CALFLEXHUB SYMPOSIUM SEPTEMBER 24 | 8am-6pm PT







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KEYNOTE SPEAKERS: Andrew McAllister, Commissioner, California Energy Commission;

Mary Ann Piette, Associate Lab Director, Berkeley Lab;

Ram Narayanamurthy, Deputy Director, Building Technologies Office, U.S. Department of Energy;

Sven Mumme, Supervisor and Technology Manager, U.S. Department of Energy;

Achintya Madurri, Senior Regulatory Analyst, CPUC





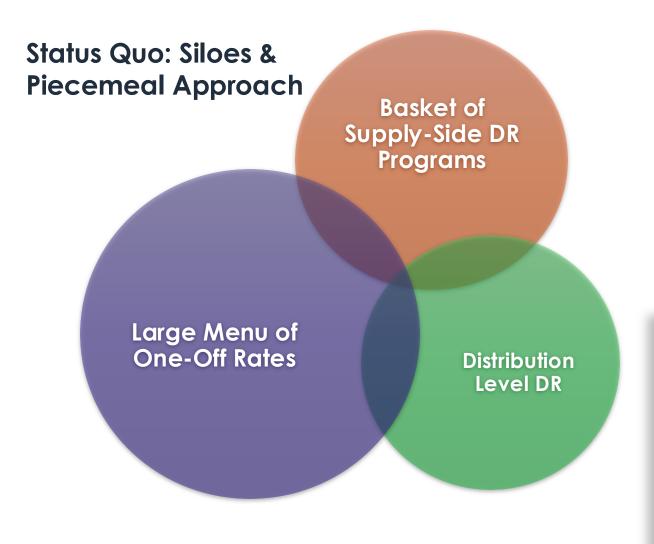








Motivation for Dynamic Retail Rates



Innovation: Integration, Automation, Pricing, & DER Compensation

California Flexible Unified Signal for Energy (CalFUSE)

- → Reduced complexity, single point focus
- → Highly-scalable, widespread adoption
- → Reduced cost of controls and automation

Energy Division's "CalFUSE" Framework: California's Flexible Unified Signal for Energy

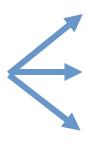
Three Pillars

Price Presentation

Rate Reform (Three-prong strategy)

Customer Options for Energy
Optimization







Six Elements

Element 1: Standardized price access

Element 2: Real-time energy prices

Element 3: Real-time capacity prices

Element 4: Bi-directional prices

Element 5: Subscription option

Element 6: Transactive option

Demand Flexibility OIR (R.22-07-005)

Summary and Goals of Phase 1 (Track B)

- 1. Develop policies to achieve widespread customer adoption of automated demand flexibility solutions throughout the state
 - Guidelines for Rate Design of Dynamic Retail Rates
 - Systems and Processes necessary for both bundled and unbundled customers:
 - E.g., Systems needed for access to prices and responding to price signals, such as computation of dynamic electricity prices, billing, and settlement
- 2. Ensure IOUs comply with CEC's adopted Load Management Standards (LMS) Amendments for dynamic marginal cost-based hourly rates

California Public Utilities Commission 5

Regulatory Timeline for Dynamic Retail Rates in CA

Date	Milestone
December 2021	 Initial CalFUSE pilots approved for SCE and Valley Clean Energy/PG&E (D.21-12-015) Agricultural pumping pilot for Valley Clean Energy CCA customers. Commercial/Residential pilot for SCE customers.
January 2024	 Expanded CalFUSE Pilots (2025-2028) approved (D.24-01-032) Ag pilot - PG&E (50 MW enrollment target) C&I and Res Pilot - PG&E (50 MW enrollment target) C&I and Res Pilot - SCE (50 WW enrollment target) Pilots include eligibility for VGI (including submetering)
October 2024	 PG&E V2X Pilot (SB 676) Phase 2 (E-5192 & E-5326) Export compensation for bidirectional EV charging on a CalFUSE rate for residential and commercial fleets
2025	Large IOUs submit applications for opt-in dynamic hourly rates in response to CEC LMS
2027	CEC Load Management Standards require that large IOUs and CCA offer dynamic hourly rates for all customer classes
2030	CEC's adopted CA load shift goal – 7,000 MW



