DOCKETED	
Docket Number:	16-OIR-06
Project Title:	Senate Bill 350 Disadvantaged Community Advisory Group
TN #:	261122
Document Title:	Item 6 - CEC Gas R&D DACAG 2025
Description:	N/A
Filer:	Dorothy Murimi
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	1/16/2025 4:54:43 PM
Docketed Date:	1/16/2025

Gas R&D Program Proposed FY 2025-2026 Budget Plan

CEC Staff Presentation to DACAG

January 17, 2025

Gas R&D Program Background

$24 million annual budget, funded by a surcharge on gas consumption in California

Focus on energy efficiency, renewable technologies, conservation, and environmental issues

Support state energy policy

Offer a reasonable probability of providing benefits to ratepayers

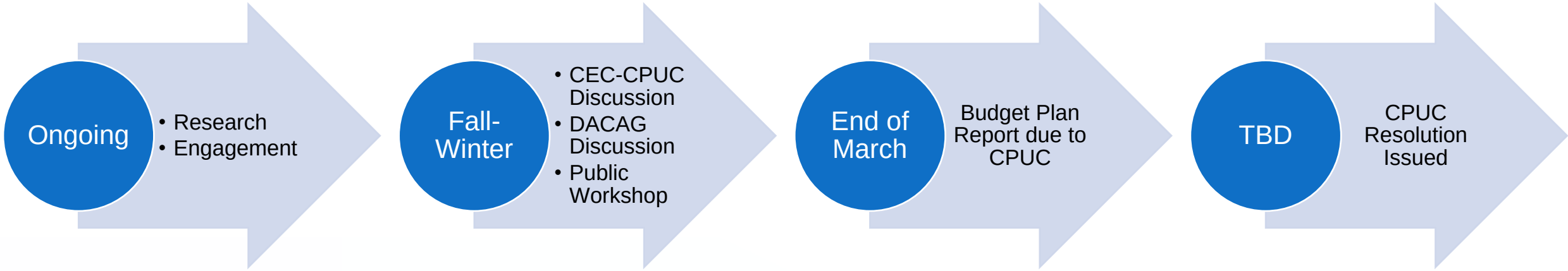
Consider opportunities for collaboration and co-funding opportunities with other entities.

Developing Initiatives

Informed by:

- Gas R&D authority
  - State policy
  - CPUC Resolutions
- Emerging research trends
  - Roadmaps and strategies
  - Research at DOE, universities, etc.
  - CPUC and CEC proceedings
- Discussions with technical experts and EJ representatives
- Equity considerations

Key Dates


Ongoing
• Research
• Engagement
Fall-Winter
• CEC-CPUC Discussion
• DACAG Discussion
• Public Workshop
End of March
Budget Plan Report due to CPUC
TBD
CPUC Resolution Issued

Proposed updates to 2023-2024 Budget Plan

Initiatives

- Air Pollutant Exposure Assessment in California Residences
- Scaled-Up Gas Decommissioning Pilots & Integrated Planning Tools
- ~~Innovative Gas Leakage Monitoring, Mitigation, and Prevention Solutions~~
- ~~Leveraging Cost-Share Opportunities~~
- **Networked Geothermal District Heating Study**

Proposed updates to 2024-2025 Budget Plan

Initiatives

- ~~Networked Geothermal District Heating Study~~
- Support Equitable, Safe, & Cost-Effective Decarbonization of California's Gas System
- Safety: Innovations for Cost-Effective O&M of Critical Infrastructure During the Gas Transition
- Renewable Generation: Fuel-Flexible Distributed Power Generation

FY25-26 Gas R&D Budget Plan Proposed Initiatives

Proposed FY25-26 Initiatives

Initiative Theme	Initiative Title
Gas System Decommissioning	Social Science Research for Gas Decommissioning in the Mid- and Long Term
	Pilot Projects to Advance Gas Decommissioning
Building Decarbonization	Networked Geothermal Heat Pumps
Entrepreneurial Ecosystem	Scaling Technology for Decarbonizing California's Gas Sector

Social Science Research for Gas Decommissioning in the Mid and Long Term

Motivation: Support gas end use conversions, their coordination with energy infrastructure planning, and strategies to improve gas transition impacts

Innovation: Use **empirically-based social scientific approaches** to create tools, insights, and recommendations serving gas transition stakeholders

Benefits

Provides detailed understanding of energy user needs, responsive strategies, positive and negative impacts, to inform:

- Technology and policy development
- Safety, reliability, & resilience planning
- Equity, robust ratepayer benefits

