

PG&E Energy Efficiency Platforms Training

Pacific Energy Center, Tuesday, July 17, 2018



Together, Building
a Better California



Safety

Lead

Marcela

Sweep

Jose



Melissa

911/3-3622



Peter

Meet & Guide
Emergency
Personnel



Scott

CPR



All

Earthquake
Drop
Cover
Hold



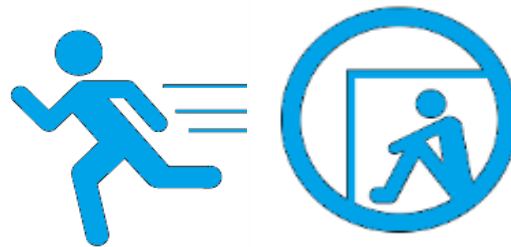
Ryan

AED



All

Evacuation
Plan

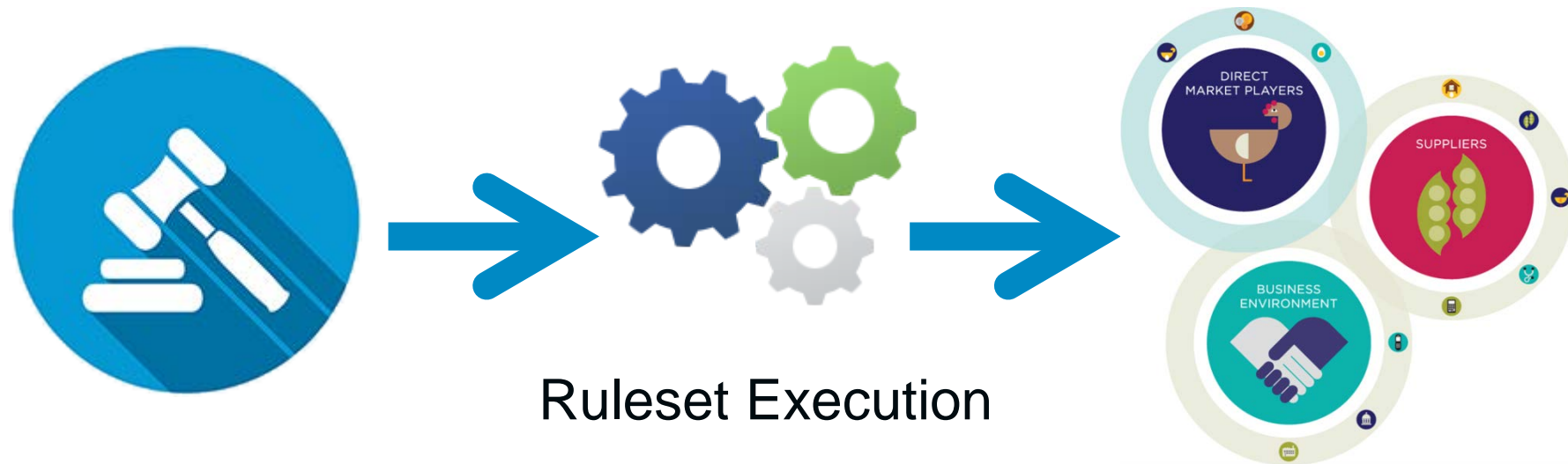


Active Shooter
Get Out / Call Out
Hide Out
Take Out

What is a Platform to EE?

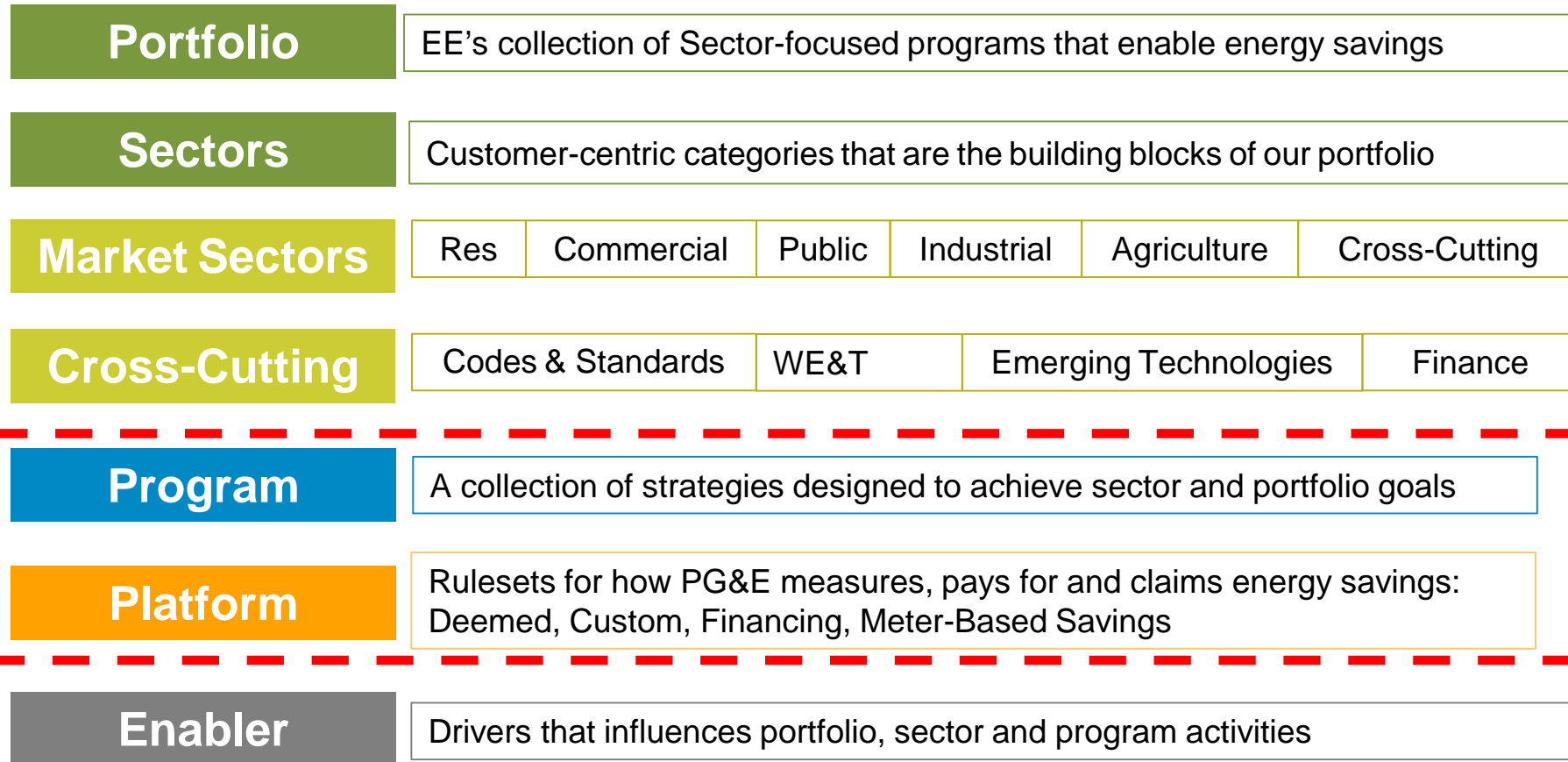
A platform is a ruleset that governs how regulatory objectives are connected to market actors and activities

