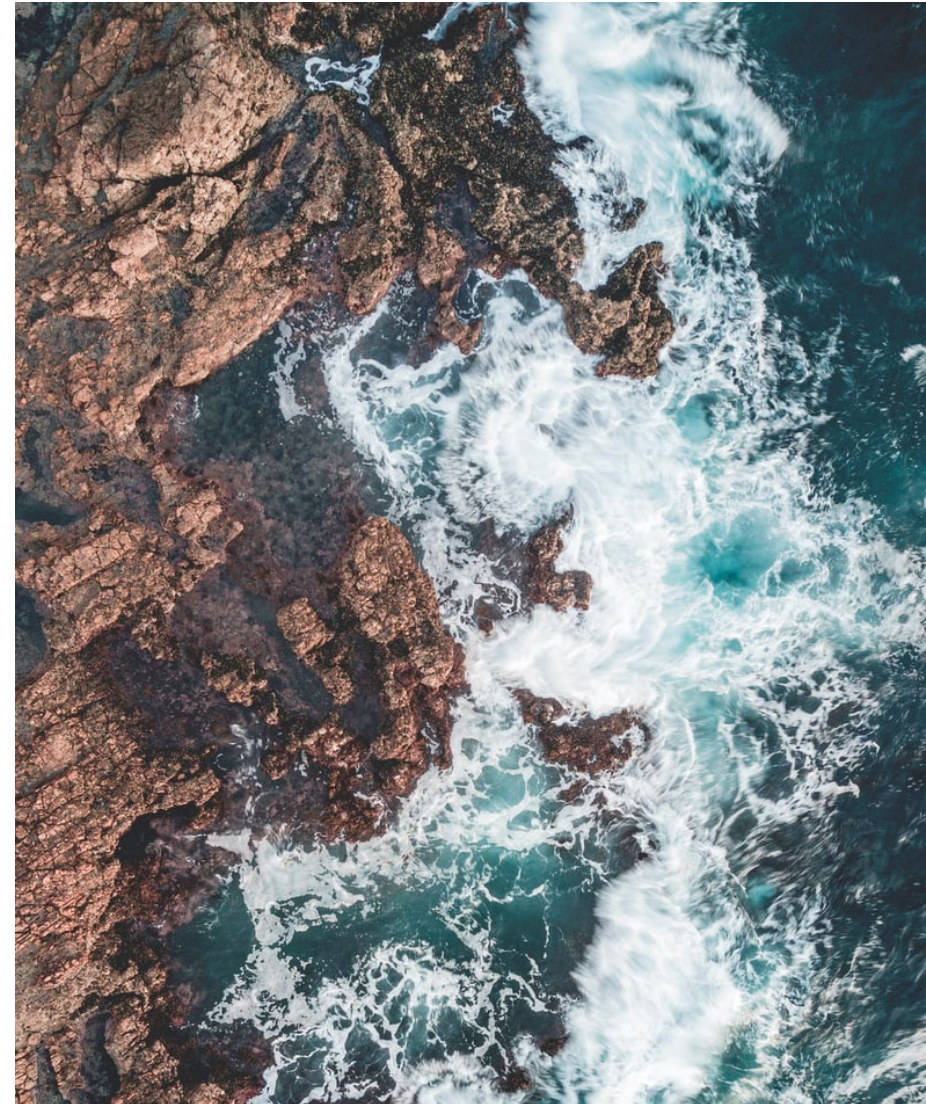


The TECH Clean California initiative is funded by California gas corporation ratepayers under the auspices of the California Public Utilities Commission.



Agenda

- 1 Who is in the room?
- 2 Overview of pilot approach
- 3 Workshop issues
- 4 Survey on goals & metrics



Who's In the Room?

- Name, preferred pronoun, organization, role

Please note:

- Are there other members of your organization working/likely to work on TOB?
- What do you hope to get out of these working group meetings?
- Do you expect to have design ideas, proposals or research to share during these workshops?

Workshop Format & Ground Rules

Workshop objective: Information sharing and feedback on opportunities and challenges, pros and cons of program design alternatives from stakeholders who might implement a program.

