DOCKETED			
Docket Number:	21-BUSMTG-01		
Project Title:	Business Meeting Agendas, Transcripts, Minutes, and Public Comments		
TN #:	238162		
Document Title:	June 9 2021 Business Meeting ADA Sans Public Comment Slides		
Description:	***This document supersedes TN 238159***		
Filer:	Chester Hong		
Organization:	California Energy Commission		
Submitter Role:	Commission Staff		
Submission Date:	6/9/2021 9:54:34 AM		
Docketed Date:	6/9/2021		



California Energy Commission Business Meeting June 9, 2021 10:00 a.m.





Pledge of Allegiance

I pledge allegiance to the Flag of the United States of America, and to the Republic for which it stands, one Nation under God, indivisible, with liberty and justice for all.

CALIFORNIA IS SET TO FULLY REOPEN

JUNE



GET VACCINATED





Sign up to get notified when it's your turn to get the COVID-19 vaccine.

California Energy Commission's





Nominations due by:

June 25



Remote Compliance

Business Meeting held remotely, consistent with Executive Orders N-25-20 and N-29-20 and the recommendations from California Department of Public Health to encourage physical distancing to slow spread of COVID-19.

For remote participation instructions visit **CEC's Business Meetings** webpage:

https://www.energy.ca.gov/proceeding s/business-meetings If Zoom's toll-free phone numbers don't work:

- Dial: (669) 900-6833
- Meeting ID: 938-6923-0237



Public Comment Instructions

- Pursuant to California Code of Regulations Title 20 §1104(e), any person may make oral comment on any agenda item.
- Comments may be limited:
 - to 3 minutes or less
 - 1 representative per organization
- Any person wishing to comment on information items or reports (non-voting items) shall reserve their comment for the general public comment portion of the meeting agenda.

Zoom App/Online

Click "raise hand"

Telephone

Dial (669) 900-6833 or (888) 475-4499 Enter Webinar ID: 938 6923 0237

- Press *9 to raise hand
- Press *6 to (un)mute

When called upon

Public Advisor will open your line Unmute, spell name and state affiliation, if any, for the record, then begin your comments



- a. Lawrence Berkeley National Laboratory. Contact: Adeel Ahmad
- b. Electric Transportation Community Development Corporation. Contact: Sharon Purewal
- c. Stanfield Systems, Inc. Contact: Jesse Gage
- d. Alamitos Energy Center (13-AFC-01C). Contact: Joseph Douglas



Item 2: Appointment of Members to the Disadvantaged Communities Advisory Group

June 9, 2021 Business Meeting

Noemí Otilia Osuna Gallardo, Public Advisor Public Advisor's Office



Benefits to Californians



DACAG Appointments Overview

- 11 members per charter
- 3 vacancies in 2021
- Terms run 4/1/21 3/31/23
- Start after CEC, CPUC approve
- First meeting in July



3 Candidates



José Hernandez

Community Engagement Manager Los Angeles Cleantech Incubator (LACI)



Elena Krieger, PhD Director of Research

Physicians, Scientists, and Engineers (PSE) for Healthy Energy



Curtis Silvers

Executive Vice President Los Angeles Brotherhood Crusade



• Approve 3 appointments



Item 3: Assembly Bill 2127 Revised Staff Report

June 9, 2021 Business Meeting

Kiel Pratt, Supervisor, Transportation Planning and Analysis Unit Fuels and Transportation Division / Transportation Policy and Analysis Office



Cleaner transportation

Grid-friendly infrastructure

Consumer convenience



Source: CEC, FreeWire Technologies, Beam Global



- Every 2 years, create reports assessing:
 - Charging infrastructure needs for all vehicle types
 - Utility grid connection
 - Charger hardware and software
 - Programs accelerating EV adoption

Update AB 2127 assessment to capture EO N-79-20's expanded targets



AB 2127: 5M ZEVs by 2030



Source: FreeWire

EO N-79-20: 8M ZEVs by 2030



Source: Volta Charging

Scope of AB 2127 Assessment

		Other EVs			
Existing	Counting Chargers				
Chargers	Including in Low-income Communities (SB 1000)				
Future Chargers	Electric Vehicle Infrastructure Projections (EVI-Pro 2)	Electric Vehicle Infrastructure for Road Trips (EVI-RoadTrip)	Widespread Infrastructure for Ride-hailing EV Deployment (WIRED)	Medium- and Heavy-Duty EV Infrastructure Load, Operation, and Deployment (HEVI-LOAD)	Off-Road, Port and Airport Electrification

Charging Hardware and Software (Equipment Components, Standards, and Interoperability)

Make-Ready Electrical Equipment (Community-Centric Plans, Building Codes, and Grid Evaluation)

Other Programs to Accelerate the Adoption of Electric Vehicles (Incentives, Investments, and Others)