The platform provides the ruleset to connect the two





Why does this matter to you?





Agenda

Today we will be covering...

Solicitation Updates

Cross-Platform Rules

Deemed

Custom

Meter-Based

Financing



Solicitations Moving Forward this Fall!

PG&E Energy Efficiency Solicitation Timeline*												
6/29/18												
Description	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	
Phase 1: Resource Programs [25% Minimum Target]	RFA	Residential RFP			Launch							
		Commercial RFP				Launch						
		Industrial RFP					Launch					
		Agricultural RFP						Launch				
		Public Sector RFP							Launch			
Phase 2: Statewide Programs		RFA	WE&T Career and Workforce Readiness				Launch					
			RFA	Residential New Construction				Launch				
			RFA	Non-Residential New Construction				Launch				
				RFA	WE&T K-12 Connections				Launch			
				RFA	State of CA / Dept. of Corrections				Launch			
Phase 3: Resource Programs [40% Minimum Target]					RFA	Deemed Platform Support				Launch		
						RFA	Residential RFP				Launch	
							Commercial RFP					
							Industrial RFP					
							Agricultural RFP					
					Public Sector RFP							

*The Solicitation Schedule is subject to change and revision...constantly



When Will You Use Today's Content?

Request For Abstract (RFA)

High Level Program Concept

What Platforms Do You Plan to Use?
In What Proportion?

Request For Proposal (RFP)

Fully Detailed Program Proposal

Demonstrate Understanding and
Adherence to Energy Savings Rulesets

**For the latest PG&E EE Solicitations updates and other
useful information, check out**

<https://www.pge.com/eesolicitations>

Solicitations Questions?

A utility worker in a white hard hat and work clothes is climbing a wooden power pole. The pole has several cross-arms with power lines. The background shows a blue sky with scattered white clouds and rolling hills in the distance. Another power pole is visible in the lower left background.

Matthew.Braunwarth@pge.com



Chapter 2: Cross-Platform

So you want a crash course in energy efficiency?



Chapter 2: Cross-Platform

Please read:



California
Public
Utilities
Commission

REGULATING
ENERGY
EFFICIENCY

16 pages



Chapter 2: Cross-Platform

Please read:

ENERGY EFFICIENCY POLICY MANUAL

Version 5
July 2013

106 pages

CALIFORNIA STANDARD PRACTICE MANUAL

**ECONOMIC ANALYSIS OF DEMAND-SIDE
PROGRAMS AND PROJECTS**

37 pages



Chapter 2: Cross-Platform

Please read:

**Energy Efficiency Savings Eligibility
at Sites with non-IOU Supplied
Energy Sources — Guidance
Document**

20 pages

Early Retirement Using Preponderance
of Evidence

20 pages

**Industry Standard Practice
Guide**

33 pages



Chapter 2: Cross-Platform

Please read:

D.09-09-047	401 pages	D.14-10-046	179 pages
D.11-07-030	52 pages	D.15-10-028	311 pages
D.11-07-030, Attachment A-B	28 pages	D.16-08-019	115 pages
D.12-05-015	488 pages	D.18-01-004	98 pages
D.12-11-015	148 pages	D.18-05-041	214 pages



Chapter 2: Cross-Platform

Please read:



Total pages: 3,099

130 pages



**ENERGY EFFICIENCY
BUSINESS PLAN**

703 pages

2018-2025



Chapter 2: Cross-Platform

Not all of these pages are really important...

**...but how will you know
unless you read it all?**



Chapter 2: Cross-Platform

Maybe there's a better way?



*Pacific Gas and
Electric Company*[®]

104 pages

PG&E Resource
Savings Rulebook



Chapter 2: Cross-Platform

Why do we need rules?

