

GoGreen Business Program Public Workshop: Proposed Modifications to Regulations

March 25, 2024



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Introduction

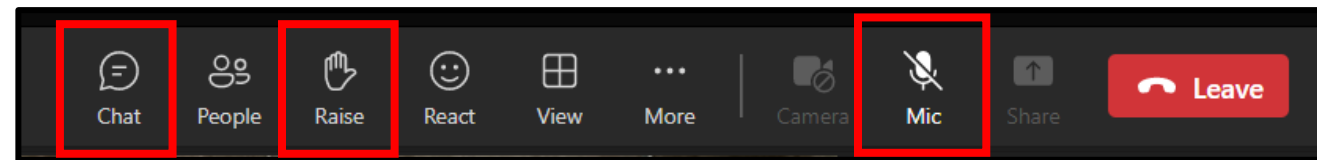
Staff Introductions:

- **Jonathan Verhoef**, CHEEF Program Specialist
- **Kevin Nakano**, CHEEF Program Analyst

Questions & Comments



- For questions, please **type your question into the chat box** or click the button to **raise your hand** and we will unmute you.


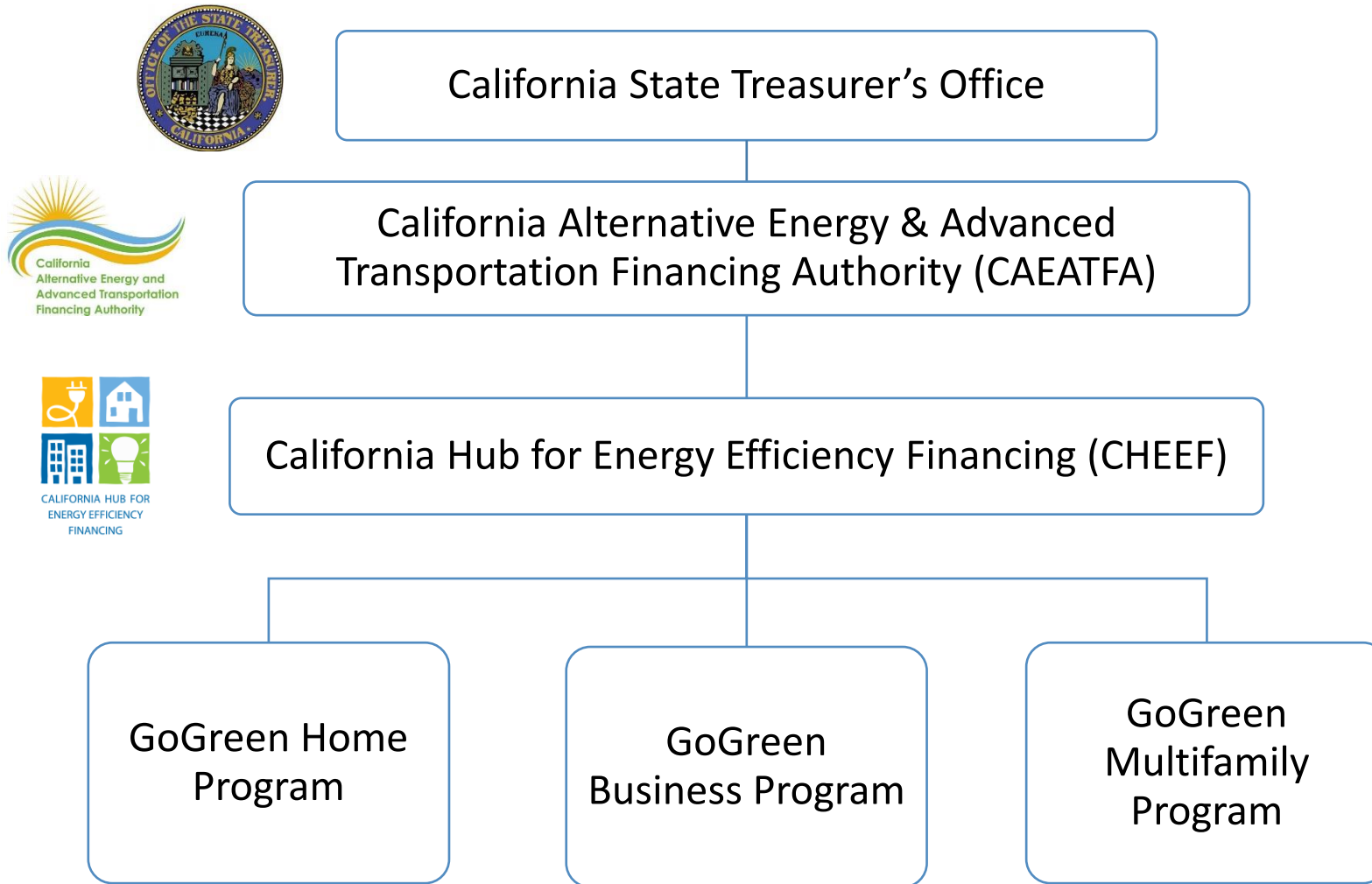


Distribution of Slides



- Workshop slides will be available at <https://www.treasurer.ca.gov/caeatfa/cheef/sblp/regulations/index.asp>

CAEATFA administers the CHEEF and GoGreen Business



California Public Utilities Commission
created the CHEEF to bring private capital to energy efficiency financing, and authorized CAEATFA as its administrator



GoGreen Business Leverages Private Capital for Energy Efficiency

Private lenders offer attractive loan terms for energy efficiency upgrades:




- Unsecured or equipment-secured; no security against real property
- Credit enhancement allows lenders to offer:
 - Lower interest rates (50bps - 800bps), longer payback terms (up to 15 years), larger amounts available to borrow
 - Broader credit approvals (Shorter time in business, no borrowing history, industry sectors hard to qualify such as restaurants, cannabis growers, houses of worship)
- Open to for-profit and non-profit businesses including multifamily that meet one of three definitions:
 - 100 or fewer employees, **or**
 - Annual revenues of less than \$15 million, **or**