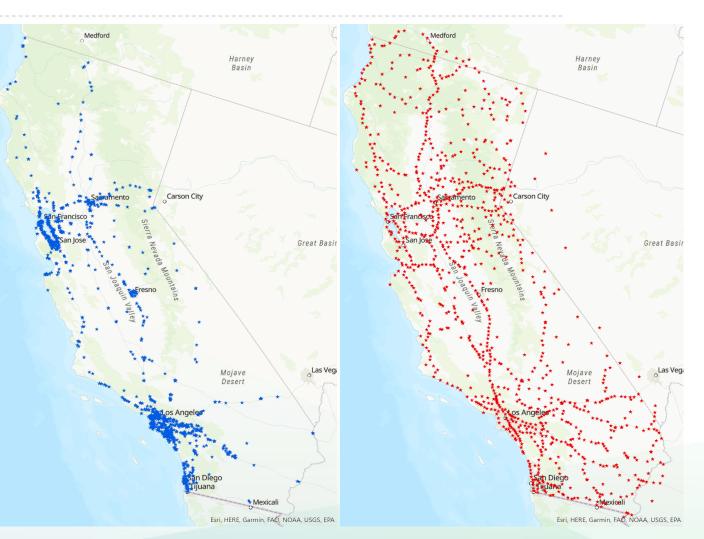
Modeling Approach

Inputs

- ZEV population (Hydrogen, pure battery electric, plug-in hybrid)
- ✓ Residential charging access
- ✓ Travel data
- ✓ Vehicle attributes by class
- ✓ Charger utilization

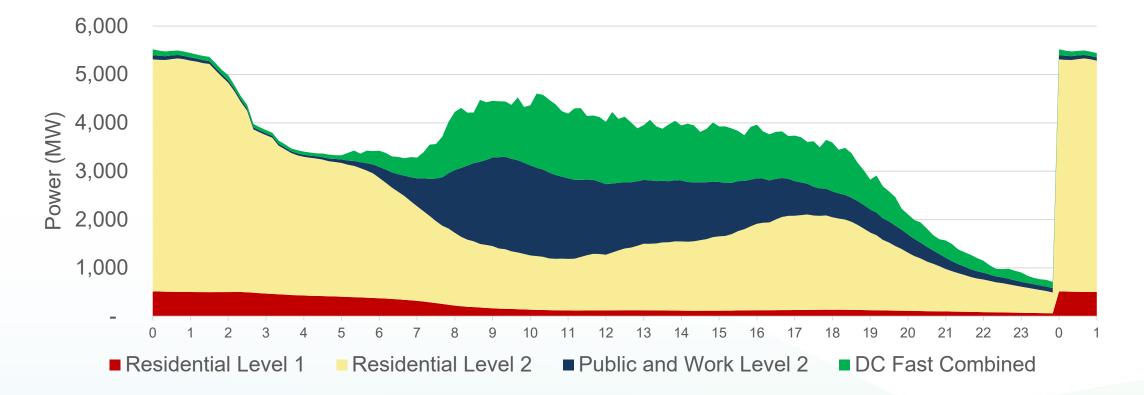
Outputs

- ✓ Number of chargers needed at statewide and countywide level
- Broken down by charger type and location type
- ✓ Statewide load profiles



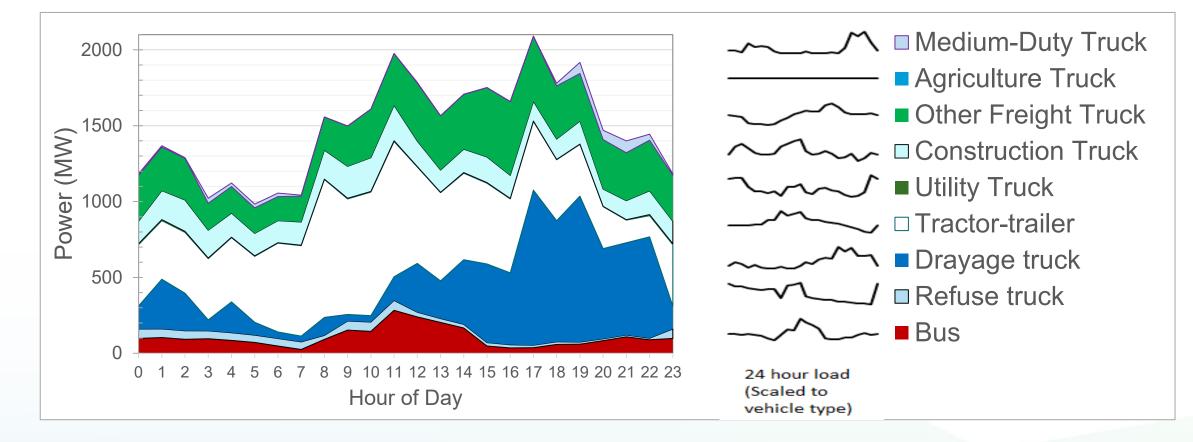
Source: CEC, National Renewable Energy Laboratory, and Alternative Fuels Data Center





Projected 2030 statewide power for light-duty charging for 8 million ZEVs on a typical weekday

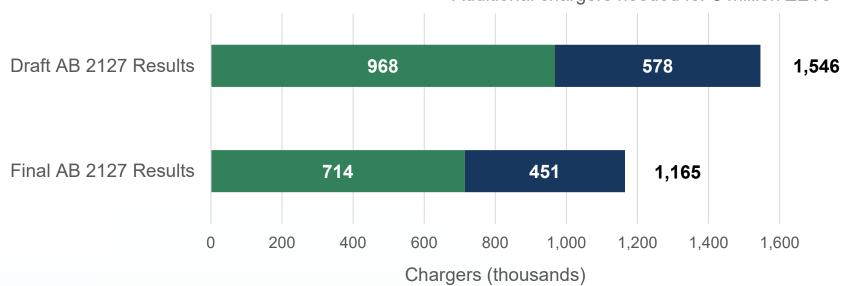
Projected Load on the Grid: Medium- and Heavy Duty (HEVI-LOAD)



Projected 2030 load curve for medium- and heavy-duty on-road vehicles across major segments

Updates to Light-Duty Results

■ Chargers needed for 5 million ZEVs



Additional chargers needed for 8 million ZEVs

Updated Modeling Results (since Jan. 2021):

- Incorporate stakeholder feedback
- Better reflect current and future market conditions, especially improved EVs with longer ranges, larger batteries, and higher charging power
- Enhance methods and continually improve modeling accuracy



- 180,000 medium- and heavy-duty ZEVs in 2030 to achieve EO N-79-20 goals
- Modeling suggests **157,000** DC fast chargers needed
- Ongoing analysis will investigate higher charging power
- Critical for equity!



