CEDMC – PG&E Business Forum

October 2024

Together, Building
a Better California

Safety and Security Orientation

Everyone and everything is always safe

Assign safety roles if in person

Psychological Safety

- Practice transparency and vulnerability
- Avoid blame; learn from mistakes
- Show care and appreciation
- Invite new ideas from all
- Disagree respectfully and with curiosity
- Prioritize mental health by encouraging self-care

Fire

- Exits, escape routes, evacuation
- Fire ext.

Earthquake

- Drop, cover, hold

Medical Emergency

- 911/share location
- First aid/CPR
- AED

Security: 1-800-691-0410

- Active shooter—get out, hide out, take out, call out
- Maintain situational awareness to mitigate hazards

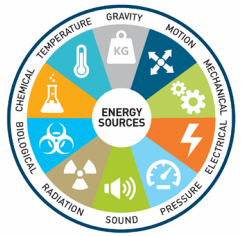
Ergonomics

- Proper ergo
- 30/30: move 30 secs every 30 min

Start When Safe

- Are you physically and mentally able to work?

Identify hazards using the Energy Wheel



SIF prevention field guide

On the road, off the phone

Park in a safe location

Don't report to work if you have cold/flu-like symptoms

COVID guidelines effective April 2024

AGENDA

9:00-9:10 am – Introduction, Welcome, and Safety

- Joe Desmond, Executive Director, CEDMC & Michael Burger, PG&E

9:10-9:45 am – PG&E Overview – Michael Burger and David Poster

- PG&E Organization Structure
- PG&E Programs Overview
- PG&E's Vision for EE

9:45-10:40 am – EE-Focused Discussion – Mananya Chansanchai, Paolo Pecora and Matt Braunwarth

- Progress on Pain Points (e.g., Custom Review, NMEC Rules, Cost-Effectiveness Reform, Upcoming Solicitations)
- Potential Regulatory Reforms (Attribution, EUL, etc.)

10:40 am-11:00 am –NETWORKING BREAK

11:00-11:45 am – DR/DER-Focused Discussion – Jomo Thorne

- Automated Response Technology (ART) Program
- Modified Proxy Demand Resource (mPDR) Proposal

11:45-11:55 am – Other Topics

- Q&A
- Discussion facilitated by Joe Desmond, CEDMC & Michael Burger, PG&E

11:55 am-12:00 pm – Closing Remarks

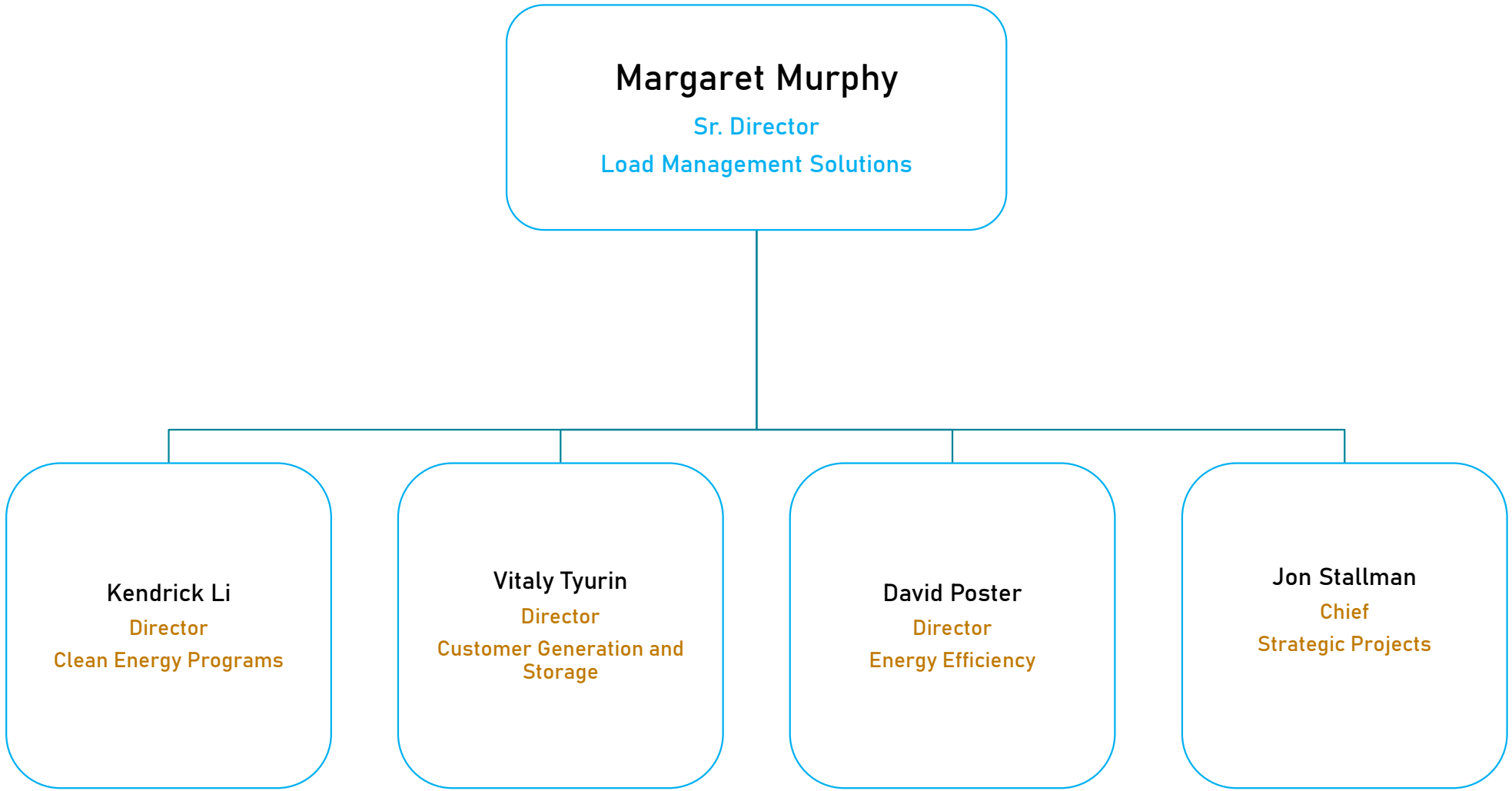
- Joe Desmond, CEDMC & Michael Burger, PG&E