 - Meet SBA small business size requirements for their industry
- Top measures installed have been HVAC, LED lighting, refrigeration, insulation



This Workshop will Address Substantive Changes

This presentation highlights the most significant **additions and changes**

Text cleanup and **clarifications** not covered today can be viewed in the redlined document.

-  Additions
-  Changes
-  Clarifications

The proposed edits to regulations are available at:
<https://www.treasurer.ca.gov/caeatfa/cheef/sblp/regulations>.

Proposed Modifications Expand GoGreen Business

Noteworthy modifications and additions we'll cover today:

- Expand measure eligibility beyond efficiency with new measures, such as solar generation, battery storage, solar water heating, EV chargers, wind generation, hydrogen generation, microgrids, and anaerobic digesters
- Combine the GoGreen Affordable Multifamily program into GoGreen Business, including a larger loss reserve for deed-restricted multifamily
- Add the ability to include alternate sources for funding for the program
- Add the ability to offer interest rate buy-downs through the program

Additional changes have been made since draft regulations were originally published – the updated draft regulations will be available today.



Regulation Modification Anticipated Timeline

April 2,
2024

Public comment
period closes at
5pm PDT

April 16,
2024

Regulations
presented to
CAEATFA's
Board for
approval

April 19,
2024

CAEATFA posts
Notice of
Emergency
Regulations and
follows with
regulations
package to OAL

May 7,
2024

Emergency
regulations
adopted



We Want Your Input!