Not a joint decision-making process.

Workshop discussions are **off the record**. Notes and recordings are for the benefit of Working Group participants only.

All meetings will be recorded and shared with workshop stakeholders

Resources: to be posted on SharePoint site for workshop attendees, recordings, presentation slides, draft documents, etc

Gathering Feedback & Information

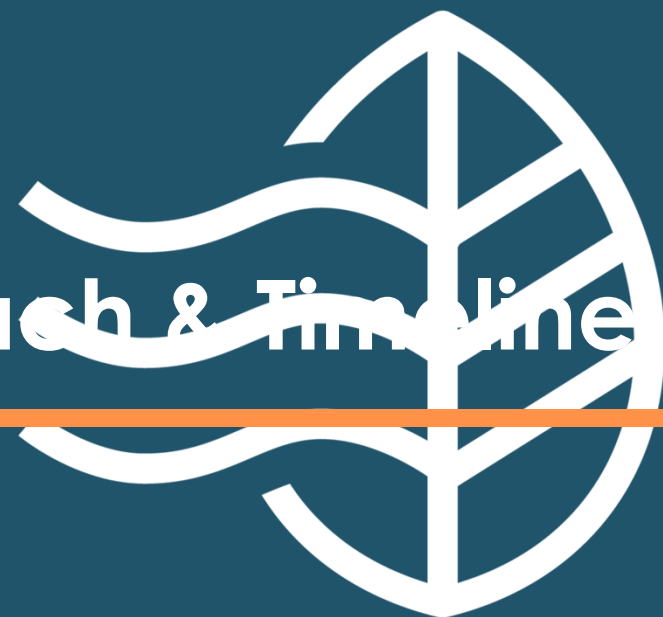
During Workshops

- Opportunities for Q&A
- TOB team will solicit direct feedback through questions and open discussion
- Participants can share their proposals or information on different topics (ideally scheduled ahead of time)

Following each Workshop:

- A survey will be sent to each participant giving them opportunity to provide answers or feedback on key issues
- Sometimes (including today), the survey will include material mentioned but not described in detail during the presentations
- We encourage you to complete those right away, following each workshop, but no more than one week later
- Surveys are to generate feedback to TECH team; results will not be distributed

2 TOB Pilot Approach & Timeline



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Pilot Design Intent

Expand customer access to clean energy investments

- Include those customers that are typically disqualified from traditional financing
- Address high debt-to-income ratios, poor credit, low home equity, or renter status

Demonstrate and expand the **Tariffed On-Bill (TOB) investment model** for residential customers

- Pilot in partnership with a willing and able utility or CCA partner

Show a **pathway to scale** to address climate challenge by investigating:

- Customer electrification economics and cost allocations
- Alternatives for managing financial and legal risks
- Options for assigning program roles and responsibilities

Our Working Hypotheses

The scale required to address climate change is possible.

1. Shared savings mechanism can unlock ~ \$6,000 per project in private capital investment, achieve 6.7:1 leverage in private v. ratepayer funding.
2. Within 4 years, TOB can capitalize 50% of annual gas equipment replacements

We can address climate change equitably.

1. Shared savings mechanism plus strong consumer protections will facilitate investments benefiting low- & moderate-income households
2. Site-specific investments can facilitate investments benefiting renters

Risks are real but manageable.

1. Consumer protections can offer participants a 99% probability of cash-positive outcomes based on metered results
2. Consumer protections can incorporate safeguards to minimize energy insecurity
3. Risk mitigation strategies can open access to capital at below the market rate

Tariffed On-Bill Pilot Work Plan

Pre-planning. Model Program Design, Sept-Dec. 2021

- Open-source planning template that any LSE can adapt
- Basis for program proposal to the CPUC's Clean Energy Finance Proceeding
- Basis for TECH to provide program design & implementation support to pilot partner (Phases 2 & 3)

Phase 1. Enlist a Utility / CCA Partner, Sept-Dec. 2021

- Signed MOU or contract between Energy Solutions (on behalf of TECH) and Partner

Phase 2. Pilot Planning, Jan-Dec. 2022 (or sooner)

- TECH + Partner joint planning exercise
- Program Implementation Plan, Policies & Procedures, Investment Plan, Tariff terms, etc.

