

DOCKETED

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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

15



WEAR A MASK



GET VACCINATED



MyTurn.ca.gov



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

California Energy Commission's



SAVE THE **DATE**

December 2021

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/proceedings/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”

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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



Item 1 a. – d.: Consent Calendar

- 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



Staff Recommendation

- 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



Benefits to Californians

Cleaner
transportation



Grid-friendly
infrastructure



Consumer
convenience



Source: CEC, FreeWire Technologies, Beam Global



Overview of AB 2127 and Executive Order N-79-20

- 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



Zero-Emission Vehicle Targets

AB 2127: 5M ZEVs by 2030

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



Source: FreeWire



Source: Volta Charging



Scope of AB 2127 Assessment

Road and Highway Electrification					Other EVs
Existing Chargers	Counting 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)				



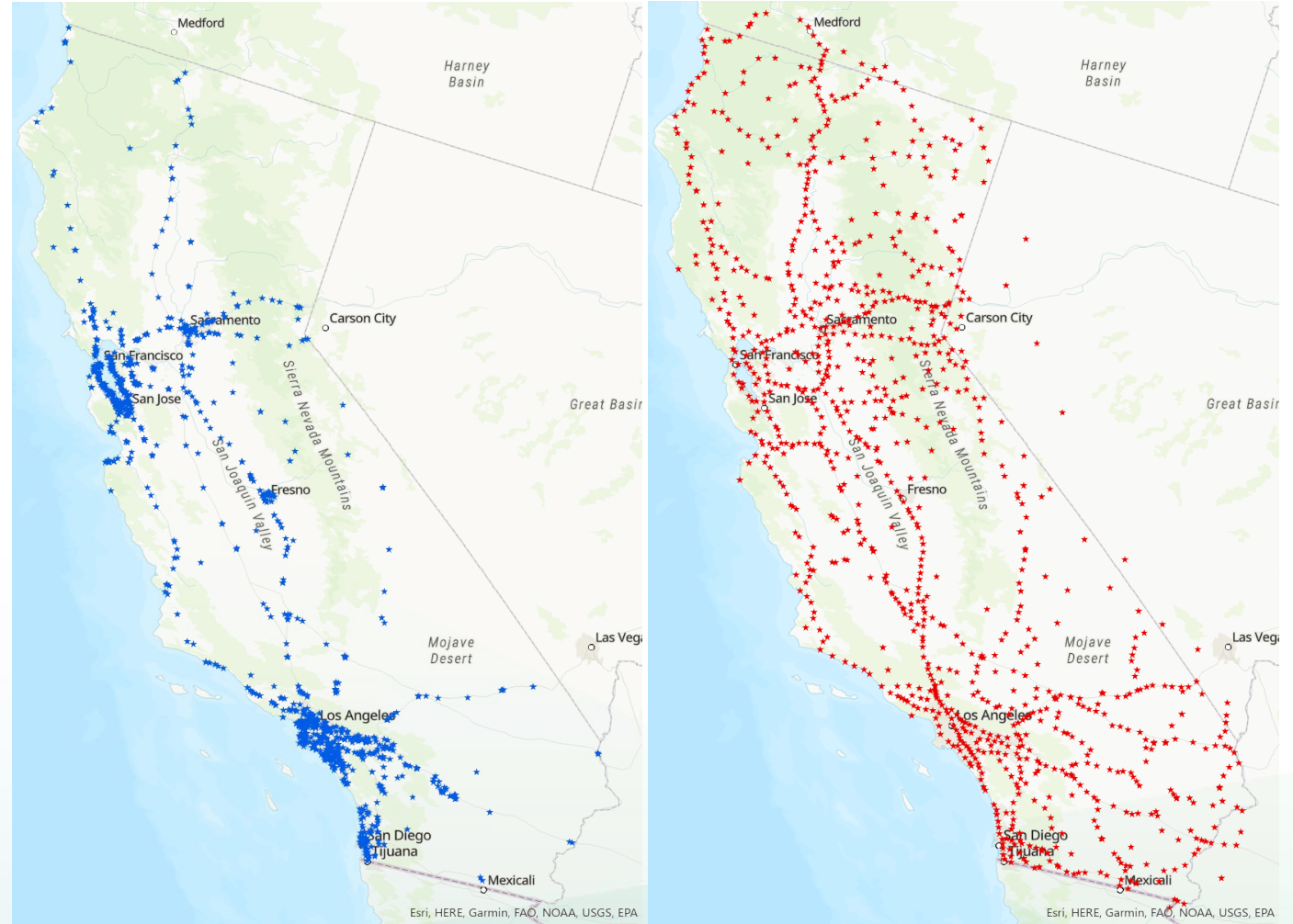
Modeling Approach

Inputs

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

Outputs

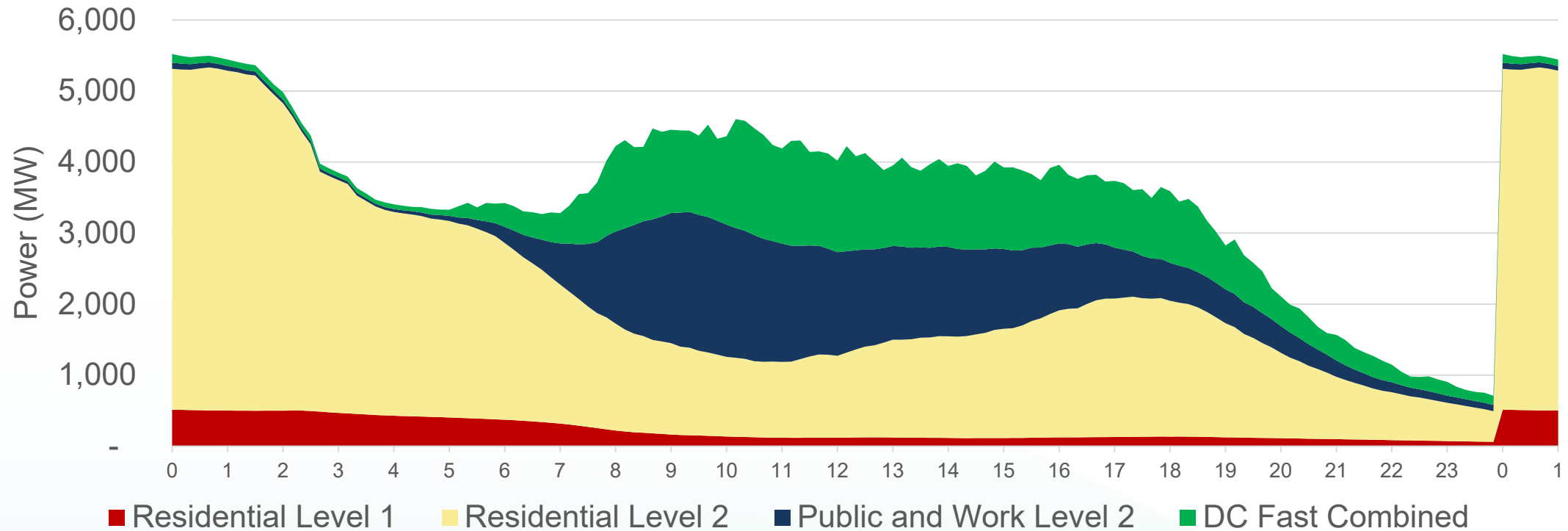
- ✓ Number of chargers needed at statewide and countywide level
- ✓ Broken down by charger type and location type
- ✓ Statewide load profiles