- Please provide comments during this workshop or afterwards by **April 2, 2024 at 5pm PDT**.
- Comments can be submitted to: cheef@treasurer.ca.gov or reach out to us for a phone call.
- CAEATFA will consider all comments and incorporate them as appropriate.
- Modified GoGreen Business regulations are available at: www.treasurer.ca.gov/caeatfa/cheef/sblp/regulations/index.asp



Workshop Agenda

Clean Energy Measures

Evaluation

Overview

Changes to Qualifying List

Qualifying Through PE Certification

Affordable Multifamily

De-Listing Contractors

Alternate Funding Sources

Interest Rate Buy-Downs



Analyzing Clean Energy Measures



- **Adding Clean Energy Measures**
- CAEATFA utilized a 9-point benefits test analyzing the impacts of a proposed measure across three sectors: customers, utilities, and society. This methodology was approved by the PUC.
- **Methods of Qualification**
- The GoGreen Business program has multiple methods by which energy measures may qualify:
 - **Pre-qualified Eligible Energy Measures List**
 - Up to \$350,000 in non-lighting measures
 - Includes a broad category for IOU demand-side energy management programs
 - **Professional Engineer or Certified Energy Manager Certification**
 - An energy professional may certify benefits for any finance amount, but is required for non-lighting projects over \$350,000

Clean Energy Measures, 1

Regulations Section
§10092.14



<i>Measure</i>	<i>Customers</i>	<i>Utilities</i>	<i>Society</i>	<i>Determination</i>
<i>Stand-alone solar PV</i>	Bill savings, bill stability, energy reduction	N/A	N/A	Fail
<i>Solar PV + battery storage</i>	Bill savings, bill stability, energy reduction, emissions reductions, resilience	Peak reduction, load shifting, risk mitigation, emissions reductions, avoided T&D upgrades, recovery	Emissions reductions, resilience	Pass
<i>Battery storage without generation</i>	Bill savings, peak reduction, load shifting, back-up, resilience	Peak reduction, load shifting, resilience	Peak reduction, load shifting, resilience	Pass, with requirements for load shifting, virtual power plants, energy arbitrage
<i>Stand Alone Solar-Powered Equipment (e.g. street lights)</i>	Bill savings, bill stability, energy reduction, resilience	Energy reduction, peak reduction, avoided T&D upgrades	Energy reduction, peak reduction	Pass



Clean Energy Measures, 2

Regulations Section
§10092.14



<i>Measure</i>	<i>Customers</i>	<i>Utilities</i>	<i>Society</i>	<i>Determination</i>
<i>Smart EV Chargers</i>	Bill savings, bill stability	Peak reduction, load shifting, avoided T&D upgrades	Emissions reductions	Pass
<i>Gas Combined Heat & Power</i>	Peak reduction, islanding, resilience	Energy reduction, peak reduction	Emissions increase, peak reduction, resilience	Fail, but may qualify via other channels
<i>Combustion-driven Generators – Microturbine, Linear Generator</i>	Peak reduction, islanding, resilience	Energy reduction, peak reduction	Emissions increase, peak reduction, resilience	Fail, but may qualify via other channels
<i>Microgrid Infrastructure (separate from generation/storage)</i>	Bill savings, bill stability, load shifting, islanding, resilience	Energy reduction, peak reduction, load shifting, avoided T&D, resilience	Energy reduction, peak reduction, avoided T&D, resilience	Pass



Clean Energy Measures, 3

Regulations Section
§10092.14



<i>Measure</i>	<i>Customers</i>	<i>Utilities</i>	<i>Society</i>	<i>Determination</i>
<i>Anaerobic Digestion</i>	Bill savings, bill stability, energy reduction, resilience	Energy reduction, resilience	Emissions reduction, resilience	Pass
<i>Power to Gas (Hydrogen production through electrolysis)</i>	Bill stability, load shifting, resilience	Load shifting, resilience	Load shifting, resilience	Pass, with some reservations about emissions reduction
<i>Wind Generation</i>	Bill savings, bill stability, energy reduction, peak reduction, resilience	Energy reduction, peak reduction, avoided T&D, resilience	Peak reduction, emissions reduction, resilience	Pass



Add Solar + Battery Storage Measures

Regulations Section
§10092.14

+ Addition:

What: Add new clean energy measures:

- “Solar Photovoltaic + Battery storage” (bundled)
- “Stand Alone Solar-Powered Equipment” (packaged systems such as well pumps or outdoor lights which include built-in solar PV and battery storage)

Why:

- CPUC Decision 23-08-026 grants CAEATFA ability to add clean energy measures to the program.
- Compared to standalone solar generation, paired solar and storage systems were found to produce high net benefits in our evaluation.
- Onsite solar generation and storage lessens the need for utilities to generate additional power during times of peak demand.
- Provides a clean supply of backup power in the event of an outage or pre-emptive shutoff by a utility.
- Customers can see significant on their utility bill.



Battery Storage Without Generation

Regulations Section
§10092.14

+ Addition:

What: Add Battery Storage

- Must be paired with existing solar PV, **or used for load shifting**
- The program already allows thermal and mechanical storage for load shifting

Why:

- Stand-alone battery storage can be cleaner than on-site generation depending on the emissions of grid supply while charging and the timing of discharge.
- Batteries used solely as a means of backup provide little benefit beyond resiliency.
- Backup batteries could draw on the grid during peak hours, *increasing* GHG emissions.
- To qualify via the pre-qualified list, batteries must either have clean generation, or be used to shift demand away from periods of peak demand.

Add EV Charging Measures

Regulations Section
§10092.14

+ Addition:

What: Add “smart”/wifi-enabled electric vehicle chargers as an eligible measure under the new “Transportation” EEM category.

- Must be ENERGY STAR rated. AC Level 1 or 2, DC Level 3.

Why:

- Electric vehicles are a key component of California’s push to reduce carbon emissions in the transportation sector.
- One quarter of all new car sales in California are EV, increasing need for charging infrastructure especially in communities where it is scarce.
- “Smart” requirement supports flexible load consumption and in the future may support vehicle-to-grid for additional resiliency.
- Emissions reduction benefits across all three sectors of study.



Add Microgrid Infrastructure

Regulations Section
§10092.14

+ Addition:

What: Add Microgrid equipment, software, controllers

- Microgrid must have a clean energy generation source, storage, and controls for load management. Microgrid may be grid connected or off-grid.

Why:

- Microgrids add capacity for resilience. Requiring clean energy generation combines the benefits previously described for Solar PV + battery storage with the ability to serve a more diverse customer model than a single building.
- California's push towards EV adoption is going to require significant infrastructure to allow for charging of EVs across diverse communities. Local microgrids with EV charging capacity will help alleviate the burden on the grid.
- Microgrids support a more local model of energy distributions, reducing grid inefficiencies and losses.



Add Anaerobic Digesters

Regulations Section
§10092.14

+ Addition:

What: Add Anaerobic Digester for Biogas Production

- Biogas must be used on site to displace natural gas or to generate electricity

Why:

- Converting biomass such as dairy waste into biogas provides a renewable source of energy.
- Capturing the methane that would otherwise be released into the atmosphere significantly reduces GHG emissions.
- As the program has a limit of \$350,000 for measures qualifying via the EEM List, this measure may not often qualify via this method.
- CAEATFA considered a requirement that gas be used on-site to alleviate concerns that a ratepayer-supported program is generating energy for use off-site. However, CAEATFA has received a request to remove this requirement.
- This energy could be used outside of IOU territory, and potentially outside of California.

Add Wind Turbines

Regulations Section
§10092.14

+ Addition:

What: Add Wind Turbines as a new clean energy measure

Why:

- Along with solar PV, wind generation is one of the consistently cleanest form of generation.
- Wind generation can add stability to the grid during times when solar generation is unavailable.
- Small-scale wind generation technologies are becoming available, in addition to larger turbines in common use.
- CAEATFA chose not to add a storage requirement to wind turbines, unlike the requirement that solar PV be bundled with battery storage, because wind generation tends to occur at times when solar generation is low.

We Want Your Feedback

Q1: Is it reasonable to require that batteries be installed with existing Solar PV or be used for load shifting?