Phase 3. Pilot Launch & Implementation, 2023 (or sooner)

Proposed Design Criteria

- **Affordability:** Investments must deliver cash-positive outcomes with robust assurances that customers will not experience increased energy burdens. Impacts to nonparticipating ratepayers must be comparable to or lower than conventional incentive and direct install programs.
- **Maximum impact and uptake:** The Program model must be scalable to serve millions of California households.
- **Reduced complexity:** The offer to the customer must be transparent and easy to understand.
- **Minimizing risk:** A Tariffed On-Bill Program must incorporate suitable consumer protections to shield customers from increased energy burdens stemming from
 - Variable baseline consumption
 - Over-predictions of future energy savings
 - Take-back effects and new cooling loads
 - Variable gas and electricity prices & changing rate structures
 - Equipment performance degradation
 - Successor customers with very different usage habits
- **Equity and inclusion:** A Tariffed On-Bill Program should expand access to clean energy investments for underserved populations, including low- and moderate-income households and renters. Expanded access is made possible by TOB's ability to leverage utility bill savings to defray investment costs, rather than rely on consumer credit or home equity.

Model Program Design Timeline

Workshops every two weeks to address specific design topics:

Session	Date	Topic
#1	Sept. 23	Goals and metrics, workplan and timeline
#2	Oct. 7	Tariff terms, authority to adopt, ownership of assets
#3	Oct. 21	Customer economics
#4	Nov. 4	Consumer protections
#5	Nov. 18	Information system requirements
#6	Dec. 2	Supply Chain, Quality Assurance, Risk Mitigation
#7	Dec. 16	Implementation Plan, Timeline, Budget

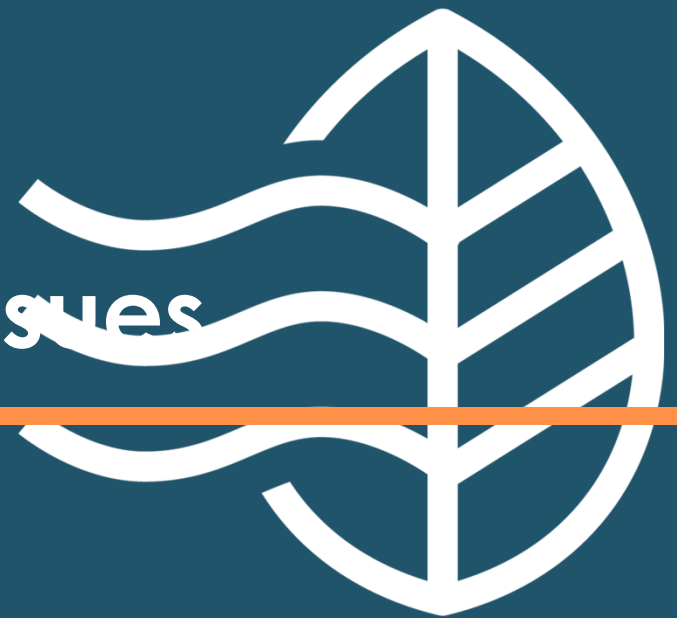
Output is program prototype which:

- Will provide roadmap to LSEs considering how to pilot their own TOB program
- Could inform proposal to CPUC Clean Energy Finance Proceeding

Feedback and Questions

3

TOB Workshop Issues



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#2 Critical Issues: Tariff Terms, Authority to Adopt, Ownership of Assets

- Tariff terms
- Utility authority to adopt
- **Ownership of investment assets**
 - Financial accounting, depreciation, reflecting assets on balance sheet
 - Operational responsibility
- Customer eligibility
- **Automatic application of tariffed terms to successor customer**
- Provisions specific to tenants and landlords
- Requirements for prevailing wage