• Focus on Equity

- Local "best-fit" solutions
- Financing innovations and continued public support

- Vehicle-grid integration
 - Bidirectional charging
- Standard connectors and communications
 - Convenience
 - Grid-friendly charging



Source: Ford Motor Company



- Approve AB 2127 Revised Staff Report
- Subsequent final publication as a Commission Report
- Every 2 years: Updated charging infrastructure reports



Item 4: Solar Energy Generating System Units (SEGS) III – VII Decommissioning Plan

June 9, 2021, Business Meeting

Presented by Elizabeth Huber, Compliance Monitoring and Enforcement Office Manager John Heiser, Compliance Project Managers Siting, Transmission and Environmental Protection Division



- Proposed repurpose from solar and natural gas power plant to PV panels and large-scale battery energy storage system.
- "Cradle-to-cradle" project supports state's clean energy future.

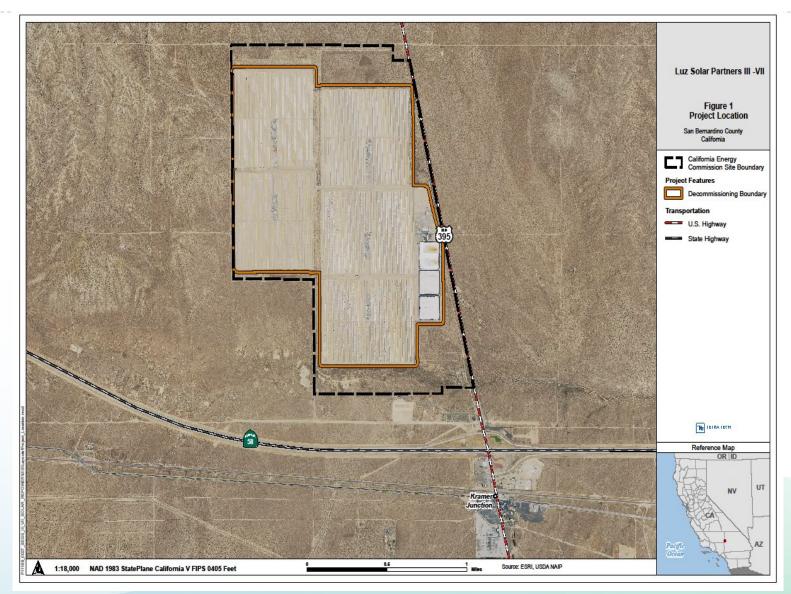


- Located on approximately 1,000 acres of desert terrain outside Kramer Junction in San Bernardino County.
- Filed a Final Decommissioning Plan for SEGS III VII.



Date	Action
5/25/1988	CEC approved SEGS III – VII project consisting of five 30 MW (150 W net total) solar and natural gas-fired units
2/01/1989	Power plant came online and producing power under a power purchase agreement with Southern California Edison
10/15/2019	Final operations suspended pursuant to a revised Cold Layup Plan.
4/20/2021	Final Decommissioning Plan (TN: 27500) submitted









Solar collectors capture and concentrate sunlight to heat a synthetic oil called therminol, which then heats water to create steam.



Steam is piped to onsite turbine generator to produce electricity, which is then transmitted via power lines.





• Approve SEGS III – VII Decommissioning Plan and newlyproposed decommissioning conditions.



Item 5: 2022 Title 20 Data Collection Regulation Modifications

June 9, 2021 Business Meeting

Ryan Eggers, Transportation Fuels Data & Analysis Unit Energy Assessments Division, Data Integration & Policy Office



Help ensure reliability & advance state energy goals



35



New data:

- Hydrogen, biodiesel, and renewable diesel production data
- Property Assessed Clean Energy (PACE) data
- Natural gas storage system data

General regulations:

- Data submission procedural changes
- General language modernization
- Confidentiality process changes



Pre-Rulemaking Workshop	o 10/27/20			
Stakeholder Outreach and Finalizing Rulemaking Materials	11/2020 – 5/2021			
Opening Phase 2 Data Rulemaking Activities (submit materials with OAL)	6/18/21			
45-Day Comment Period	6/18/21 – 8/2/21			
Public Hearing	8/6/21			
Adoption of Rulemaking Package by Commissioners (PROPOSED)	9/8/21			
Adopted Rulemaking Package sent to OAL	September – October 2021			
Enacted Regulations	1/1/22			



- ISOR and Express Terms will be submitted by 6/18.
- Staff to present proposed regulations at September Business Meeting.