- The CPUC reports evaluated accomplishments to the legislature
- Rules help align our claims (upfront estimates) with evaluated accomplishments



Chapter 2: Cross-Platform

Cross-Platform rules apply “across platforms”

- The overarching rules of California-regulated energy efficiency
- Apply to all existing platforms – and any new platform



Chapter 2: Cross-Platform

**Regardless of what platform you're interested in –
you MUST read this chapter!**



Chapter 2: Cross-Platform

Steps to take for any measure:

1. Is this eligible?
2. What is the measure application type?*
3. What is the baseline?
4. What are the ex ante values?*



Chapter 2: Cross-Platform

1. Eligibility

- Must pay Public Purpose Programs surcharge
- No double dipping / double counting
- Adhere to all laws and codes



Chapter 2: Cross-Platform

2. What is a Measure Application Type (MAT)?

A MAT describes how the measure is applied to a site, system, or equipment.

There are currently six:

- New Construction
- Normal Replacement
- Accelerated Replacement
- Building Weatherization*
- Behavioral, Retrocommissioning, and Operational
- Add-on Equipment



Chapter 2: Cross-Platform

The MAT indicates how you get your other ex ante values

Table 4 - Ex Ante Values Dictated By MAT

MAT	Baseline	Measure Cost	EUL	RUL
New Construction	Code / Standard Practice	IMC	Measure EUL	0
Normal Replacement	Code / Standard Practice	IMC	Measure EUL	0
Accelerated Replacement	Dual	ERC	Lesser of measure EUL or RUL of existing	RUL of existing
Add-On Equipment	Existing	FMC	RUL of existing	0
Behavioral, Residential	Existing	FMC	1	0
Behavioral, Non-Residential	Existing	FMC	2	0
Retrocommissioning and Operational	Existing	FMC	3	0
Weatherization	Existing	FMC	Measure EUL	0

If you get the MAT wrong, you will get everything else wrong!



Chapter 2: Cross-Platform

3. Determine Baseline

There are currently three:

- Code / Standard Practice
- Existing Conditions
- Dual (a combination of the above two)



Chapter 2: Cross-Platform

4. What are Ex Ante Values?

- All of the components of a claim
- All factor into cost-effectiveness calculations
- Include:
 - Benefits: energy savings, effective useful life, net-to-gross
 - Costs: non-incentive costs (admin, marketing, etc.), incentives, measure costs



Chapter 2: Cross-Platform

Key Take Aways...



Cross-Platform rules apply to everything in the portfolio



You must read the Cross-Platform rules for a complete view of any single platform

Cross-Platform Questions?



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Chapter 3: Deemed Platform

What does “deemed” mean?



Pre-determined estimates of energy or demand savings, costs, and other ex-ante values



Attributable to individual EE measures implemented in particular scenarios (by building type, climate zone, delivery channel, etc.)



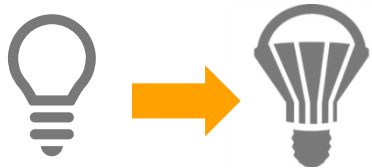
Repeatable and replicable calculations

Chapter 3: Deemed Platform

How is Deemed Different



Values are not site specific and are dependent on approved workpapers (predetermined estimates)



Typically only for 1 to 1 replacements (per unit savings + incentive)



Purchase and installation occur *prior* to application submittal, but equipment must meet pre-determined measure requirements to qualify



Chapter 3: Deemed Platform

Deemed measures must be supported by CPUC-approved workpapers



Word document: narratives that shall align with and clearly tie to the values in the ex-ante excel data submittal



Data reporting workbook: all measures must use the approved ex-ante specification template that contains four tables with all of the parameters required to claim ex ante savings and calculate cost effectiveness

Current approved workpapers can be found at www.deeresources.net/workpapers



Chapter 3: Deemed Platform

DEER and Non-DEER Values

DEER
(Database of
Energy Efficiency
Resources)

- Database located at www.deeresources.com that includes EE technology information and measures
- Updated annually via Resolution by September 1st

Non-DEER

- Must use DEER assumptions, methods, and data in development of non-DEER values when appropriate
- If DEER values not available, new values may be proposed to Commission Staff for review and approval



Chapter 3: Deemed Platform

Workpaper Submittal Process

Workpaper Types	Phase 1	Phase 2
Categorization Criteria	<ul style="list-style-type: none">• Effective date January 1st of next year• DEER updates• Other source updates• Other non-DEER workpapers submitted before January 1st of next year	<ul style="list-style-type: none">• Effective date other than January 1st• Non-DEER updates• Code changes• Updates based on E-4818
Submittal Deadline	<ul style="list-style-type: none">• By January 1st of the DEER update year	<ul style="list-style-type: none">• March – December, 1st and 3rd Mondays
CPUC Review Timeline	<ul style="list-style-type: none">• By March 1st• Interim approval if not reviewed	<ul style="list-style-type: none">• 15-day preliminary + 25-day detailed• Interim approval if not reviewed
Savings Values Application	<ul style="list-style-type: none">• If reviewed, can be retroactive to January 1st• If not reviewed, future date	<ul style="list-style-type: none">• Future date
Workpaper Effective Date	<ul style="list-style-type: none">• January 1st of DEER update year, may be updated again based upon March 1st disposition	<ul style="list-style-type: none">• Pass through if CPUC approves or 25-days have passed since submittal without review• New workpapers with effective dates other than January 1st only reviewed Mar - Dec



Chapter 3: Deemed Platform

Statewide Workpapers



Statewide Workpapers: only one workpaper may be submitted for each set of measures adopted by more than one PA and must include measures, energy impacts, and costs valid for all relevant service territories



Submittals: PG&E currently accepts, reviews, and submits to the CPUC implementer-derived workpapers, often leveraging the California Technical Forum (Cal TF) for review and vetting



Chapter 3: Deemed Platform

Quality Assurance/Quality Control



Validation: Implementers must be able to enforce and confirm that installed equipment meets measure eligibility requirements



QPLs: Can be used to make it easier to identify equipment that meets pre-determined measure requirements



Project inspections: PG&E Central Inspection Program (CIP) will create and maintain CIP Procedures for all deemed measures offered in its portfolio

Chapter 3: Deemed Platform

Key Take Aways...