12:00-1:00 pm – LUNCH/NETWORKING BREAK

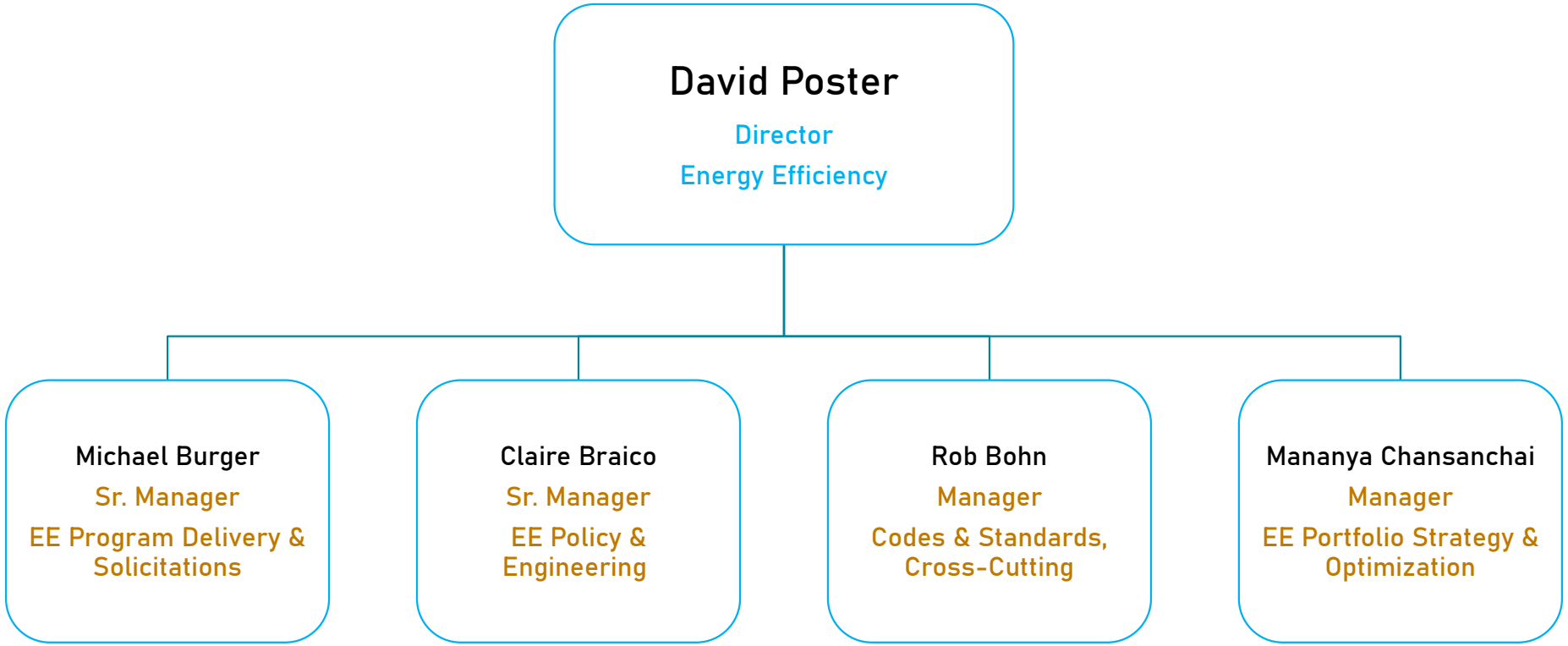
PGE Overview:

- Load Management + Energy Efficiency Organizational Overview
- EE Vision
- Current State of EE Portfolio

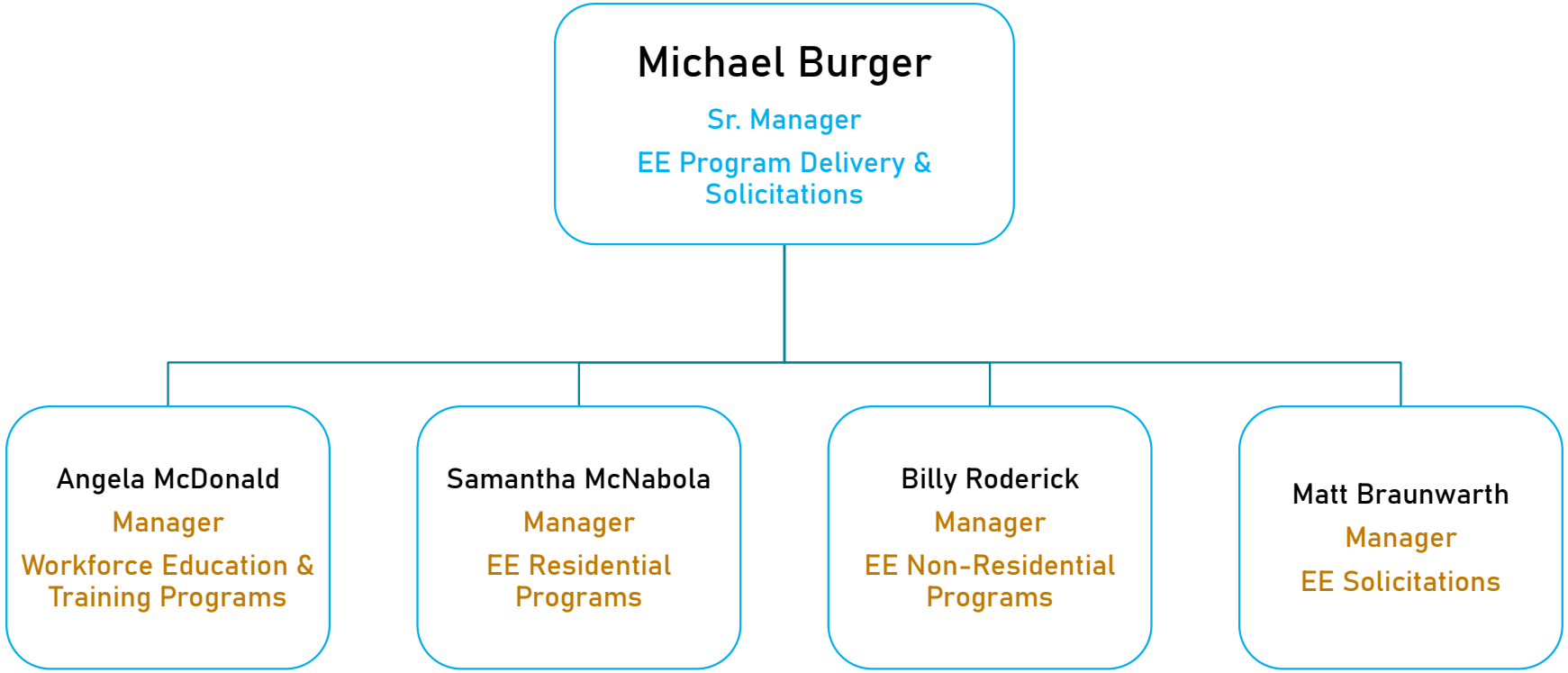
Load Management Solutions Organizational Structure