Q2: Should the on-site usage requirement be removed from Anaerobic Digesters?

Q3: Should battery installation be required with new Wind Turbines, similar to Solar PV?

Energy Professional Certification

Regulations Section
§10092.7(b)(3)



- Professionally Certified Measure Method - An Energy Professional certifies that installation of the measure will save energy, will result in energy cost savings compared to existing conditions, or will reduce greenhouse gas emissions compared to existing conditions. EEMs qualifying via this method must meet the following requirements:
 - A. Each Energy Efficiency measure must be projected to save energy;
 - B. Each Demand Response measure must be capable of reducing demand on the electric grid or gas pipeline during peak periods;
 - C. Each Distributed Generation measure must produce clean energy with reduced greenhouse gas emissions compared to existing conditions;
 - D. Each Battery Storage measure must have the capability to reduce greenhouse gas emissions through load shifting, to allow for greater grid stability as part of a virtual power plant, and/or to mitigate customer costs through energy arbitrage; and
 - E. Hydrogen produced through electrolysis must use renewable energy sources.

Energy Professional Certification, 2

Regulations Section
§10092.7(b)(3)



- **Flexibility**
 - Allowing PE/CEMs to qualify measures allows different forms of clean generation and storage so long as these qualify under the rules listed for each category.
- **Accountability**
 - Requiring a licensed energy professional is a greater degree of rigor than the EEM List
- **Environmental Benefits**
 - An installation must save energy, allow for peak reduction or load shifting, or reduce greenhouse gas emissions, based on the category
- **Eligible Energy Measures List – IOU Energy Programs**
 - A broad category exists in the EEMs list for IOU demand-side energy management programs. This could be used to qualify combustion-driven generation such as microturbines, if they meet the requirements of an IOU program such as SGIP.

Energy Professional Certification, 3

Regulations Section
§10092.7(b)(3)



○ Measures that might qualify through this method:

- Power to gas – If the electricity has a green source. This would preclude “yellow” grid sources for this purpose
- Gas combined heat & power – If this installation is going to reduce greenhouse gas production compared to existing conditions
- Combustion-driven generation – if a microturbine, linear generator, etc. is a cleaner method of generation compared to existing conditions, and will reduce greenhouse gas emissions
- Battery storage for other purposes than load shifting
- Larger installations of solar PV, wind, anaerobic digestion, microgrids
- Other forms of generation/storage not considered by CAEATFA

We Want Your Feedback

Q4: Are the requirements for the PE/CEM method of qualification enough to protect environmental benefits in the aggregate?

Q5: Is there demand for gas combined heat & power? Are there environmental benefits?

Q6: Should electrolysis be limited only to green sources? Or are the benefits of allowing grid sources enough to include this?

Other New Measures

- Water Heating:** Solar Water Heater
- Water Heating:** Solar Water Heating for Process Applications
- Appliances:** Heat Pump Dryer
- HVAC:** Integrated Heat Pump Controller
- HVAC:** Heat Pipe Heat Exchanger
- HVAC:** Hybrid or Fully Compressor-less HVAC
- HVAC:** Efficient Make-Up Air Units

- Refrigeration:** Aerofoils for Open Display Cases
- Refrigeration:** Adaptive Commercial Refrigeration Equipment
- Refrigeration:** Add Insulation to Refrigerated Enclosure
- Refrigeration:** Chiller Upgrade, Retrofit, or Replacement
- Refrigeration:** Natural or Low GWP Refrigerant
- Food Service:** Ohmic or Joule Heating



Merging Affordable Multifamily

Regulations Sections
§10092.1(a),
§10092.9(c)(2)

Modification:

What: CAEATFA is planning on combining GoGreen Business and GoGreen Multifamily into a single program

- Program approach is largely unchanged
- Underwriting and program requirements largely kept the same
- The definition of deed-restricted multifamily will be kept
- 30% Loss Reserve contribution for the first two projects up to \$200,000, with 15% for subsequent projects

Why: This would allow a single loss reserve pool for participating lenders financing installations at deed-restricted multifamily, market rate multifamily, and commercial properties

- A larger loss reserve across project types can allow finance companies to take more risks, possibly qualifying more customers and expanding borrow benefits
- *CAEATFA has heard that multifamily retrofit projects often go above \$200,000*

We Want Your Feedback

We welcome feedback regarding this proposed combination of affordable multifamily and commercial programs.