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



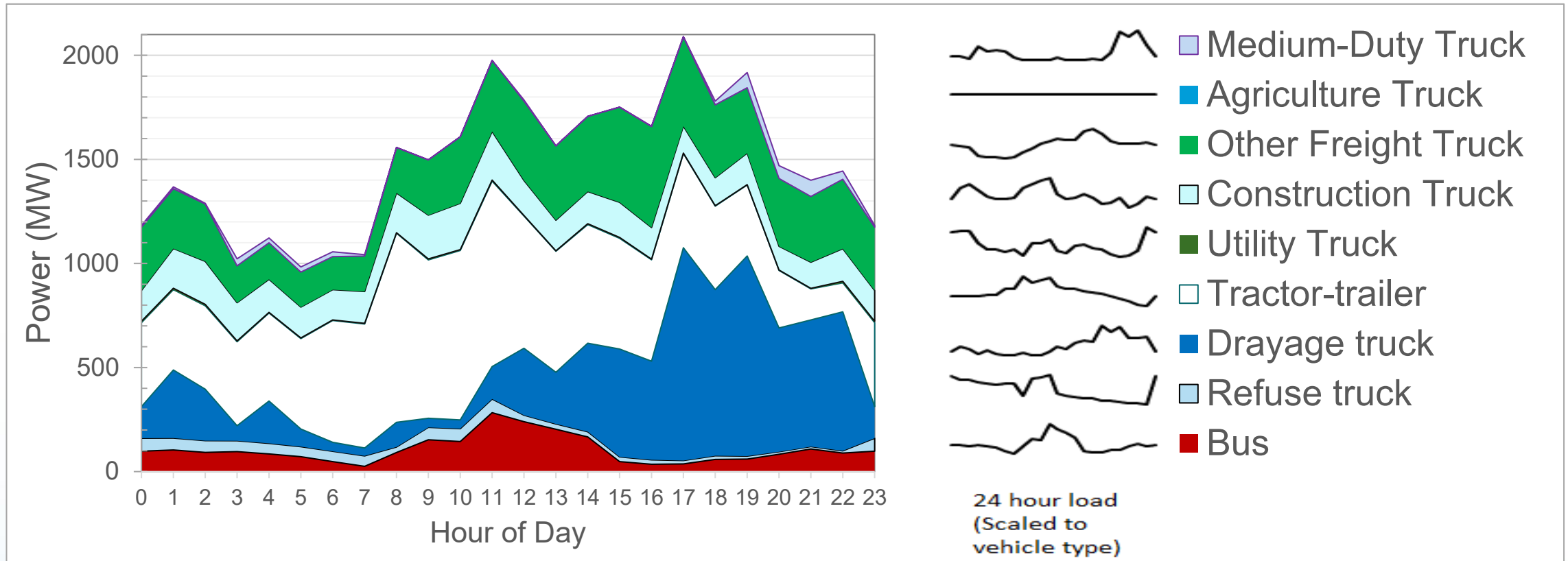
Projected Load: Light Duty (EVI-Pro model)