Deemed values are pre-determined estimates and are replicable and repeatable



All deemed measures must be supported by CPUC-approved workpapers and are expected to reflect all relevant CPUC guidance



CPUC can provide direction to retroactively make workpaper changes, therefore measures, ex ante values, and eligibility can change

Deemed Questions?

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Chapter 4: Custom Platform

How is Custom Different

- 1 Project Development
- 2 Project or Ex Ante Review
- 3 Project Approval
- 4 Post Install
- 5 Post Install Project Review
- 6 Post Install Payment



Chapter 4: Custom Platform

Use Cases

- Complex
- Medium-to-large size
- Requires site-specific analysis



Chapter 4: Custom Platform

Eligibility

- No like-for-like replacements
- Deemed measures must go deemed



Chapter 4: Custom Platform

Influence Requirements

- Every project must document influence
- Approval before implementation
- Project scope changes must be approved



Chapter 4: Custom Platform

Measure/Project Analysis Requirements

- Only projects that reduce grid purchases are eligible
- Use DEER values and methodologies
- Include M&V Plan
- Calculations must be reviewable



Chapter 4: Custom Platform

Incentive Structure Guidelines

- Incentive structure proposed by Program Implementers
- Select from available tiers
- Consider: measure EUL, innovative/emerging technology, to-code/above-code, high capital cost/low cost, hard-to-reach



Chapter 4: Custom Platform

QA/QC

Pre-installation Inspection

- Early Review and Policy Review
- Technical Review
- Approval Expiration
- Ex Ante Review Requirements



Chapter 4: Custom Platform

Key Take Aways...

- Project analyses are site-specific
- Deemed projects must go deemed
- Custom projects must use DEER values and methodologies, must include an M&V Plan
- Every custom project will be QA/QC reviewed by PG&E

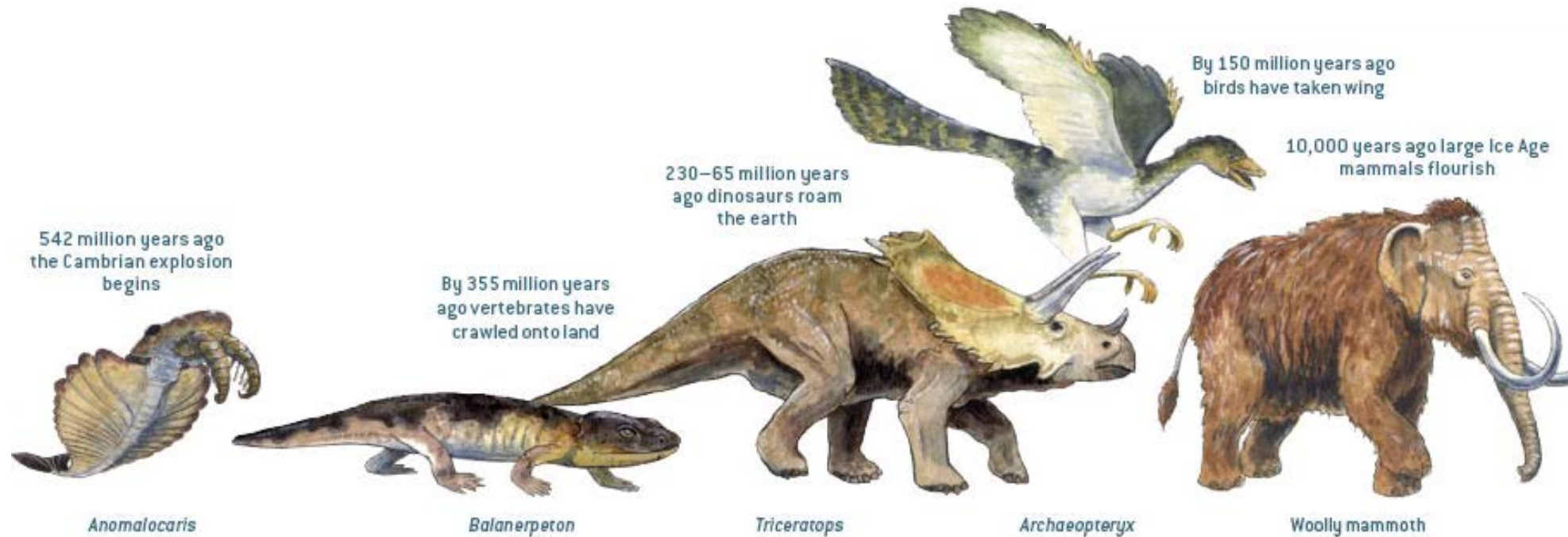
Custom Questions?