Signal Hill, County of Los Angeles, 1926. California Historical Landmark 580.
Credit: Public Domain (https://commons.wikimedia.org/wiki/)

Pilot Projects to Advance Gas Decommissioning

Motivation: Advance gas system decommissioning pilot demonstrations

Innovation: Evaluate the challenges and implications of **strategic gas decommissioning**, support future demonstrations, and inform gas decommissioning policies, regulations, and broader gas decarbonization strategies

Benefits

- Assess feasibility and identify potential risks of gas decommissioning
- Reduce GHG emissions and air quality impacts
- Improve inclusion and low-cost electrification for ESJ communities

Credit: Rocky Mountain Institute - “A New Approach to America’s Rapidly Aging Gas Infrastructure,” January 6, 2020.

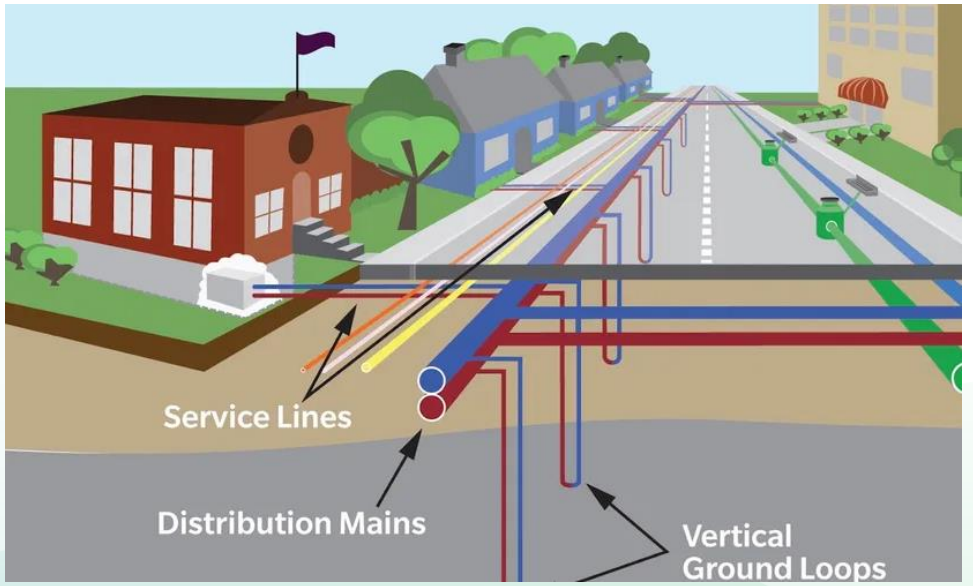
Networked Geothermal Heat Pumps

Motivation: Develop efficient community-scale decarbonization of heating and cooling in support of infrastructure transition from fossil gas

Innovation: Assess feasibility and **demonstrate networked geothermal heat pump solutions** in the context of CA's climate, geology, population, and policy landscape

Benefits

- Decrease peak energy demand; facilitate customer bill savings
- Increase adoption potential for gas utilities
- Explore pilot potentials with ESJ communities
- Reduce GHG and criteria air pollutant emissions
- Minimize combustion risks



Credit: Eversource

Scaling Technology for Decarbonizing California's Gas Sector

Motivation: Scale manufacturing of innovative technologies to enable market adoption

Innovation: Advance the development of **industrial heat recovery, exchange, and / or storage** technology to reduce GHG emissions through more efficient use of fuels. These technologies would be fuel flexible and address difficult-to-electrify sectors.

Benefits

- Reduce GHG and criteria air pollutant emissions
- Reduce utility bills
- Create jobs
- Reduce costs of technology

Thermal storage vessel. Source: Element16

Advancing Equity

CPUC Resolution: Coordinate with the DACAG and disadvantaged community stakeholders to administer the program equitably

- Current CEC Practices
  - Streamline grant application & administration process
  - Provide preference points to proposals that support ESJ communities
  - Discuss Budget Plan with DACAG or DACAG members
  - Convene initial Environmental Justice roundtable

Discussion questions:

Social Science Research for Gas Decommissioning in the Mid- and Long Term
Pilot Projects to Advance Gas Decommissioning
Networked Geothermal Heat Pumps
Scaling Technology for Decarbonizing California's Gas Sector

1. Do you have any feedback on the proposed research initiatives?
   - How to center equity considerations?
   - Suggested use cases or opportunities?
   - Concerns?
2. How would you best like to be engaged going forward?
3. Any recommendations for ensuring equitable budget plan development and program administration?
4. What research topics would you recommend the CEC prioritize with future gas R&D funding?
5. Any other recommendations or feedback you would like to share?

Thank You!