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



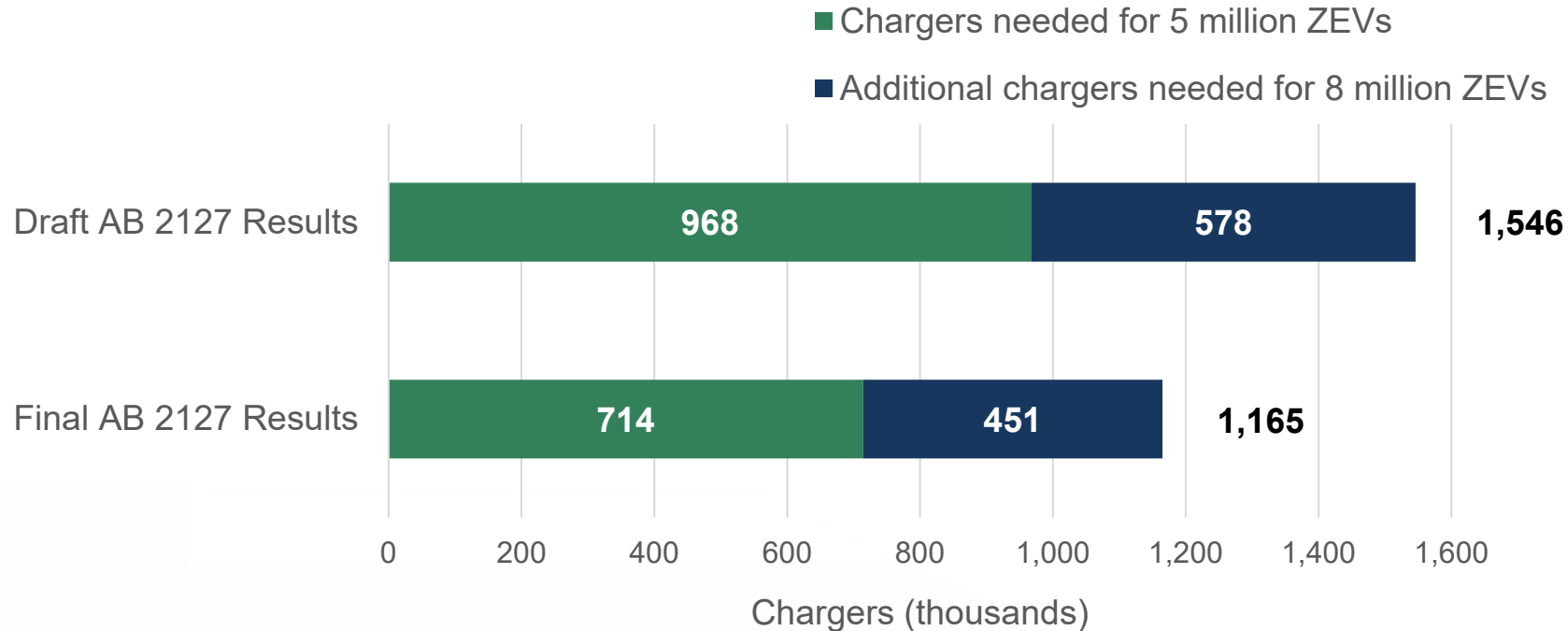
Projected Load on the Grid: Medium- and Heavy Duty (HEVI-LOAD)



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



Updates to Light-Duty Results



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



Medium- and Heavy-Duty Results

- **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!



Beyond Charger Numbers

- 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



Recommendation

- 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



Benefits to Californians

- 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.



Overview

- 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.