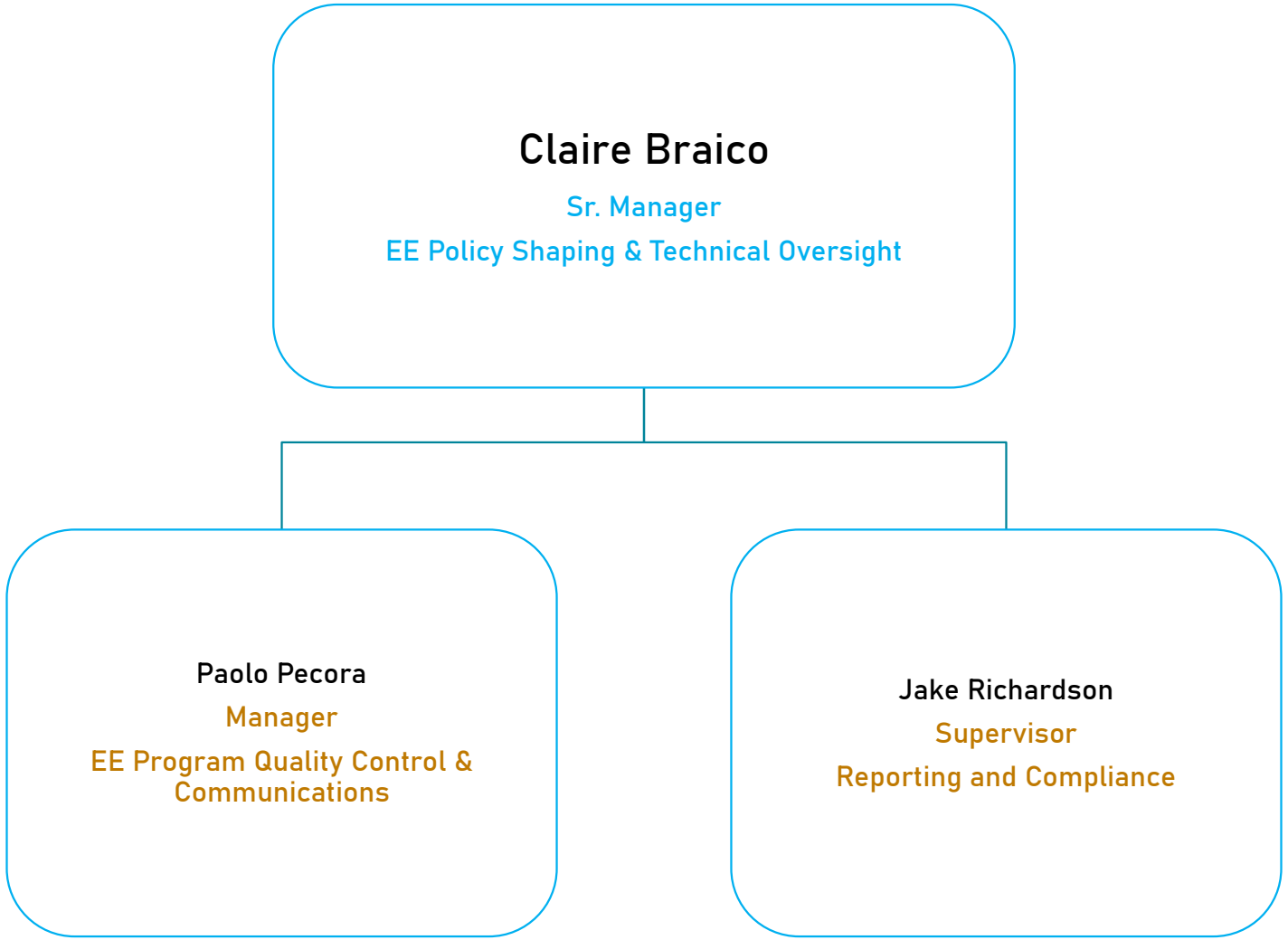
Energy Efficiency Organizational Structure