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Chapter 5: Meter-Based Platform

Disclaimer: Platform Still Evolving

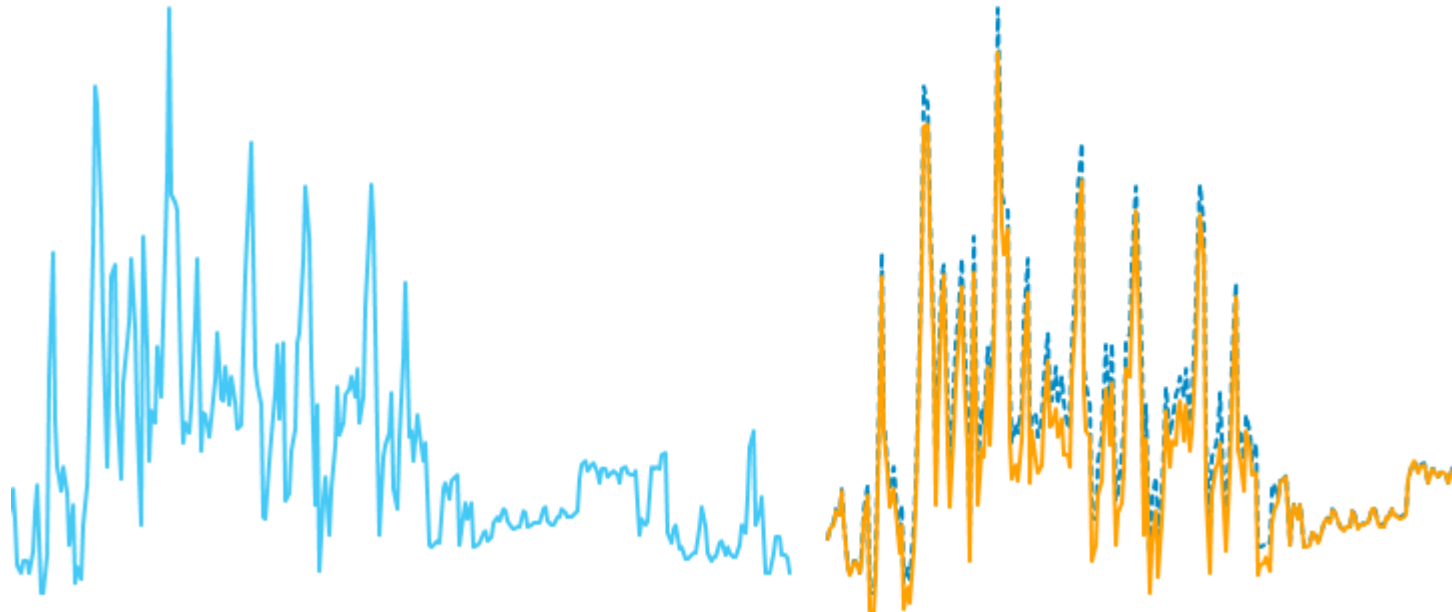




Chapter 5: Meter-Based Platform

Overview: Estimating Savings With Energy Consumption Data

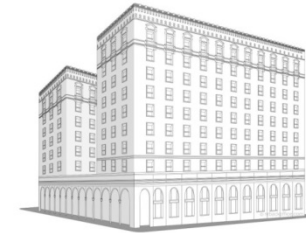
Savings = *what energy usage **would** have been without intervention*
– *energy usage measured after intervention*



Also known as Normalized Metered Energy Consumption (NMEC)

Chapter 5: Meter-Based Platform

Two Approaches: Aggregate Or Site-specific



	Aggregate	Site-specific
Intended for	Large, homogenous groups	More unique sites/projects
Savings claim	Population-level	Site-level
Comparison group	Yes	No (compare to own, normalized past usage)
Non-routine adjustments/ non-routine events (NREs)	No	Yes

Note: industrial projects limited to Strategic Energy Management (SEM) program



Chapter 5: Meter-Based Platform

Use Cases

Change must be detectable at the meter





Chapter 5: Meter-Based Platform

Measurement & Verification (M&V): what's different?

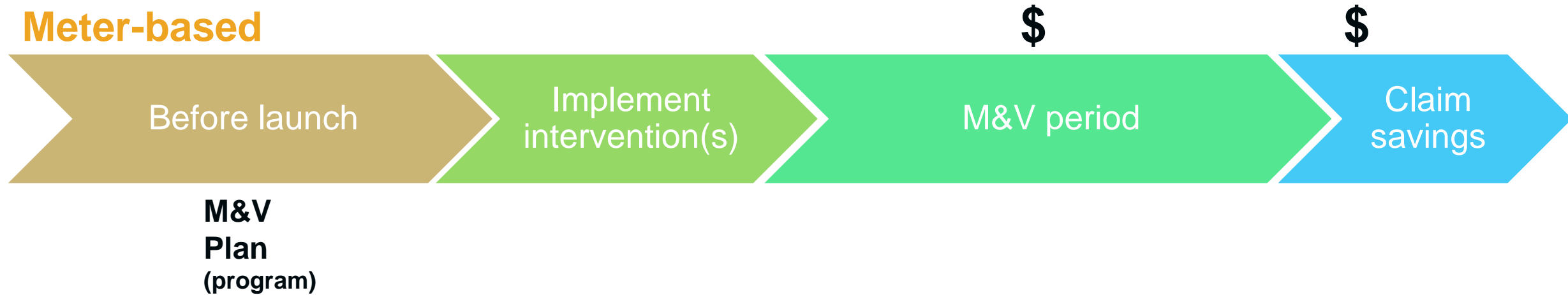
- Think about M&V at the program level
 - More detailed plan before launch
- Longer M&V period than custom
- Different calculations → different data
 - Which meters?
 - Implementation start and end dates
 - Non-routine events (NREs) – if site specific