Item 6: California Schools Healthy Air, Plumbing and Efficiency (CalSHAPE) Program Guidelines

June 9, 2021 Business Meeting

Jonathan Fong, Manager Renewable Energy Division, School Stimulus Office

















- CalSHAPE = California Schools Healthy Air, Plumbing and Efficiency Program
- 2 grant programs

Ventilation : assess, maintain, and repair HVAC systems **Plumbing :** replace inefficient plumbing fixtures and appliances



2021 Program Accrual



Estimated Overall Program Budget \$5000 M 2021 - 2026



Initial phase: 100% to schools in "underserved" areas

- Disadvantaged communities
- Low-income communities
- CalEnviroScreen
- Free and Reduced Price Meal
- Tribal land





- 2 public workshops
- Staff Draft Guidelines: 1/22
- Revised Staff Draft Guidelines: 3/26
- Collaborative Meetings :
 - LEAs
 - HVAC and Plumbing Industry
 - Stakeholders





Initial phase: Assessment and Maintenance Grants

- Planned Projects or Reimbursements for work after 8/1/2020
 - Assessment
 - Maintenance
 - Adjustments of ventilation rates
 - Filter replacements
 - Carbon dioxide monitor installation
 - Assessment Report

Possible future phase: HVAC Upgrade and Repair Grants

• HVAC repairs, upgrades, or replacements



Eligible Fixtures

- Toilets
- Urinals
- Showerheads
- Faucets

Eligible Appliances

- Dishwashers
- Commercial Ice Makers
- Commercial Clothes
 Washers

Streamlined Application Process

	AIA	0			-	, cenne.jackson@energy.ca	Lgov! Logout OSettin
ENERGY (COMMISSION	Home	Manage	e	Application	Review	Contact Us
Application Sci	100ls List						
District: 0110017	000000	Alameda County Offi	ce of Education	Program:	HVAC-1	TIER 2	Status: In Progress
Applicati	on Main	Manage Applica	tion Schools		School General	School R	eplacement Costs
Total of Application	Project Costs			\$10,016,866			
Total of Application	Requested Funding			\$56,866			
Manage Scho	oolEntries					1	Add More Schools
School Code	School Name		Status	Funding Group	Project Cost	Requested Fund	ing
01100170130401	Alameda County Ju	venile Hall/Court	In Progress	SDGE	\$10,000,050	\$40,	050 Edit Remove
01100170130419	Alameda County Co	mmunity	In Progress	PGE 1	\$16,816	\$16,	816 Edit Remove
			Totals		\$10,016,866	\$56,	866



- Approve CalSHAPE Ventilation & Plumbing Program Guidelines
- Adopt determination that action is exempt from CEQA



Item 7: Agreement 600-20-008 with California Air Resources Board for a \$850,000 Contract

June 9, 2021 Business Meeting

Mark Johnson, Energy Commission Specialist Fuels and Transportation Division, Advanced Vehicle Infrastructure Office





- Advances safety
- Strengthens consumer
 protection
- Provides data



- Develop and release competitive solicitation
- Build new hydrogen station testing device
- Collect fueling data received from stations tested







- Approve agreement
- Adopt staff's recommendation that action is exempt from CEQA





Item 8: California Air Resources Board

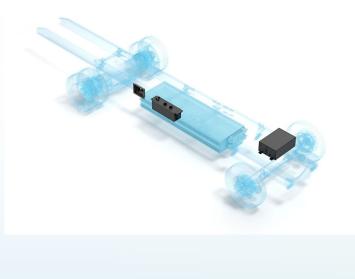
June 9, 2021, Business Meeting

Larry Rillera, Air Pollution Specialist Fuels and Transportation Division, Transportation Policy and Analysis Office

Benefits to California



- ZEV and infrastructure training
- Equity community training, employment, and recovery
- ZEV-related jobs and career pathways
- Address critical community-identified clean transportation needs

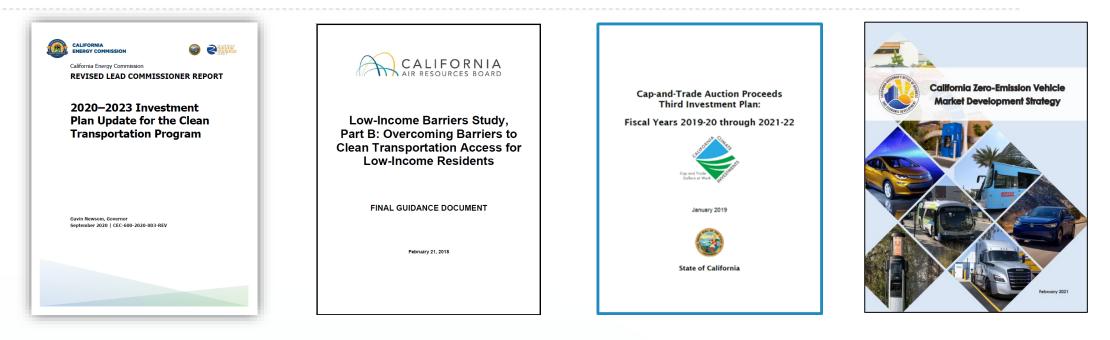






Overview of Proposed Item





- Collaborate on ZEV policies, investments, and deployments
- Be intentional about Inclusion, Diversity, Equity, Access, and Local (IDEAL)
- Transfer \$1 million from CARB to the CEC for a workforce solicitation
- Set up IDEAL ZEV Workforce Pilot Solicitation





- Approve item
- Approve staff recommendation exempt from CEQA







Hard Work, Low Pay, Miserable Conditions and More

Item 9: California Conservation Corps

June 9, 2021, Business Meeting

Larry Rillera, Air Pollution Specialist Fuels and Transportation Division, Transportation Policy and Analysis Office