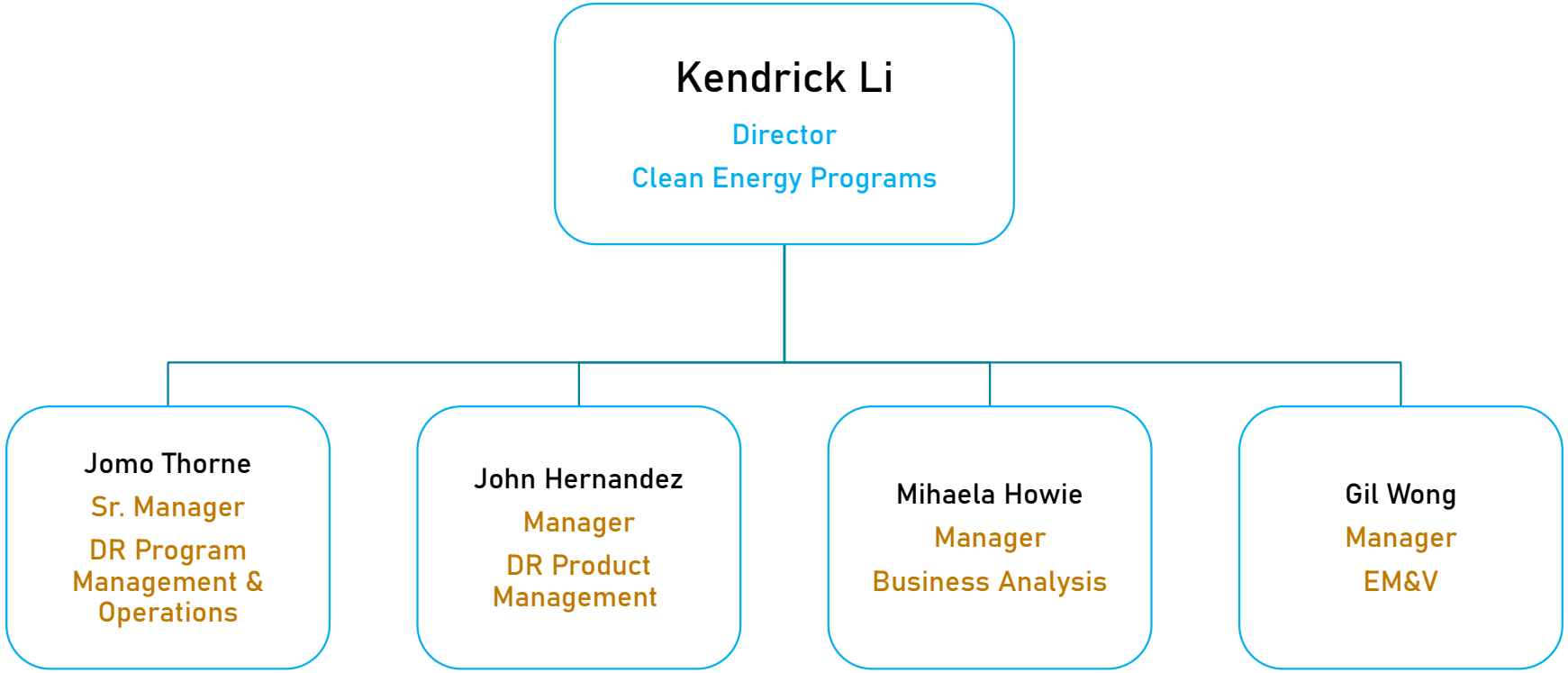
EE Program Delivery & Solicitations Organizational Structure



EE Policy Shaping & Technical Oversight Organizational Structure



Clean Energy Programs Org Structure



Energy Efficiency Vision, Goals, and Stands

STANDS

PEOPLE

EE is easy & customer satisfaction is high

PLANET

Enabling electrification is a primary focus of EE portfolio

Deliver permanent load reduction

Shape energy demand to match supply

PROSPERITY

Benefit all customers through avoided system costs from EE investments

VISION

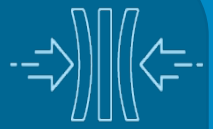
REDUCE ENERGY DEMAND ON GRID

- Increase load management capabilities with customer orchestration
- Develop and pilot multi-DER projects
- Enable demand flexible technologies

ADVANCE BUILDING DECARBONIZATION IN CALIFORNIA

- Overcome electrification adoption barriers
- Advocate for pro-electrification C&S
- Educate & train workforce
- Remove incentives for gas-powered equipment

BUILD RESILIENCY TO CLIMATE CHANGE



- Enable right-sizing of backup generation storage
- Integrate energy resiliency options into customers' electrification journeys

KEEP CUSTOMERS ENERGY BILLS AFFORDABLE

- Drive downward pressure on rates by enabling efficient electrification, using non-ratepayer funds
- Accelerate transition of vulnerable, equity customers to all-electric

PG&E Energy Efficiency Portfolio

	Programs	Customer Segments	Partners
Residential	• **Continuous Energy Feedback (CEFP)** • **Energy Action Guide** • **California Energy Smart Homes Program (CESHP)** • **Home Intel** • **2 ZEEP (Zonal Equity Electrification Pilot): Powerful Neighborhoods & Sustainable Energy Home Improvement – launch in 2025** • **REEP (Res Equity Electrification Pilot): Empower My Home – launch in 2025** • **Residential Customer Energy Orchestration (CEO) – launch in 2025**	• **Single Family** • **Multi-family**	• **Oracle / Opower** • **Bellawatt** • **TRC** • **HEA** • **Resource Innovations** • **Quest**
Non - Residential	**Commercial** • NetOne, Simplified Savings, Advance Energy Program (AEP), Healthcare Energy Fitness Initiative (HEFI), Cool Save, Smart Labs, Measured Savings Summer Reliability (MSSR), California Energy Design Assistance (CEDA), Commercial SEM (launches in 2025) **Public** • Government / K-12, State of California, Wastewater Optimization **Industrial** • 2 Strategic Energy Mngt (SEM) • Industrial Systems Optimization (ISOP) • Business Energy Performance (BEP) **Agriculture** • Ag Energy Savings Action Plan • Business Energy Performance **Other** • **On-Bill Financing (including batteries + EV charging)** • **Business Energy Reports (expanding to 98K customers)** • 8 Local Government Partnership programs • Business Audit Tool	**Commercial** • Small-Micro, SMB, Grocery/Hospitality, High Tech, Bio Tech, Healthcare, Laboratory, New Construction **Public** • Government, Public Agencies, Schools, Universities, Water, Wastewater **Industrial** • Manufacturing, Food Processing, Petroleum, Chemicals, Minerals **Agriculture** • Ag growers, post-harvest processors, fruit and vegetable processors, irrigation districts/agencies, wineries, dairies.	• **Ecology Action** • **Resource Innovations** • **Willdan Energy** • **AESC** • **KW Engineering** • **CLEAResult** • **Leidos** • **Cascade** • **TRC** • **Uplight** • **Oracle**