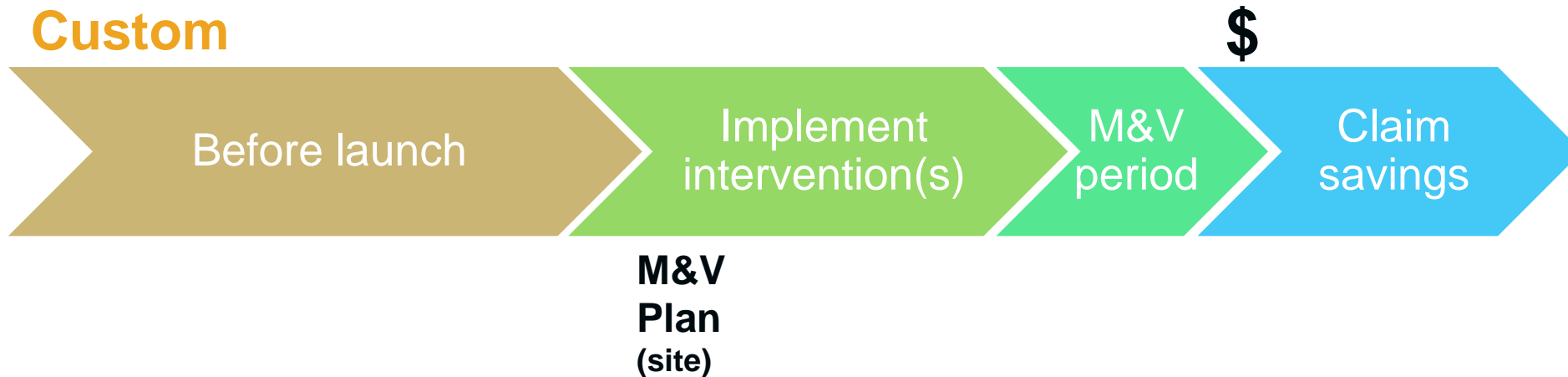
Chapter 5: Meter-Based Platform

Process Differences – Meter-Based

Meter-based



Custom





Chapter 5: Meter-Based Platform

Key Take Aways...

- Change must be detectable at the meter
- Aggregate or site-specific
- Data collection and M&V are crucial

Meter-Based Questions?

Caroline.Francis@pge.com



Chapter 6: Financing Platform

Overview



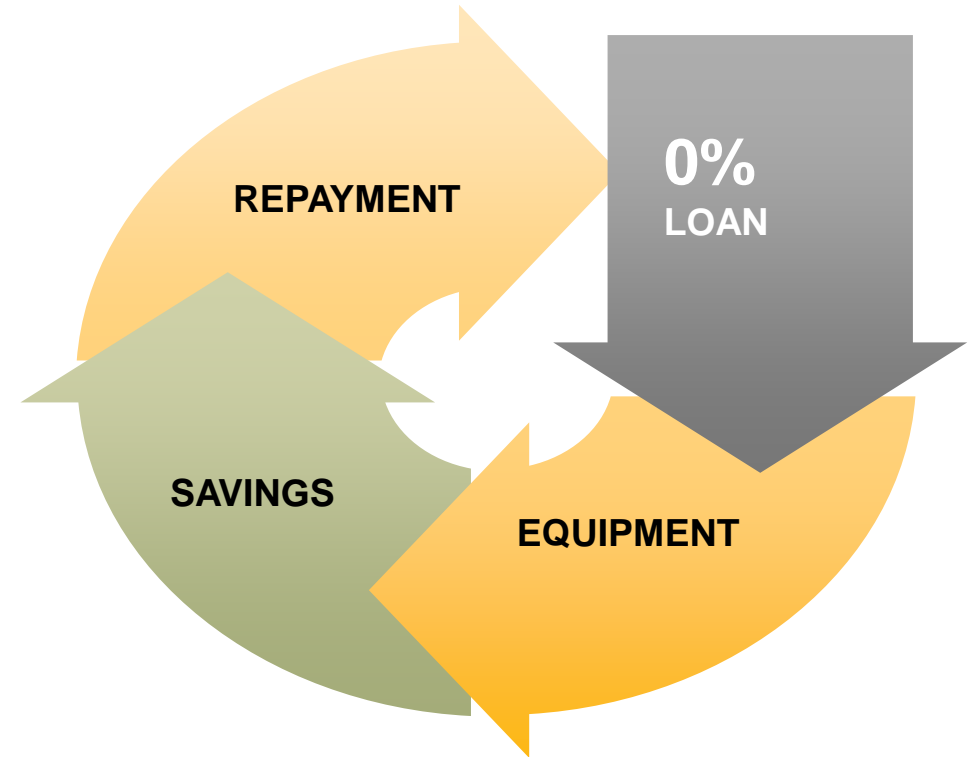
- Platform focuses on the rules around access to On-Bill Financing (OBF)
- Not an energy savings claim methodology
- Rebate alternative
- Can also incorporate Statewide Financing Programs (CHEEF)



Chapter 6: Financing Platform

On-Bill Financing (OBF)

- Ratepayer funded revolving loan fund
- Over \$120m of EE loans
- Loan term and payment set based on projected energy savings





Chapter 6: Financing Platform

Financing Terms Available

Loan Terms	Business	Government Agency and Multi-family
Max Loan Amount	\$100,000 per premises	\$250,000, per premises (\$2,000,000 by exception)
Max Loan Term	5 Years	10 Years



Chapter 6: Financing Platform

Bill Neutrality

- Loan sized on site-specific savings
- Partial funding available
- Customers retail rate used to evaluate cost

Project Cost for Measures	\$90,000
Estimated Annual Energy Cost Savings	\$21,600
Estimated Monthly Energy Cost Savings	\$1,800
Loan Term	51 Months
Monthly Loan Amount (rounded down to nearest full monthly payment)	\$1,765



Chapter 6: Financing Platform

Customer Eligibility

- All non-residential meters
- Customer currently receives service from PG&E at the location of retrofit project
- Customer has maintained active PG&E account for previous 24 months
- Customer must be in good credit standing with PG&E
- DA and CCA are eligible for OBF if receive a monthly bill from PG&E



Chapter 6: Financing Platform

Project Eligibility

Program: On-Bill Financing

Determine
Project Eligibility



Deemed or Custom project
All projects will be eligible that
are eligible for rebates