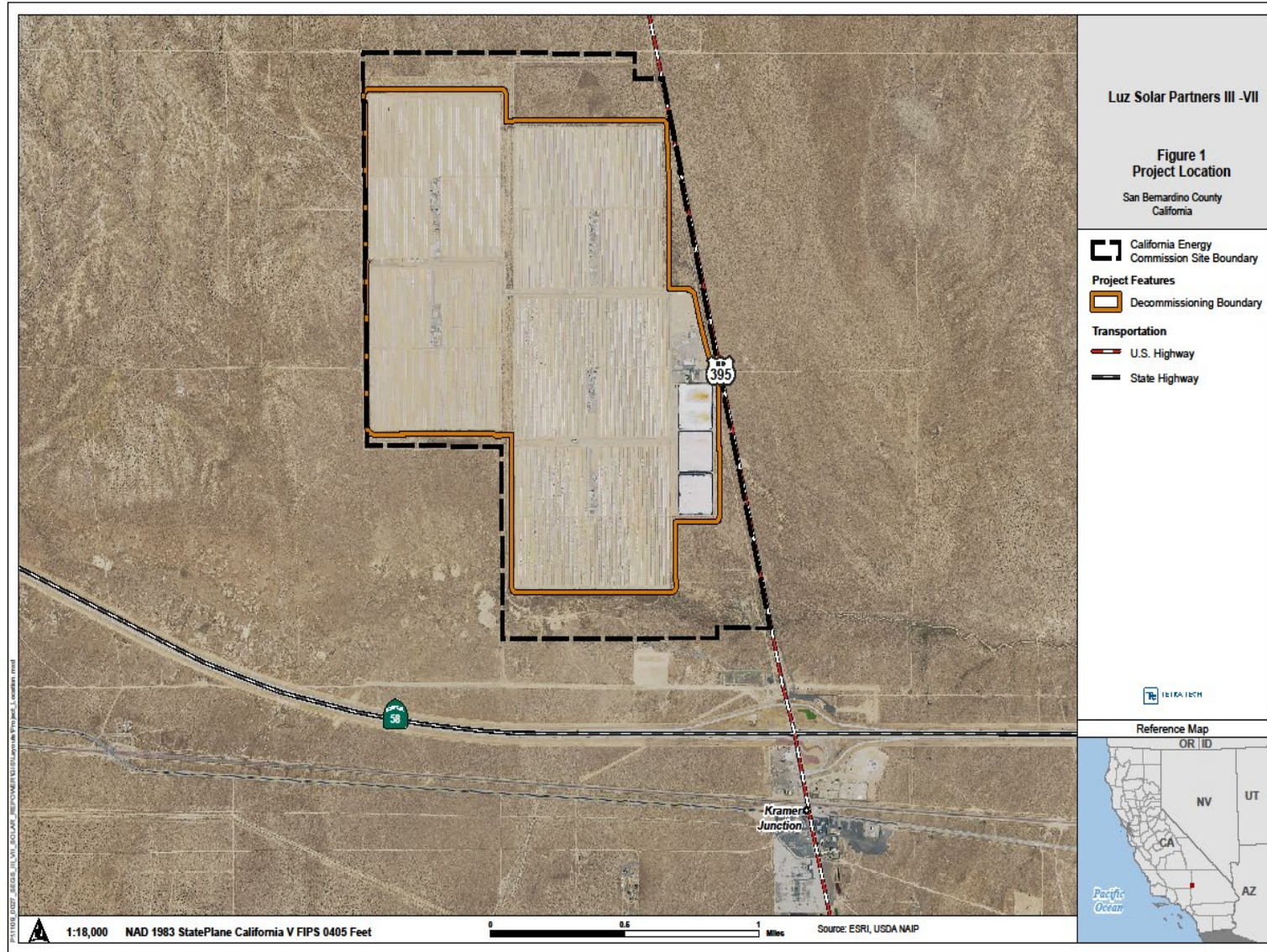


Key Milestones

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



SEGS III – VII Final Decommissioning Plan





SEGS III – VII Final Decommissioning Plan



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



SEGS III – VII Final Decommissioning Plan

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





Staff Recommendation

- Approve SEGS III – VII Decommissioning Plan and newly-proposed 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



Benefits to Californians

Help ensure reliability & advance state energy goals





Overview of Modifications

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



Current Timeline

Pre-Rulemaking Workshop	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



Next Steps

- 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



Benefits to California

Energy Efficiency
Air Quality

Creates Jobs

Conserves Water





Assembly Bill 841 Overview

- **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



Program Budget

2021 Program Accrual

\$266 M

Estimated Overall Program Budget

\$500 M

2021 - 2026



Priority Eligibility

Initial phase: 100% to schools in “underserved” areas

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



GIS Web Map Tool





Public Outreach

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





Proposed Ventilation Guidelines

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



Proposed Plumbing Guidelines

Eligible Fixtures









- Toilets
- Urinals
- Showerheads
- Faucets

Eligible Appliances


- Dishwashers
- Commercial Ice Makers
- Commercial Clothes Washers





Streamlined Application Process





HELLO, cenne.jackson@energy.ca.gov | [Log out](#) [Settings](#)


**CALIFORNIA ENERGY COMMISSION**

Home

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Application

Review

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Application Schools List

District: 01100170000000**Alameda County Office of Education****Program:** HVAC-1**TIER 2****Status:** In Progress

[Application Main](#) [Manage Application Schools](#) [School General](#) [School Replacement Costs](#)

Total of Application Project Costs \$10,016,866

Total of Application Requested Funding \$56,866

Manage School Entries [Add More Schools](#)

<u>School Code</u>	<u>School Name</u>	<u>Status</u>	<u>Funding Group</u>	<u>Project Cost</u>	<u>Requested Funding</u>		
01100170130401	Alameda County Juvenile Hall/Court	In Progress	SDGE	\$10,000,050	\$40,050	Edit	Remove
01100170130419	Alameda County Community	In Progress	PGE 1	\$16,816	\$16,816	Edit	Remove
Totals				\$10,016,866	\$56,866		