Hard Work, Low Pay, Miserable Conditions and More

- Training for transportation electrification
- ZEV-related career pathways
- Intentional investment in front-line communities
- Leverage and expand state investments for GGRF Funded Energy Corps





Overview of Proposed Item

- Develop ZEV training curriculum and field activities
- Secure partners and project sponsors
- Develop and implement the Transportation Electrification Training Plan
- Provide classroom instruction and on-the-job training



Sacramento Hub

Norwalk Hub

Vista (No. San Diego)







- Approve item
- Approve staff recommendation exempt from CEQA



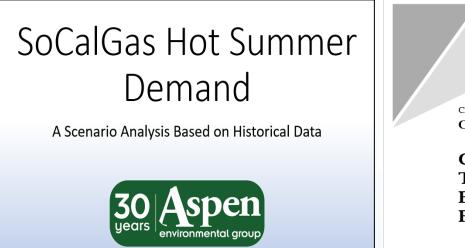
Item 10: Aspen Environmental Group

June 9, 2021, Business Meeting

David Erne, Manager Energy Assessments Division, Supply Analysis Office



- Provides specialized expertise
- Supports analysis of critical energy systems



California Energy Commission CONSULTANT REPORT

California Off-Road Transportation Electrification Demand Forecast Aliso Supports ~9,800 MW: 40% LADWP/ 60% in CAISO; Critical for Peak Day and Contingency Reserve Situations





- Electricity System & Infrastructure Analysis
- Demand Analysis
- Natural Gas Assessments and Forecasting
- Distributed Generation Analysis
- Data Management





• Approve this contract.



Item 11: California Clean Energy Fund DBA CalCEF Ventures

California Sustainable Energy Entrepreneur Development (CalSEED) – Low-Carbon Gas (LCG) small grants program

June 9, 2021 Business Meeting

Michael Ferreira Energy Deployment and Market Facilitation Office Energy Research & Development Division



- Advance clean energy economy
- Reduced GHG emissions and criteria air pollutants
- Safer natural gas infrastructure



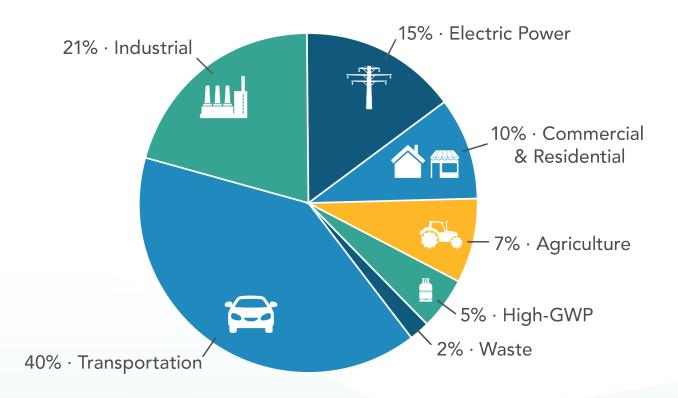


- Modeled after EPIC-funded CalSEED program:
 - Concept Award: \$150K
 - Mentoring
 - Technical Consulting
 - Business Development Services
 - Business Plan Competition: \$450K Prototype Award





- Technology Foci:
 - Industrial process
 heating
 - Medium- and heavyduty transportation
 - Natural Gas
 infrastructure safety



425.3 MMT CO₂**e** 2018 TOTAL CA EMISSIONS

Source: California Air Resources Board



 Approve item and adopt staff's determination that project is exempt from CEQA



Item 12: Guidehouse Inc.

June 9, 2021 Business Meeting

Kevin Uy, EGSS II Energy Research and Development Division Energy Efficiency Research Office





Inform future natural gas decarbonization research

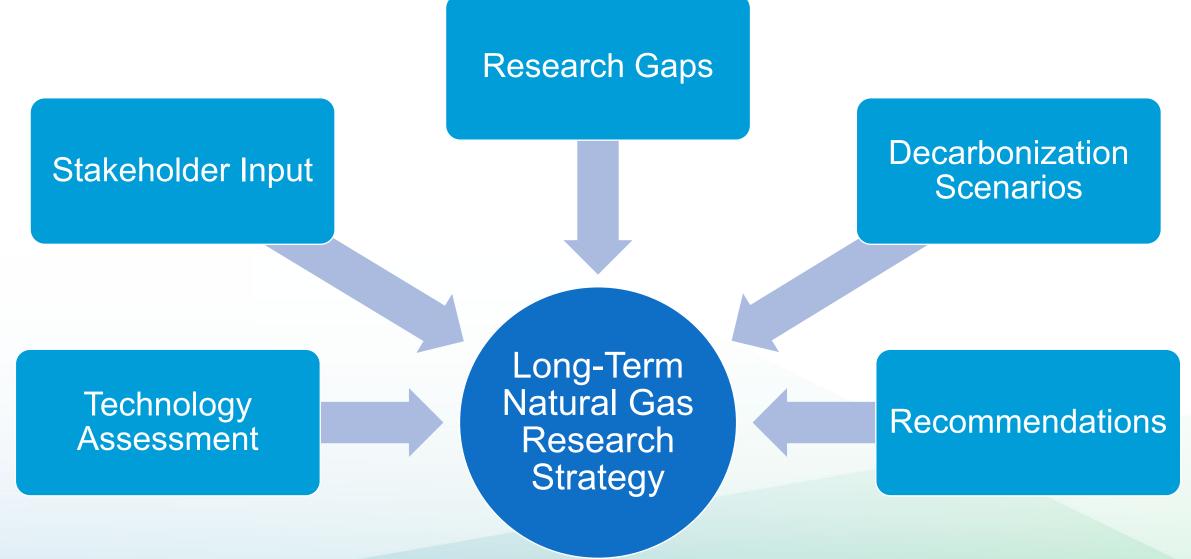


Support natural gas decarbonization technologies



Focus funding on areas supporting achievement of aggressive carbon neutrality goals







- Approve this contract agreement.
- Adopt staff's determination that action is exempt from CEQA.