Meter Based Project
Flexibility on projects claiming meter
based savings. See OBF Project
Eligibility Handbook



Chapter 6: Financing Platform

OBF Loan Process

**Project
Initiation**

**Payment
History
Screening
(PG&E)**

Project &
QA Review

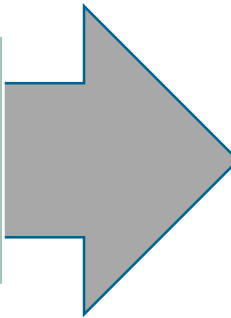
**PG&E Loan
Authorization**

Installation

Post Install &
QA Review

Loan
Modification
& Issue
Check

Operations





Chapter 6: Financing Platform

Cost Allocation

- Cost of 0% Ratepayer funding will be allocated for program evaluation
- Accurate annual funding forecast required by administrators to reduce funding cost allocation

Loan Term (years)	OBF Costs as a % of Principal
Less Than 4 years	4%
4-7 Years	7.5%
More Than 7 years	11.5%



Chapter 6: Financing Platform

Statewide Financing Programs

- Ratepayer funded
- Part of the PG&E Portfolio
- Eligible for savings claims
- Subsidized Private Capital



CHEEF



Chapter 6: Financing Platform

Key Take Aways...

- Financing is an alternative or compliment to rebates
- Financing may better meet the customer need
- The financing platform isn't an energy savings claim methodology – refer to deemed, custom, and meter based
- Let us know in your bids if and how you plan to use financing

Stick around for more from David Gibbs from CAEATFA after Q&A

Financing Questions?



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Closing

For more information:

- Visit: <https://www.pge.com/eesolicitations>
- Presentation materials will be emailed out soon

Thank You

Marcela Fox

Marcela.Fox@pge.com



APPENDIX



Together, Building
a Better California



CHEEF

CALIFORNIA HUB FOR ENERGY EFFICIENCY FINANCING

gogreen
FINANCING™

How 3rd Party Implementers Can Integrate CHEEF Financing into their Programs

July 2018 Implementer Outreach

We need private capital to reach our building energy efficiency goals

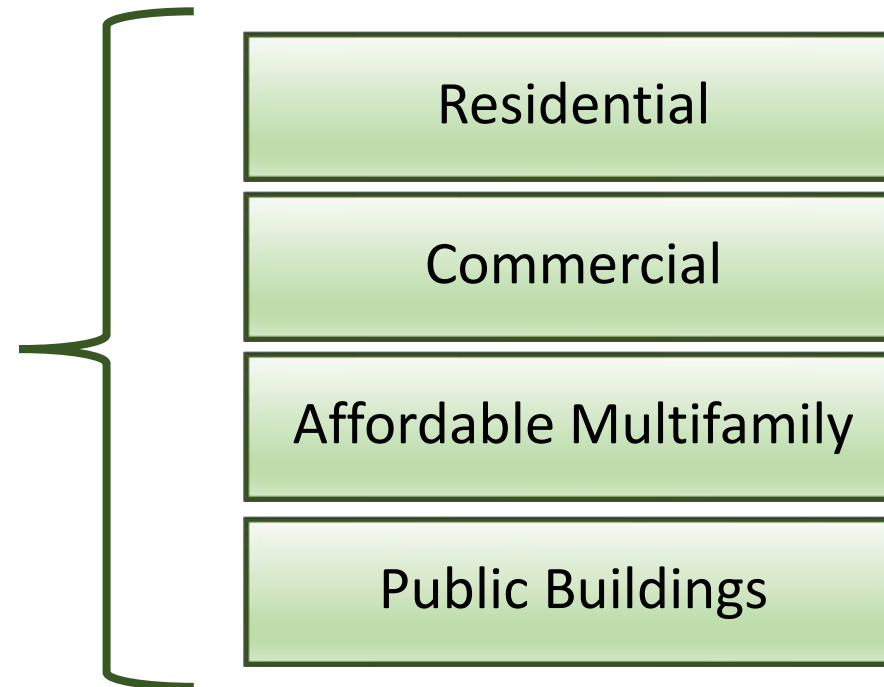
- There are not enough public or ratepayer \$ to upgrade all of California's buildings
- CPUC through a guidance Decision, authorized the utilities to use ratepayer funds for administration of and credit enhancement for several finance pilot programs
 - Residential, Commercial, Affordable Multi-Family, Public Building markets
 - Designed to leverage third party, private capital and bring attractive financing options to customers
- CAEATFA implementing working with the 4 Investor Owned Utilities as partners
- Financing not secured by the property
- Open market approach: multiple finance companies can participate
- On-Bill and Off-Bill repayment options

Take advantage of our financing programs to help your programs gain uptake

All measures approved for an IOU rebate or incentive program qualify. Any EE or DR measure or project that is part of *your* IOU approved program is eligible for our financing.

Qualifying Projects:

- 70% of financed amount is for energy efficiency or demand response measures
- 30% of financed amount can be non-EE improvements



How is CHEEF financing better than walking into a bank?

Tangible benefits provided by lenders to borrowers in CHEEF Residential Program (REEL) due to the credit enhancement

Credit expansion	FICO minimums lowered to 600*
Rate reduction	546 – 1097 bps One lender lowered 1097 bps for FICO of 600
Term extension (means lower monthly payments)	Extended from 5 Years to up to 15 Years
Amount available to borrow	Raised from \$10k to \$50k

*Regional lenders lowered FICO minimums to 580



Over 200 utility customers have already used REEL, our residential financing

Lenders have financed more than

\$3.5 Million

In REEL Loans

6.87%

Average interest rate

\$17,400

Average loan size

52%

Homes located
in LMI Census
Tracts

242

Participating
Contractors

7

Approved
Lenders

gogreen
FINANCING™



CALIFORNIA HUB FOR
ENERGY EFFICIENCY
FINANCING

Borrower Requirements

Single family homes 1-4 units
including townhomes, condos and
manufactured homes

Credit score minimum of 580*

Debt to income limit of 55%

* Some lenders have their own higher minimum FICO requirements. The 2 statewide lenders require FICO minimums of 600 and 640, respectively.