#3 Critical Issues: Customer Economics

- Size of project (total cost) vs. performance of project (bill savings), variability across housing stock; potential electric system/panel upgrades
- % of total cost provided as TOB investment, need of matching incentives of customer copay
- Issues of TOB investment covering only part of project cost but needing to account for all project liabilities (i.e., non-warranty repair costs)
- Landlord fiduciary responsibility to provide heat and hot water
- Options for managing installation costs
- Who pays for cost of capital, program soft costs?
- Buffers vs. protections to accommodate for changes in economics (current customer; successor customer; rate changes; changes to TOU)
- Measuring and monetizing all benefits: GHGs, local emissions & other environmental benefits, contributions to utility gross margin, demand response, permanent load shifting

#4 Critical Issues: Consumer Protections

Cash-positive assurances must be able to address program-specific risks such as:

- Variable baseline consumption
- Over-predictions of future energy savings
- Take-back effects and new cooling loads
- Variable gas and electricity prices & changing rate structures
- Equipment performance degradation
- Successor customers with very different usage habits

Consumer protections should consider other issues, not necessarily tied to TOB, such as:

- Other post-retrofit increases in customers' annual energy consumption
- Unforeseen events that negatively impact customers' future ability to pay their bills (e.g., job loss, medical bills, divorce)

#5 Critical Issues: Information System Requirements

- Billing system integration
 - Capable of issuing and tracking line-item charge and participating accounts
 - Temporarily suspend charge (and reinitiate) as necessary to address closed accounts and / or repairs requiring for non-functioning TOB equipment to return to service.
 - Provide customer information for TOB points of contact if different from normal billing contacts
- Program administration/TOB compliance:
 - Accessible record of installed measures tied to customer account
 - Noticing successor customers when taking service
 - Coordination of filing notice with property records, etc.
- Reporting integration re: Customer Targeting; M&V during and post; Financial performance at project and program levels

#6 Critical Issues: Supply Chain, Quality Assurance, Risk Mitigation

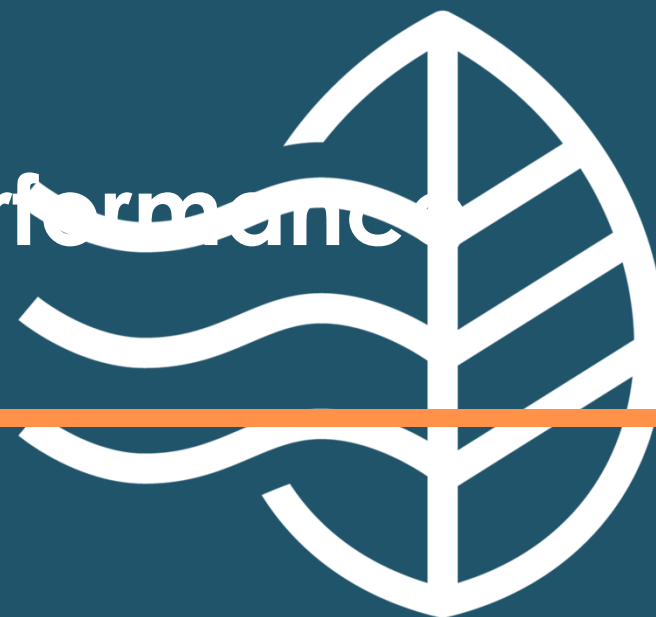
- Service delivery options: does contractor model prioritize cost of services, quality installation and job performance, or ability to scale services?
 - In-house (aka, direct install model, installation via pre-selected contractors under contract to utility or program operator)
 - Closed market: open to select contractors or ESCOs that can deliver highest performance
 - Open market (aka, third party model, open to all contractors that meet minimum criteria and agree to program terms)
- Quality assurance: to assure products installed correctly or customers are using products for best TOB performance?
- What are options/costs for warranty vs risk of repair costs not covered? Manufacturer's warranty? Third-party insurance?