PG&E Energy Efficiency Portfolio

	Programs	Customer Segments	Partners
Codes & Standards	• State Building Codes Advocacy • State Appliance Standards Advocacy • National C&S Advocacy • Reach Codes • Code Readiness • Compliance Improvement (Energy Code Ace) • Decarbonization Support	All	• Energy Solutions • 2050 Partners • Frontier Energy • TRC
Other IOU-Led SW	• Plug load & appliance • Res QI/QM • Midstream comm water heating • Food service POS • HVAC • Institutional Partnerships - UC's/CSU's • Water/Wasterwater pumping • Emerging technologies	Various	• CLEAResult • Lincus • Energy Solutions • ICF • DNV • Frontier Energy

Workforce, Education & Training	• Career Connections:(CC)
	• Career & Workforce Readiness (CWR):
	• Integrated Energy Education & Training (IEET)
	  • Core (Post-Secondary) Energy Education Collaboration
	  • Technical Upskill
		Residential
		• Single Family, Multi-family
		Commercial
		• Small-Micro, SMB, Grocery/Hospitality, High Tech, Bio Tech, Healthcare, Laboratory, New Construction
		Public
		• Government, Public Agencies, Schools, Universities, Water, Wastewater
		Industrial
		• Manufacturing, Food Processing,
		Agriculture
			• The Energy Coalition (TEC)
			• Strategic Energy Innovations (SEI)
			• Frontier Energy (Food Service Technology Center)

PGE EE Focused Discussion:

- Progress on Pain Points
- Regulatory Updates and Impacts
- Solicitations Updates

Progress on Pain Points – Project Development

CPUC Efforts

- **Custom Project Pipeline –** issues, priorities, streamlining opportunities (see CMG)
- **CPUC Custom/NMEC Project templates (PFS)-** PG&E drafted influence template/rubric, EOs for POE
- **NMEC Rulebook –** PG&E comments (2/29) pushed back on proposed changes
- **NMEC Advocacy –** NMEC PCG, CPR Process, Cal TF

California Technical Forum

- **SW Custom Rulebook -** clarify requirements, CPUC agreement
- **Custom Measure Guidance (CMG)**– streamlined common standard measures, standard tools, M&V approach, SL-NMEC
- **Baseline database** - Complete, organized, up-to-date, and accessible repository of baseline data

QC&C-Implementer Engagement

- **Monthly Calls –** expanding to all platforms, project development, measure highlight
- **Upcoming Implementer Training -** In person training when PFS, SW Rulebook are complete

Regulatory Updates

Three new RENs Approved in CA

San Diego REN

Central California Rural REN

Northern California Rural REN

Traditional IDSM Funding

Funding uncertainty addressed, and available through 2027 (via D. 24-05-040 and PG&E AL-7288-E)

Multi-DER Framework

PAs waiting for reply to Tier 3 Advice Letter

Will detail opportunities to expand DER collaboration with EE

CalPA Motion to Consolidate EE, DR, and ESA

PD Rejection of Proceeding Consolidation

Upcoming Filings:

- Mid-Cycle Advice Letter
- 2028-2035 EE Application

Awaiting CPUC Responses:

- Statewide PA Transition

Solicitations

			Year	2024												2025		
			Quarter	Q1			Q2			Q3			Q4			Q1		
Customer Segment	Portfolio Segment	Solicitation Name	tage	Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Codes & Standards	Codes & Standards	SW CODES & STANDARDS ADVOCACY RFP - Wave 2	PROGRAM LAUNCHED		Contracting			AL		IP									
Codes & Standards	Codes & Standards	CODES & STANDARDS CODE READINESS RFP	PROGRAM LAUNCHED		Contracting				AL		IP								
Commercial & Residential	Resource Acquisition	2024 SUMMER RELIABILITY PLATFORM ADMINISTRATOR RFP	PROGRAM LAUNCHED		Contracting						AL	IP							
Residential & Commercial	Equity	ZONAL ELECTRIFICATION RFP - Pilot 1	IMPLEMENTATION PLAN		Contracting						AL		IP						
Residential & Commercial	Equity	ZONAL ELECTRIFICATION RFP - Pilot 2	IMPLEMENTATION PLAN		Contracting							AL		IP					
Residential	Equity	RESIDENTIAL ELECTRIFICATION EQUITY RFA/RFP	IMPLEMENTATION PLAN		Contracting							AL		IP					
Commercial	Resource Acquisition	COMMERCIAL ENERGY MANAGEMENT (SEM Expansion) RFP	CONTRACTING		RFP			Contracting								AL		IP	
Residential	Market Support	RESIDENTIAL WHOLE HOME LOAD MANAGEMENT (ResCEO) RFP	CONTRACTING		RFP			Contracting									AL		IP
Residential	Market Support	RESIDENTIAL MARKET SUPPORT (Single Point-of-Contact) RFP	RE-SCOPING		RFP PREP			RFP		Rescoping									

<u>Achievements so far in 2024</u>:

- Electrification Pilots
- Equity Pilots
- Load Management Pilots
- SEM Expansion

<u>Focus for rest of year</u>:

- Closing out open negotiations
- Solicitation Process Improvements
  - Make the process quicker
  - Make the process easier
  - Make the process more nimble

<u>Focus for 2025 and beyond</u>:

- Implement Process Improvements
- Learning from recent Pilots
- Multi-DER Framework
- ID new opportunities in the Portfolio

Solicitations Process Improvements

PG&E is engaging in a top to bottom refresh on its solicitation process

Increased Emphasis on Pre-solicitation Planning:

- Provide more background/context, more data
- Fewer “surprises” during solicitation execution

Improve Contracting Process & Timelines

- Simplify contract, payment terms, forms, etc.
- Shorten timelines to complete negotiations

Streamline the Single Stage RFP

- Preferred approach when portfolio opportunity can be well described
- Evolve scored content to better stage for contracting

More Market Engagement

- Ways to improve partnership with PG&E
- Improve education materials for topics covered in contracting / launch / implementation

Will Continue to Consider the Two-Stage RFA/RFP

- Good approach to broadly collect ideas when program concept is less clear
- Can yield an “apple-to-oranges” comparison in RFP

Find Next Opportunity Areas in the Portfolio:

- PG&E will be launching new solicitations in 2025
- **Open to hearing new portfolio opportunity areas from you all**

Automated Response Technology (ART) Program

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Today, our DR portfolio caters to generation capacity and energy shortfalls offered via a range of CAISO* market-integrated and load modifying programs. Portfolio “enablers” facilitate data and insights driving portfolio modernization and continuous improvement.

	PG&E as DR Provider		Third Party DR
Supply Side (CAISO-Integrated)	**Economic DR** (PDR)	**Reliability DR** (RDRR)	**Economic DR** (PDR)
	Capacity Bidding Program (CBP)	Base Interruptible Program (BIP)	Demand Response Auction Mechanism (DRAM) (pilot)*
	SmartAC - Switch		Demand Response Bilateral Contracts
	Automated Response Technology		
Load Modifying (Out of Market)	**Critical Peak Pricing**	**Pilots**	
	SmartRate	Emergency Load Reduction Program (ELRP)	
	Peak Day Pricing (PDP)		

350 MW
CURRENT PG&E DR PORTFOLIO

~40-52 GW**
CAISO PEAK DEMAND

DR Portfolio Enablers

- Demand Response Emerging Technologies (DRET) Pilots and Studies
- Data and Energy Management Products
- Evaluation, Measurement and Verification
- Automated DR Incentives (Non-Res)

*Ending 12/31/2024
**California Independent System Operator Today's Outlook | Demand | California ISO (caiso.com)

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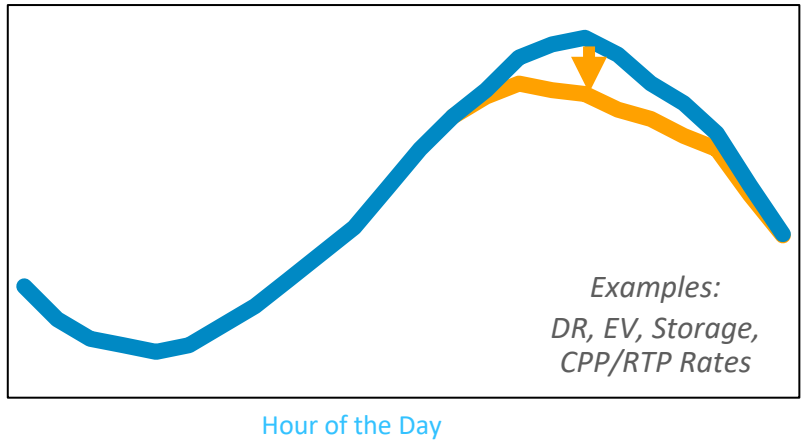
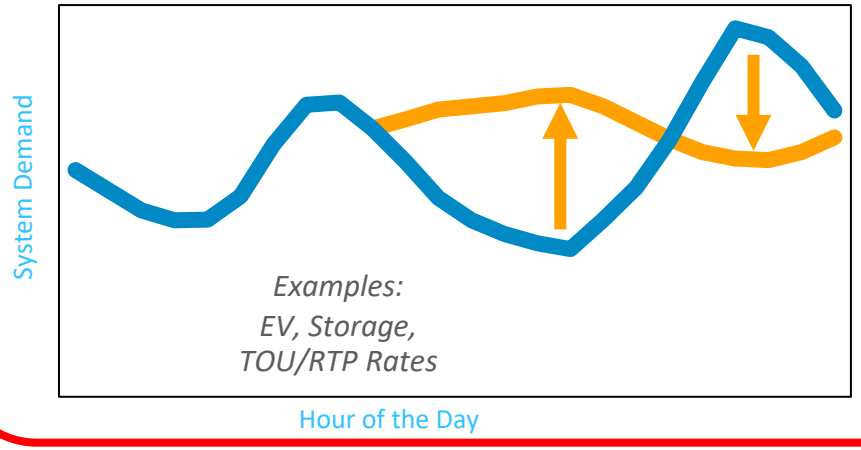
Traditional demand response (DR) provides load reduction during peak times and high price periods, and often helps to prevent power interruptions due to supply shortages. Today load management programs and rates have become important tools for flattening the load curve.

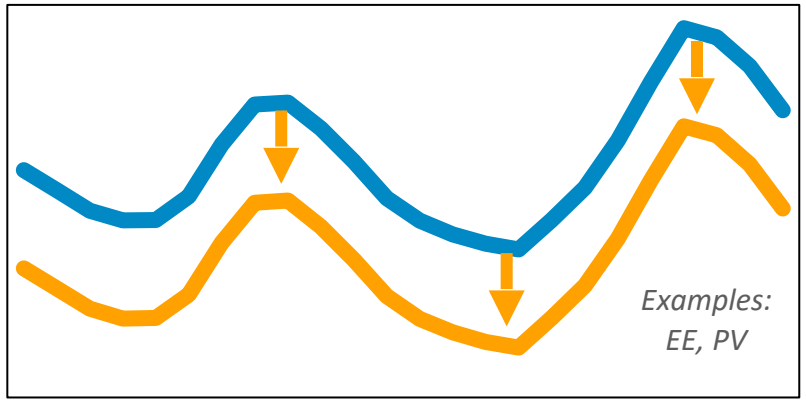
Peak Load Shed: MW of load reduction during annual/ monthly peak conditions