CHEEF commercial financing program can help your customers complete projects with no cash outlay

Flexible options

- Up to \$5MM per project
- Fast and efficient approval
- On-Bill and Off-Bill repayment options
- Microloans under \$5,000 expected (CAEATFA actively recruiting a lender)

Expected benefits to customer (compared to traditional offerings)

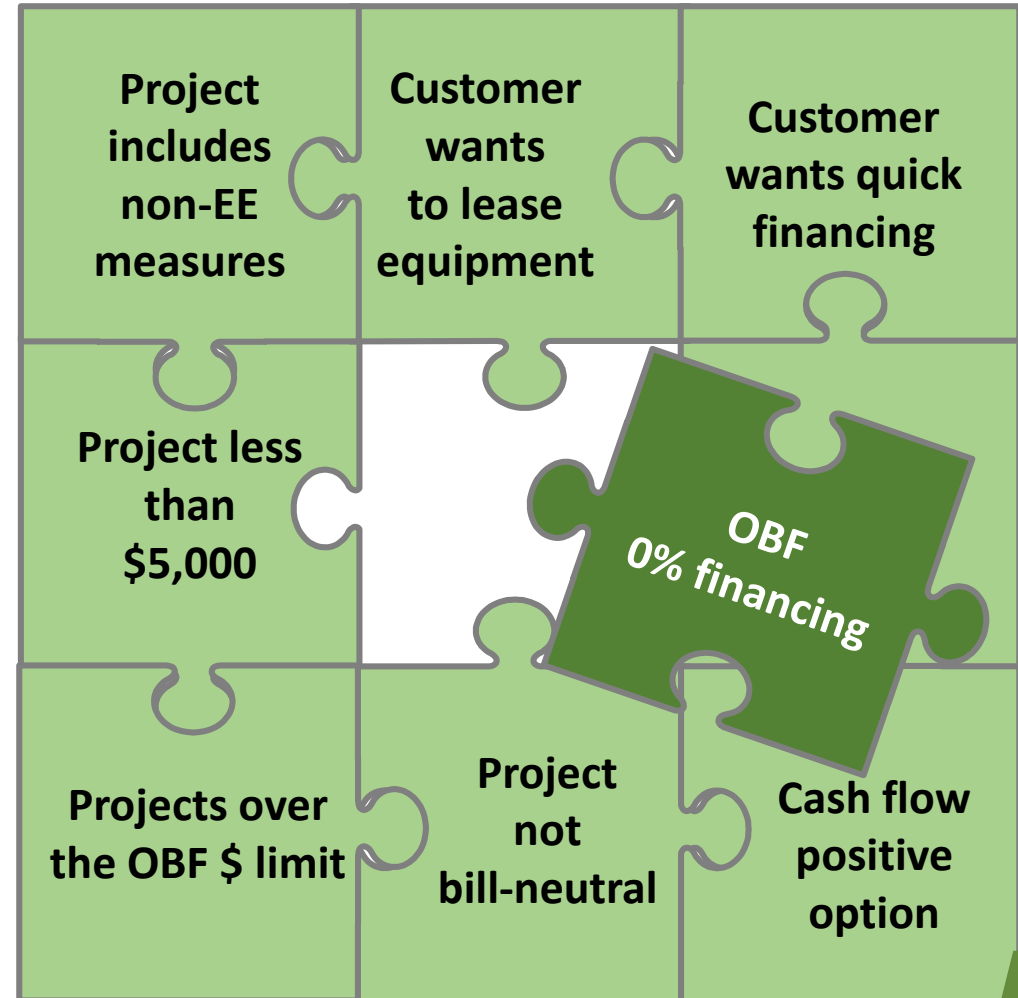
- Broader credit approval (customers with shorter time in business or lower credit scores)
- Lower interest rates
- Longer term financing and larger amounts available

Flexible product options

- Traditional loans
- Equipment leases and finance agreements
- Service agreements
- Cash flow positive efficiency service agreements

Use CHEEF and OBF to complete the financing puzzle

Customers can use CHEEF financing when OBF doesn't apply OR after they've reached the OBF limit.



Incorporate our financing offerings into your program design

Open Now

Q4 2018

Q4 2018

Spring 2019

- Single family residential: 1-4 Units including townhomes, condos and manufactured homes

Residential



- Commercial customers
- Small business
- On-Bill option coming in 2019

Commercial



- Income-restricted affordable properties
- On-Bill option coming in 2019

Affordable Multi-Family



- Public buildings
- Large commercial
- On-Bill repayment

Non-Residential



Your finance and contractor partners can join our programs

Connect your program partners with the CHEEF so they can benefit:

- Featured on GoGreenFinancing.com and as part of statewide marketing campaigns
- Affiliated with a state-backed financing program
- Finance entities get access to a credit enhancement in the form of a loan loss reserve contribution for every enrolled financing



Connect with us

gogreenfinancing.com

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A low-angle photograph of a tall, lattice-structured tower, likely a power line tower, against a sky with a purple and pink gradient. The tower's structure is composed of numerous interconnected metal beams forming a complex grid. Several power lines extend from the tower towards the right side of the frame. The overall scene is captured in a dramatic, low-angle perspective, emphasizing the height and scale of the structure.

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