Item 13: GFO-20-503 - Strategic Pathways and Analytics for Tactical Decommissioning of Portions of Natural Gas Infrastructure

June 9, 2021 Business Meeting

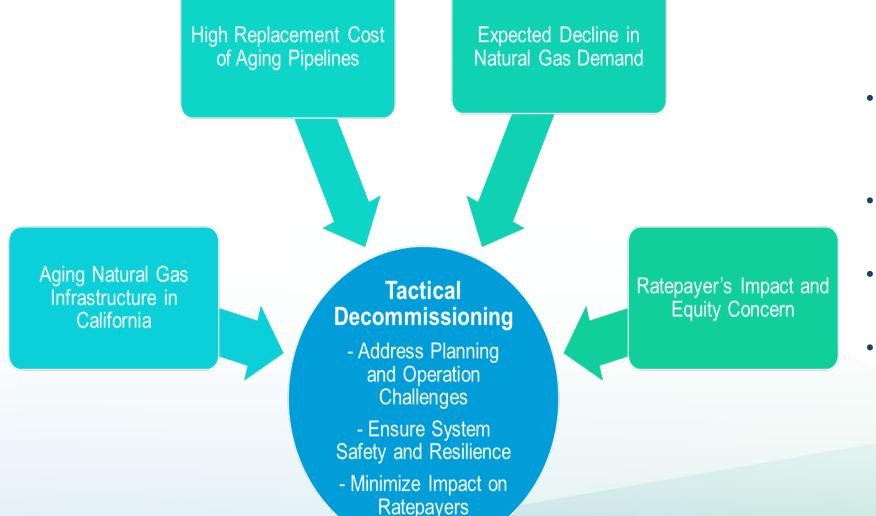
Reta Ortiz, Energy Commission Specialist I Energy Research Development Division Energy Systems Research Office



- Enhance strategic long-term gas planning
- Foster transparent, collaborative planning processes
- Develop strategies for costeffective, equitable gas transition
- Enable decommissioning opportunities and assessments of potential benefits



Pathways and Analytics for Tactical Decommissioning Overview



Project Requirements

- Collaboration with utilities, local governments and customers
- Site selection criteria and decision-making framework
- 3 candidate sites for pilot decommissioning
- Guidelines and criteria to replicate the success for deployment

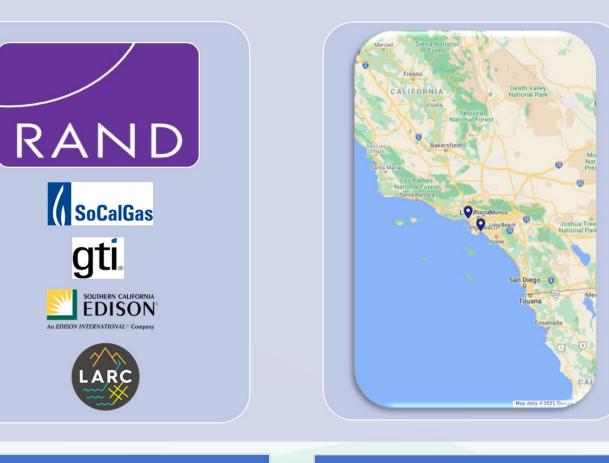


Project Goals:

- Develop analytical framework to identify where natural gas decommissioning will:
 - 1. Serve the interests of affected communities,
 - 2. Lead to net economic and societal benefits, and
 - 3. Be plausible under a wide range of possible future conditions.

Proposed Cities:

- Santa Monica
- Long Beach



Southern California

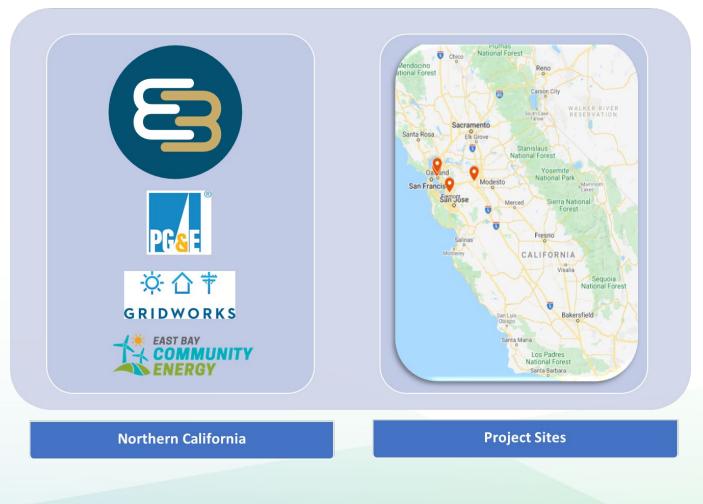
2. Energy and Environmental Economics, Inc.

Project Goals:

- Identify opportunities to achieve gas system cost reductions in PG&E's service territory through tactical decommissioning.
- Identify community priorities, perspectives, and paths forward on electrification and tactical gas decommissioning.