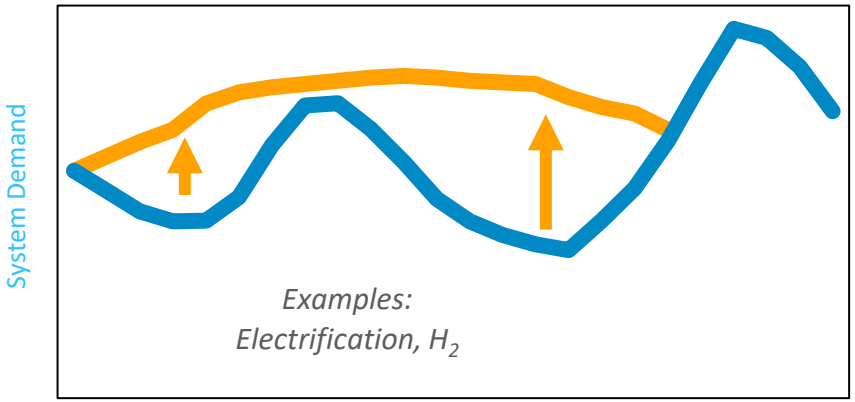




Daily Load Shift: MWh shifted from peak hours to non-peak hours

Permanent Load Reduction: MWh reduced relative to a baseline





Strategic Load Growth: MWh increased in non-peak hours

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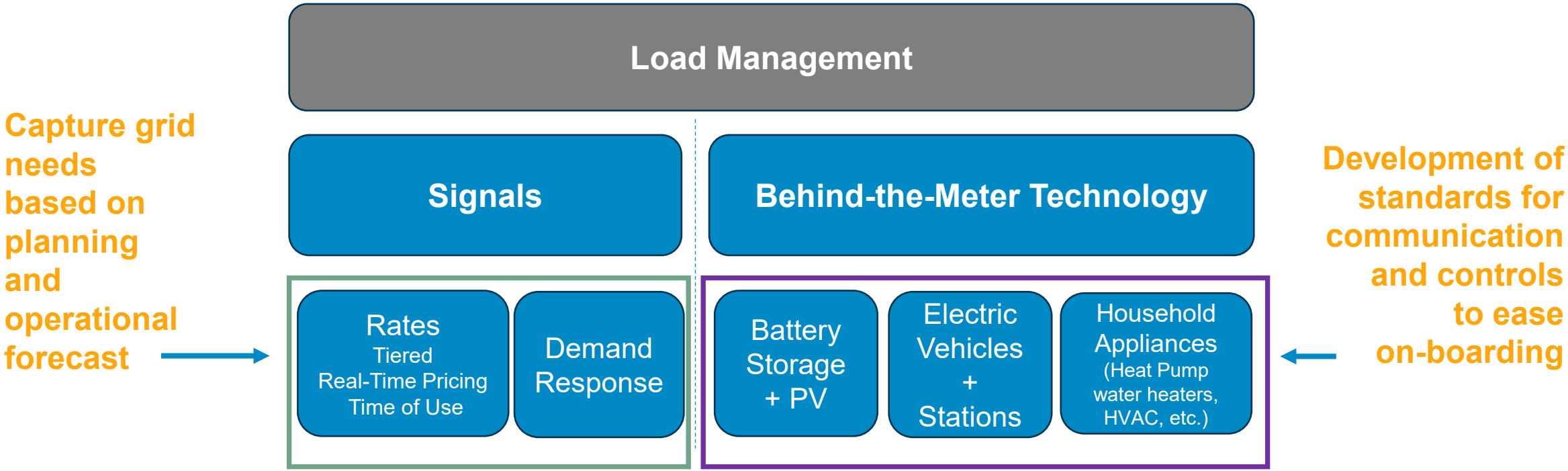
PG&E's load management strategy recognizes the many options for shaping customer load and help balance the grid while meeting the customer's energy agenda.



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ART creates an efficient mechanism for third-parties to participate and provide much needed load reduction and daily TOU impacts. Bringing customer BTM tech to be grid assets.

CUSTOMERS

PG&E

DERs

Third-Parties*

uplight

leap

ENPHASE

TESLA

OhmConnect

Grid-Assets

*For illustrative purposes only

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ENROLLMENT & ELIGIBILTY

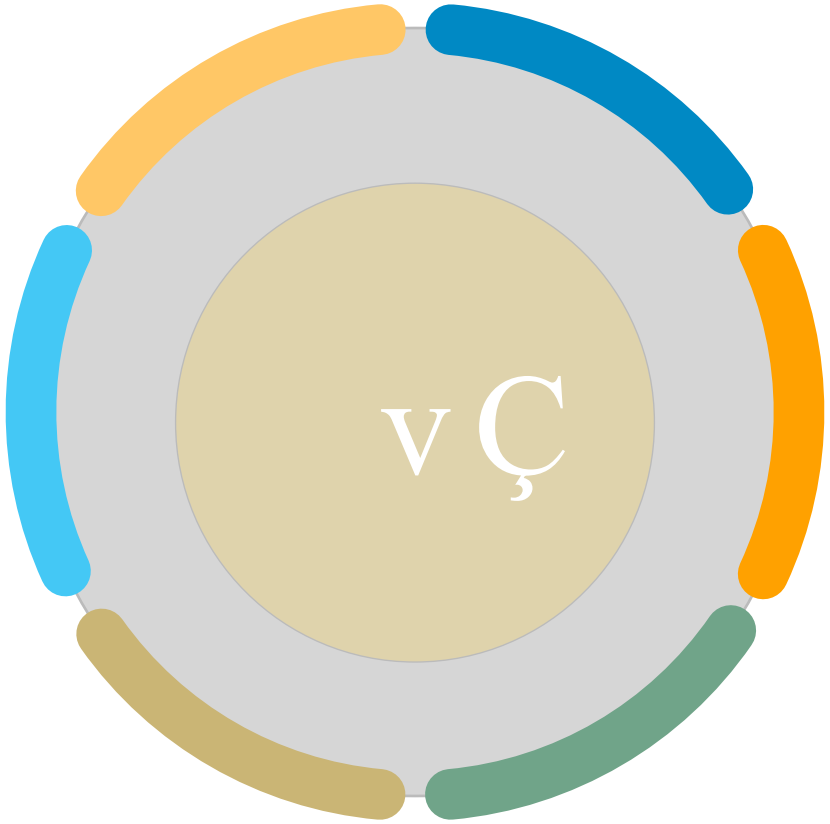
- Residential bundled & CCA with electric service
- Customers must have installed smart technology that can be remotely controlled – Provider validates device
- One Provider per customer in 2024