[Application Main](#)



Staff Recommendation

- 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



Benefits to California



- Advances safety
- Strengthens consumer protection
- Provides data



Overview

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





Staff Recommendation

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



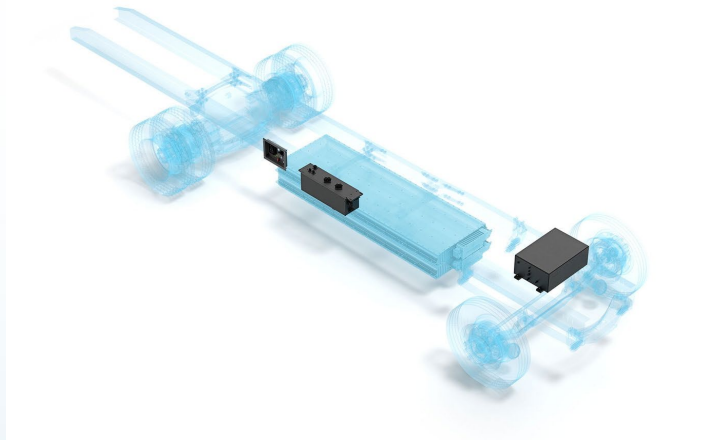
Item 8: California Air Resources Board

June 9, 2021, Business Meeting

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

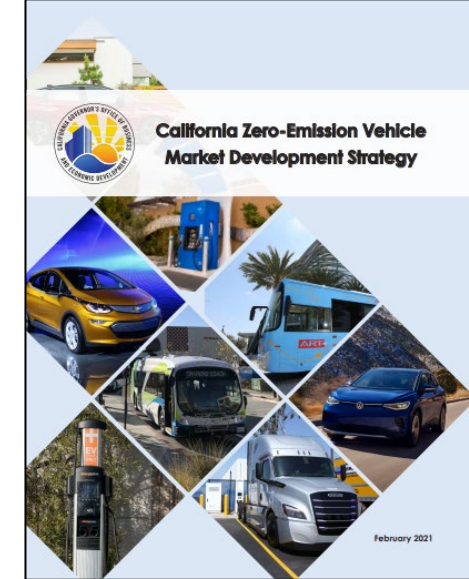
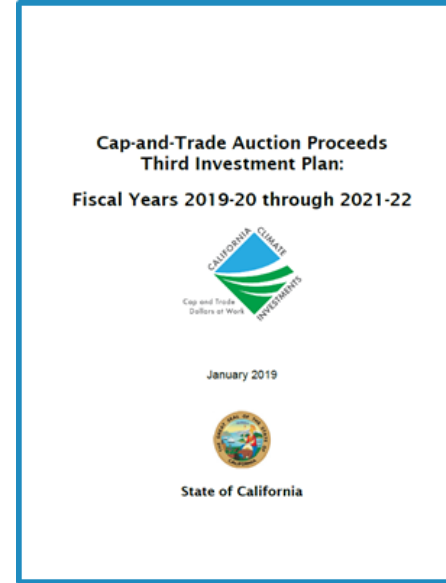
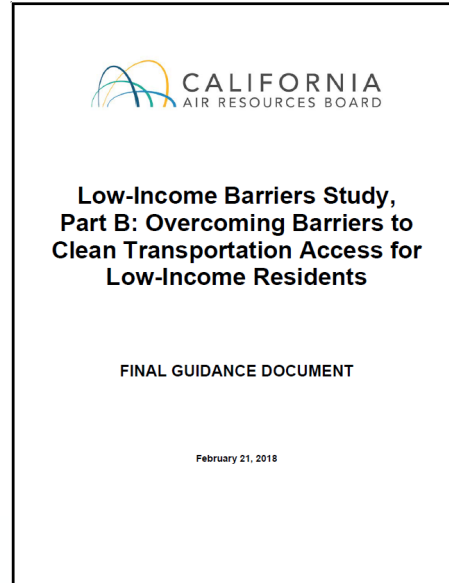
Benefits to California