#7 Critical Issues: Implementation Plan, Timeline, Budget

- Source of capital
- In-house administration versus 3rd party program operator
- Intersection with CPUC Clean Energy Finance Proceeding
- Next steps for customizing model program plan into utility-specific plans

4

TOB Pilot Key Performance Indicators



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Feedback on Criteria & Key Performance Indicators

- Within 24 hours we will post additional details on each of the proposed design criteria, e.g., the associated hypothesis and proposed key performance indicators (KPIs)
- Criteria again:
 - Affordability
 - Maximum impact and uptake
 - Reduced complexity
 - Minimizing risk
 - Equity and inclusion
- Each participant will receive a survey giving you an opportunity to provide feedback on proposed criteria and KPIs – and any additional input on workshop topics & approach.

Thank You

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Key Performance Indicators: Affordability

Hypothesis	Key Performance Indicators
A Tariffed On-Bill investment model can deploy a shared savings methodology that attracts capital investments while reducing customer energy burdens.	Occupant retains least 20 percent of the annual energy savings
By incorporating risk mitigation strategies that protect customers, the utility, and the capital providers, a TOB program can acquire capital below the market rate for unsecured consumer loans and below the IOUs' weighted average cost of capital.	Cost of capital is less than the lowest GoGreen Financing interest rate for unsecured consumer debt and less than IOU Weighted Average Cost of Capital (7-8%)
A Tariffed On-Bill investment model can limit ratepayer by leveraging private capital to extend public investments.	Ratio of private to public investment exceeds 6.7

Key Performance Indicators: Impact & uptake

Hypothesis	Key Performance Indicators
By adopting a shared savings mechanism with the participating customer, a Tariffed On-Bill investment model can unlock an average of \$6,000 per project in capital investment from non-ratepayer funding sources for projects that meet threshold screening criteria and leverage \$6.70 in private capital per dollar of ratepayer funding.	Average private capital investment per project > \$6,000
Within four years of launch, a TOB program, combined with aggressive and complementary incentives and market transformation investments, can achieve a participation rate equivalent to 50 percent of the annual replacement rate for furnaces and water heaters in the target market.	Define target market based on Recurve filters. Target participation as a function of equipment replacement rates within target market: <ul style="list-style-type: none">•Year 1: 1%•Year 2: 5%•Year 3: 25%•Year 4: 50%

Key Performance Indicators: Complexity

Hypothesis	Key Performance Indicators
Tariffed On-Bill investments can be structured as a simple, transparent, and low-risk offer that facilitates high customer acceptance	50% of TOB offers are accepted

Key Performance Indicators: Risk

Hypothesis	Key Performance Indicators
A Tariffed On-Bill investment model can incorporate consumer protections that offer participants a 99 percent probability of cash-positive outcomes as shown by meter-based measurement and verification, excluding utility bill impacts from participants' exogenous lifestyle choices.	Metered savings exceeds 80 percent of predicted savings on a kWh and Therm basis for at least 99 percent of participants
A Tariffed On-Bill program can incorporate safeguards for deferring or forgiving cost recovery obligations for customers experiencing job loss, high medical bills, etc., without thereby creating a moral hazard.	Program achieves predetermined metrics for: <ul style="list-style-type: none"> • Number of customers in payment arrears by 1 month, 3 months, and more than 6 months • Number of monthly cost recovery obligations waived or forgiven • Fraction of participating households receiving disconnection notices within a 12-month period

Key Performance Indicators: Equity & Inclusion

Hypothesis	Key Performance Indicators
By adopting a shared savings mechanism with the participating customer, minimizing program complexity, and incorporating strong consumer protections, TOB can facilitate investments benefiting low- and moderate-income households in proportion to their representation in the target population	Program achieves predetermined metrics for: <ul style="list-style-type: none"> • Fraction of upgraded housing units occupied by customers in Disadvantaged Communities according to CalEnviroScreen • Fraction of upgraded housing units occupied by customers who live in poverty, as indicated by their enrollment in an IOU CARE rate
By linking the investment to the site rather than the customer and enabling the cost recovery charge to transfer to successor customers, TOB can facilitate investments benefiting renters in proportion to their representation in the target population	Program achieves predetermined metrics for the fraction of upgraded housing units occupied by renters