CAISO MARKET PRODUCT

- Proxy Demand Resource - Day-Ahead based on CAISO market award
- PG&E is the Scheduling Coordinator – no min kW for Providers

TRIGGERS

- In-market economic
- Out-of-market emergency or near-emergency (e.g. distribution service)
- Day Of and day-ahead



AVAILABILITY

- 24/7
- Year-round
- Daily limit of 6 hours

PROVIDER COMPENSATION

- Pay for Performance
- Measured at the meter – no exports at this time
- 5-in-10 Baseline
- Penalty structure to be determined

TIME VARYING FUNCTION

For customers on TOU rates Providers must support:

- Daily automatic load management functions
- Must remain on daily load shifting for twelve months

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Not a traditional aggregator or direct-enrolled approach; delineations provide autonomy and support for third-parties.

PG&E

- Co-brands marketing materials
- Promotes through various channels
- Interfaces with Providers to perform eligibility checks and manage enrollment
- Calculates performance of third-parties
- Pays Providers
- Manages independent measurement and evaluator
- CAISO registration and resource formation

Third-Parties

- Recruitment activities with OEMs and PG&E
- Integrations with technology manufacturers (Original Equipment Manufacturers, OEMs)
- Interfaces with PG&E to support eligibility checks and manage enrollment
- Dispatches daily TOU and DR events
- Customer communications
- Customer incentive payments

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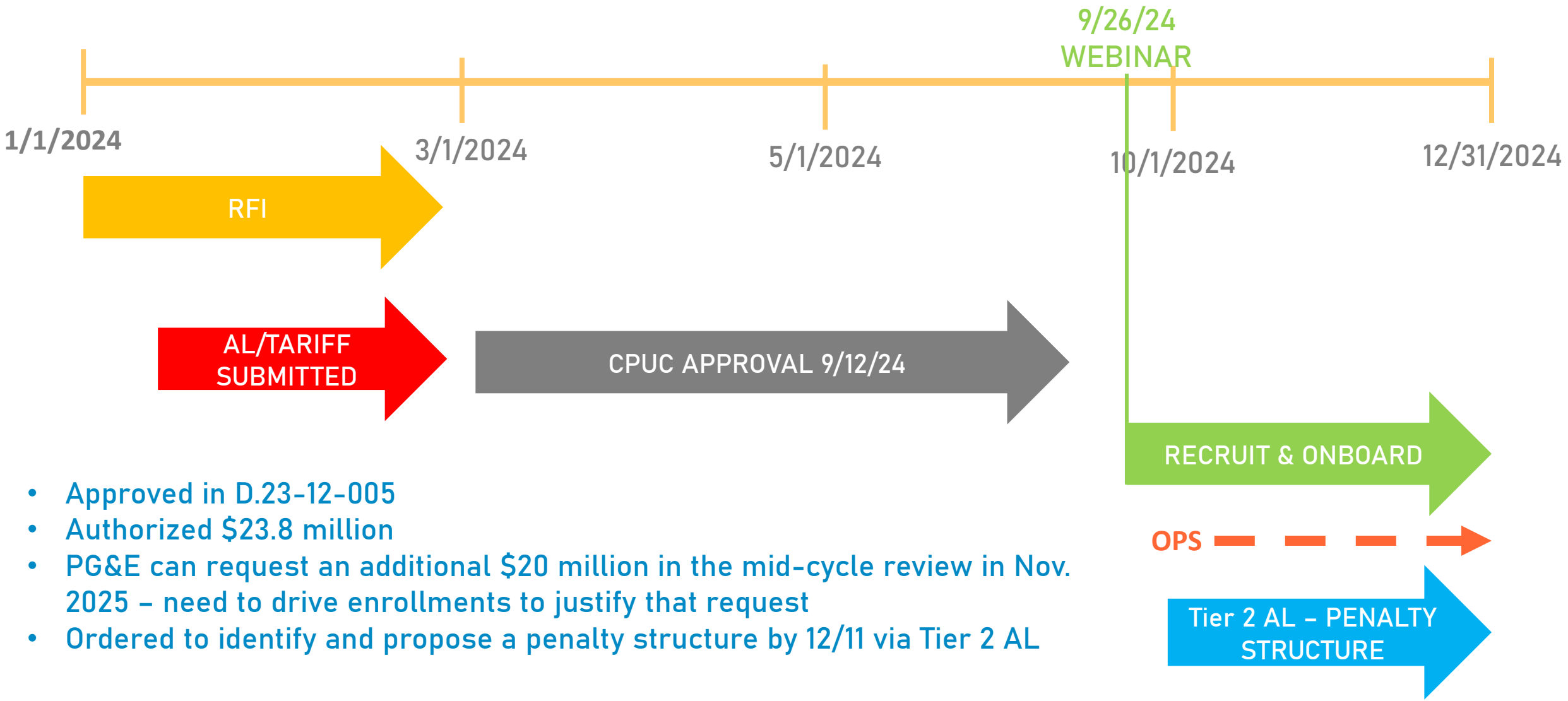

- Approved in D.23-12-005
- Authorized $23.8 million
- PG&E can request an additional $20 million in the mid-cycle review in Nov. 2025 – need to drive enrollments to justify that request
- Ordered to identify and propose a penalty structure by 12/11 via Tier 2 AL

Modified Proxy Demand Resource (mPDR)