Q7: Should the loss reserve contribution for deed-restricted multifamily be expanded beyond \$200,000? If so, what amount would be reasonable to offer a credit enhancement while protecting ratepayer funds?

Create Ability to Remove or De-List Non-Active Contractors

Regulations Section
§10092.4

Modification:

What: Create a formal process for delisting or removing non-participating contractors.

- 1 year of inactivity = Removal from Contractor search list on GoGreenFinancing.com.
- 3 years of inactivity = Program removal.

Why:

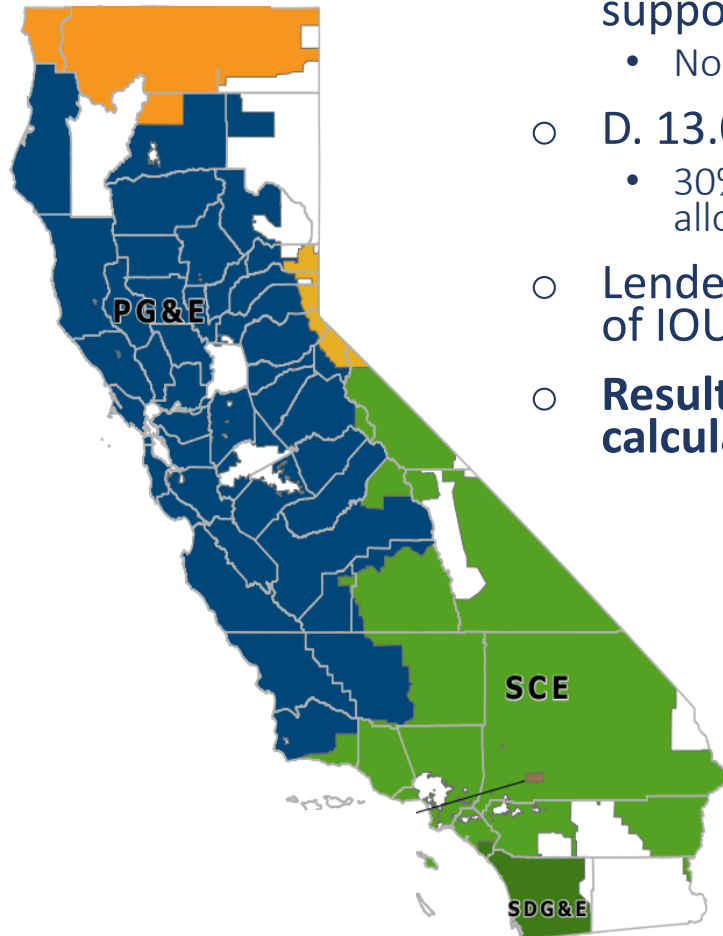
- Delisting: Ensures prospective Borrowers have productive experience using search tool to find actively participating Contractors.
- Removal: Helps CAEATFA keep Contractor list clean and target resources towards actively participating Contractors.

*Contractors can always request re-listing or re-apply later.