Proposed Cities

- West Oakland
- Berkeley
- Fremont
- Tracy





- Approve grant agreements
- Adopt staff's determination that projects are exempt from CEQA



Item 14: Entrepreneurial Ecosystem

June 9, 2021 Business Meeting

Anthony Ng Energy Research and Development Division Energy Deployment and Market Facilitation Office





\$1.6+ billion in follow-on private, public investment 1,000+ employed

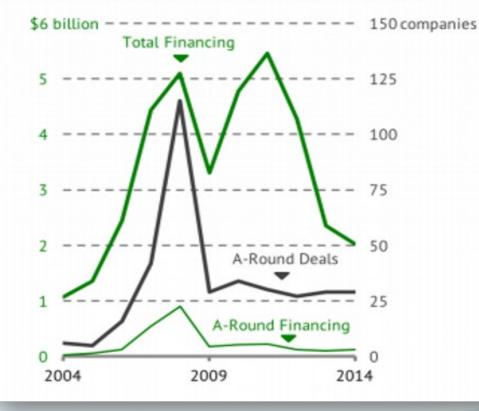
400+ patents

4 company exits (3 acquisitions, 1 IPO)



Figure 1. Boom and bust in cleantech venture capital

VC investment in early-stage companies declined after the 2008 peak, financing shifted towards late stage rounds, and the number of A-round investments has remained relatively constant at



- In 2015, private capital was not supporting clean energy technologies
- Compared to software, clean energy innovation took too much time and money to reach market
- Entrepreneurial Ecosystem sought to fill this gap





Cleantech San Diego Association

- Customized service plan tailored to technology and business needs
- Services include investor and industry connections, pilot site opportunities, and business model development
- Assigned mentor pairing with subject matter experts











- Activate Global, Inc.
- Operates Cyclotron Road program

 two-year fellowship in conjunction with Lawrence Berkeley National Lab
- Focus on hardware technologies
- Rigorous startup curriculum and mentorship
- Access to network of industry, investors, academia and government







- Covers Central Valley, Central Coast, and North State
- Hub and spoke model to cover area

BLUETECH VALLEY

- Specializes in agriculture and water technologies
- Irrigation technology testing, farm demo site





Los Angeles Cleantech Incubator

- One-to-two-year programs for companies with pre-commercial products to Series B
- Focus on energy, zero emission mobility, and circular economy



 Advisory services, investment support, and pilot opportunities





- Small grant program
- \$150k \$450k awards
- Business development curriculum
- Introductions to network of investors









 Approve item and adopt staff's determination that projects are exempt from CEQA



Item 15: Evaluating Bi-Directional Energy Transfers and Distributed Energy Resource Integration for Medium- and Heavy-Duty Fleet Electrification

June 9, 2021 Business Meeting

Ben Wender Electric Generation System Specialist Research and Development Division

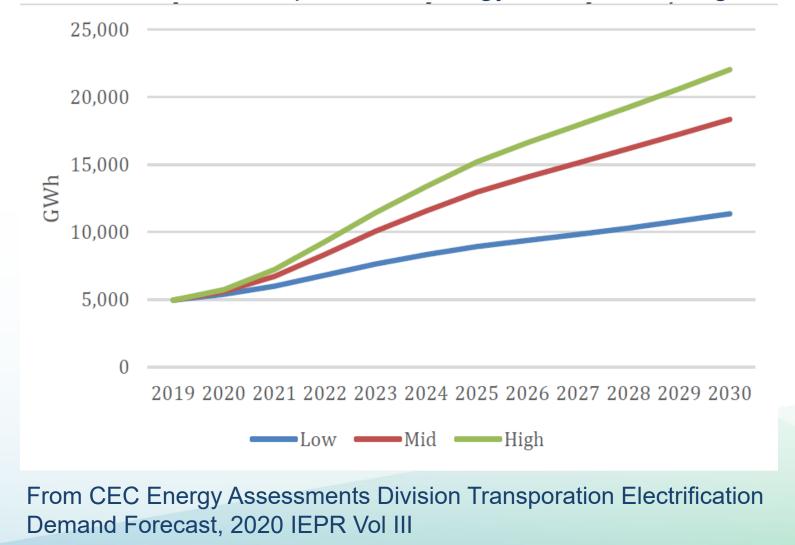


- Reduce stress on grid
- Increase use of distributed energy resources
- Reduce charging costs
- Provide site and community resilience
- Maximize emissions reductions