Challenge: complexity stemming from utility jurisdictions

Regulations Section
§10092.16

STATEWIDE CONSISTENCY



- IOU ratepayer funding for GoGreen Business means credit enhancement can only support loans for projects that save IOU fuel
 - No fuel substitution (heat pumps, heat pump water heaters) if electricity is provided by a POU
- D. 13.09.044 provides some flexibility
 - 30% of Claim-Eligible Principal Amount can finance non-energy measures, so GoGreen Business allows 30% non-IOU measures
- Lenders, customers and even most contractors do not view the world through the lens of IOU vs. POU jurisdictions
- **Results in a web of complex measure eligibility requirements and constant calculations**

West Sac:
PG&E Service
Heat pumps allowed



Sacramento:
PG&E/SMUD
Service
No heat pumps

For the program to scale, lenders and contractors need simplicity

Working toward a simple set of project eligibility rules that apply across jurisdictions will require:

- 1. A source of funding** for credit enhancements and incremental operational costs for when measures:
 - don't save IOU fuel or
 - fuel substitute to non-IOU source (e.g. heat pumps).
- 2. CPUC approval** of a cost allocation methodology to ensure ratepayers are not subsidizing these costs.
- 3. Modifications to regulations to:**
 - Fund lenders loss reserve accounts from a non-IOU source.
 - Allow the Claim-Eligible Principal Amount to fund non-IOU measures.

Working toward statewide consistency...

Regulations Section
§10092.16

1) Possible sources of funds:

- Greenhouse Gas Reduction Funds
- Program-specific funds from state agencies
- Invite POUs to Participate





Use these funds as credit enhancement to leverage private capital from participating lenders

2) Proposed regulation modifications:

- Allow for expanded eligibility in the case that other sources of funding are available.
- No changes to current eligibility rules if funding sources do not align.

Set-up for non-IOU fuel measures / simple statewide list

- 
 - **Change:** Remove requirements requiring IOU fuel service.
 - **Why:** Some sources of non-ratepayer funding (like federal funds) would mean any property in California could be eligible.

- 
 - **Change:** Rename column in the EEMs table from “IOU Fuel Source Eligibility” to “Fuel Source Eligibility”
 - **Why:** Creates a generic listing of whether measures correspond to gas or electric fuel for when future funding is available.

Definition of “Eligible Energy Measures” maintains the current restrictions that the fuel source of the EEM must correspond to an IOU

Category	Measure Name	Fuel Source Eligibility
Building Envelope	Air Sealing	Electric Gas
Building Envelope	Cool Roof	Electric
Building Envelope	Floor Insulation	Electric Gas
HVAC	Furnace	Gas
HVAC	Heat Pump	Electric

Set-up for non-IOU fuel measures / simple statewide list continued

Regulations Section
§10092.16



+ ○ **Addition:** Conditional eligibility expansion

What:

- Loss Reserve Contributions are currently funded by IOU ratepayers. But, CAEATFA may gain access to other sources of funds. This funding source can be used for loss reserve contributions for the cost of EEEMs corresponding to a non-IOU fuel source.
- CAEATFA will open non-IOU holding accounts for the non-ratepayer source of funds.
- CAEATFA will publish: **when such funding is available** and **which EEMs, in which utility jurisdictions** may count toward the 70% of Claim-Eligible Principal Amount.

Why:

- A new section preserves the rest of the current rules as long as IOU ratepayers are the sole funding source and the credit enhancement remains restricted to IOU measures.
- Different funding sources may open eligibility in different ways, so CAEATFA will need to publish that information.

Interest Rate Buy-Downs (IRBDs)

Regulations Section
§10092.17

+ Addition:

What: New section allows CAEATFA to channel funds from external parties to buy down the interest rates of GoGreen Business loans

- Makes provision for IRBD funder to set criteria, on top of GoGreen Business criteria, for eligibility/reporting requirements

Why:

- Low interest rate campaigns can help drive more financing uptake and installation of Eligible Energy Measures to help reach California's ambitious environmental goals
- IRBD funders may have own eligibility criteria/reporting requirements in addition to GoGreen Business eligibility requirements; cannot supersede GoGreen Business regulations, but can layer on top

We Want Your Feedback

Any other questions or comments?



Later comments?

Please provide comments by
April 2, 2024 at 5pm PDT.

Comments can be submitted to: cheef@treasurer.ca.gov.

Please reach out if you'd like to schedule a call.

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