Three Scenarios of Transportation Energy Demand Through 2030







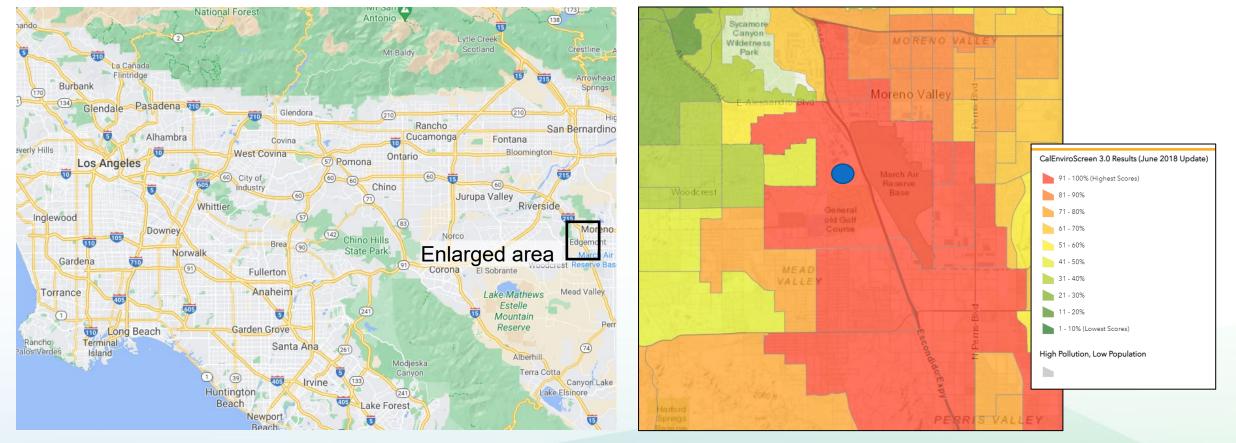


TAking Charge: TravelCenters of America Ultra-Fast En-Route Charging





Distributed Resources for Diversified Renewable Energy



CalEnviroScreen 3.0



- Approve grant agreements
- Adopt staff's determination that projects are exempt from CEQA





Item 16: ACEE Program – Advancing and Commercializing Energy Efficiency in California's Industrial, Agricultural, and Water Sectors

June 9, 2021 Business Meeting

Michael Lozano, Senior Mechanical Engineer Energy Research and Development Division Energy Efficiency Research Office



Group 1: Dairies

Sensors



analytics

- Happy Cows
- Lower electricity costs
- Reduced GHG emissions

Group 2: Wastewater Treatment

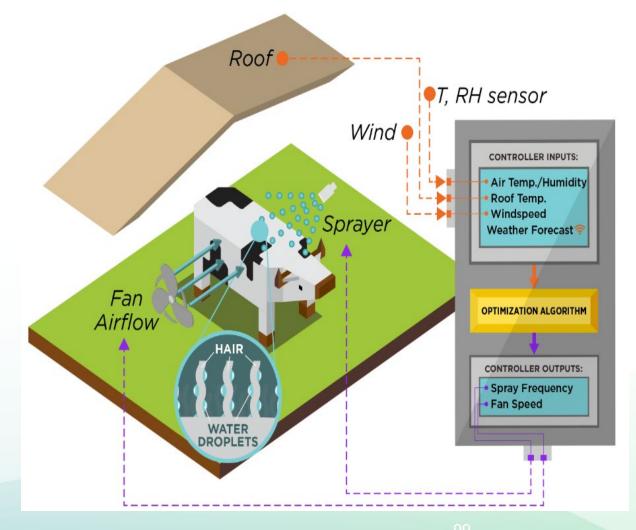


- Lower electricity costs
- Increased capacity
- Smaller footprint
- Lower O&M costs



Optimized Controls for Cooling California Dairy Cows

- Electricity savings: 50 GWh/yr
- Water Savings: 12 Billion/yr
- \$306,451 match funds
- Project Locations:
 - Atwater (DAC)
 - Laton (DAC)
 - Pixley (DAC & LIC)

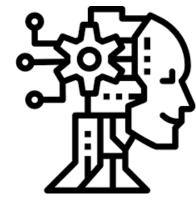




Leveraging Artificial Intelligence and Machine Learning to Increase Energy Efficiency in California Dairies

- 30 Dairy Processing Facilities
- 1-year payback with 20% electricity reduction
- \$1,665,912 match funds
- Projects Locations:
 - El Monte (DAC & LIC)
 - Hawthorne (DAC & LIC)
 - Lemoore



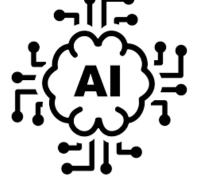




Item 16c - Enpowered Solutions

Artificial Intelligence for Energy Efficiency Optimization in California Dairy Operations

- 2-year payback with 10% electricity reduction
- \$350,274 match funds
- Project Locations:
 - Turlock (DAC & LIC)
 - Santa Ana (DAC & LIC)
 - Two in City of Industry (LIC)
 - Riverside









Demonstration of Advanced Primary and Secondary Treatment Technologies for Energy and Performance Benefits to Wastewater Treatment

- 25% efficiency gains \rightarrow saves 125 GWh/yr
- \$2,532,156 match funds
- Project Location:
 - Olivehurst (DAC & LIC)



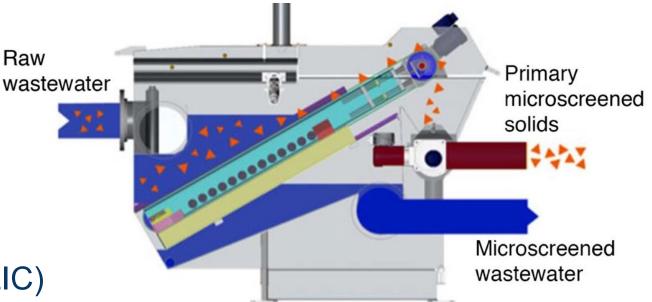






Demonstration of Advanced Primary and Secondary Wastewater Treatment Technology

- 60% reduction in aeration energy
- 25% increase in treatment capacity
- \$2,327,919 match funds
- Project Location:
 - San Juan Capistrano (Not DAC or LIC)





- Approve 5 grant agreements
- Adopt staff's determination that items 16a-d are exempt from CEQA
- With respect to 16e, Gate 5 Energy Partners, approve and adopt lead agency Santa Margarita Water District's CEQA findings.