- 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



Staff Recommendation



- 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



Benefits to California



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



Energy Corps Centers
Fresno

Norwalk Hub

Sacramento Hub

Vista (No. San Diego)



Staff Recommendation



Hard Work, Low Pay,
Miserable Conditions and More

- 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



Benefits to Californians

- Provides specialized expertise
- Supports analysis of critical energy systems

SoCalGas Hot Summer Demand

A Scenario Analysis Based on Historical Data



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





Scope Of Work

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





Staff Recommends

- 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



Benefits to California

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

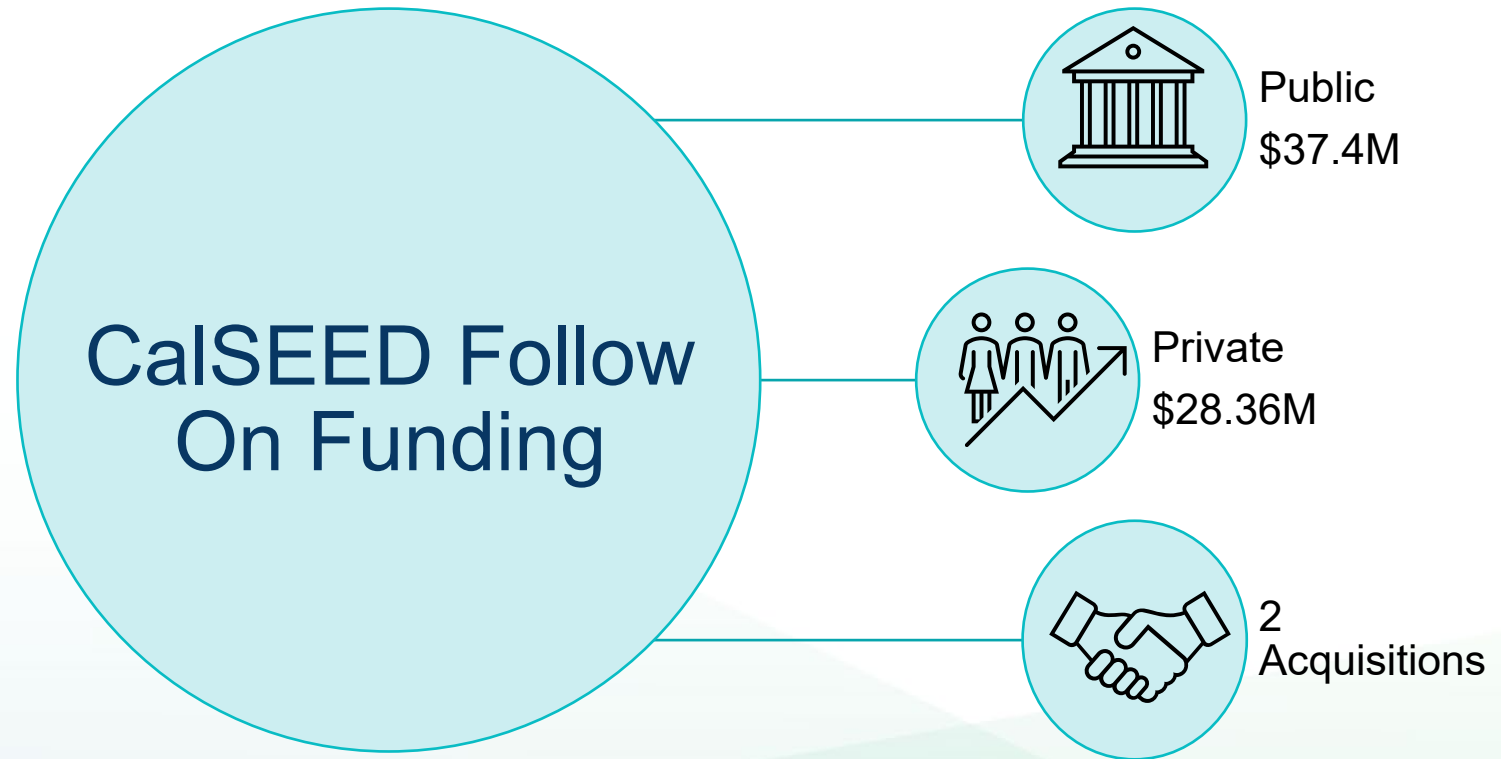




EPIC CalSEED

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

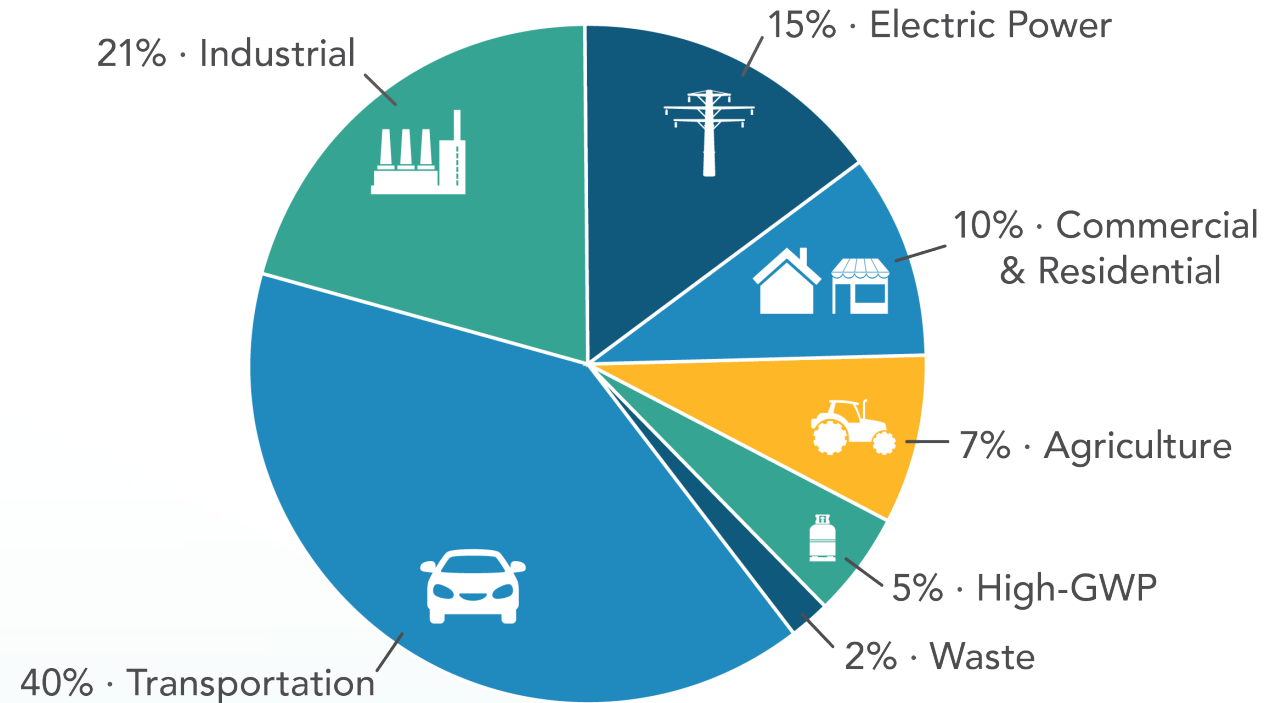
CalSEED





CalSEED Low-Carbon Gas

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



425.3 MMT CO₂e
2018 TOTAL CA EMISSIONS

Source: California Air Resources Board



Staff Recommendation

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



Item 12: Guidehouse Inc.

June 9, 2021 Business Meeting

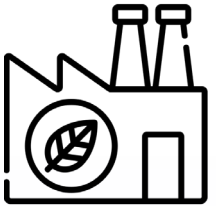
Kevin Uy, EGSS II
Energy Research and Development Division
Energy Efficiency Research Office



Benefits to Californians



Inform future natural gas decarbonization research



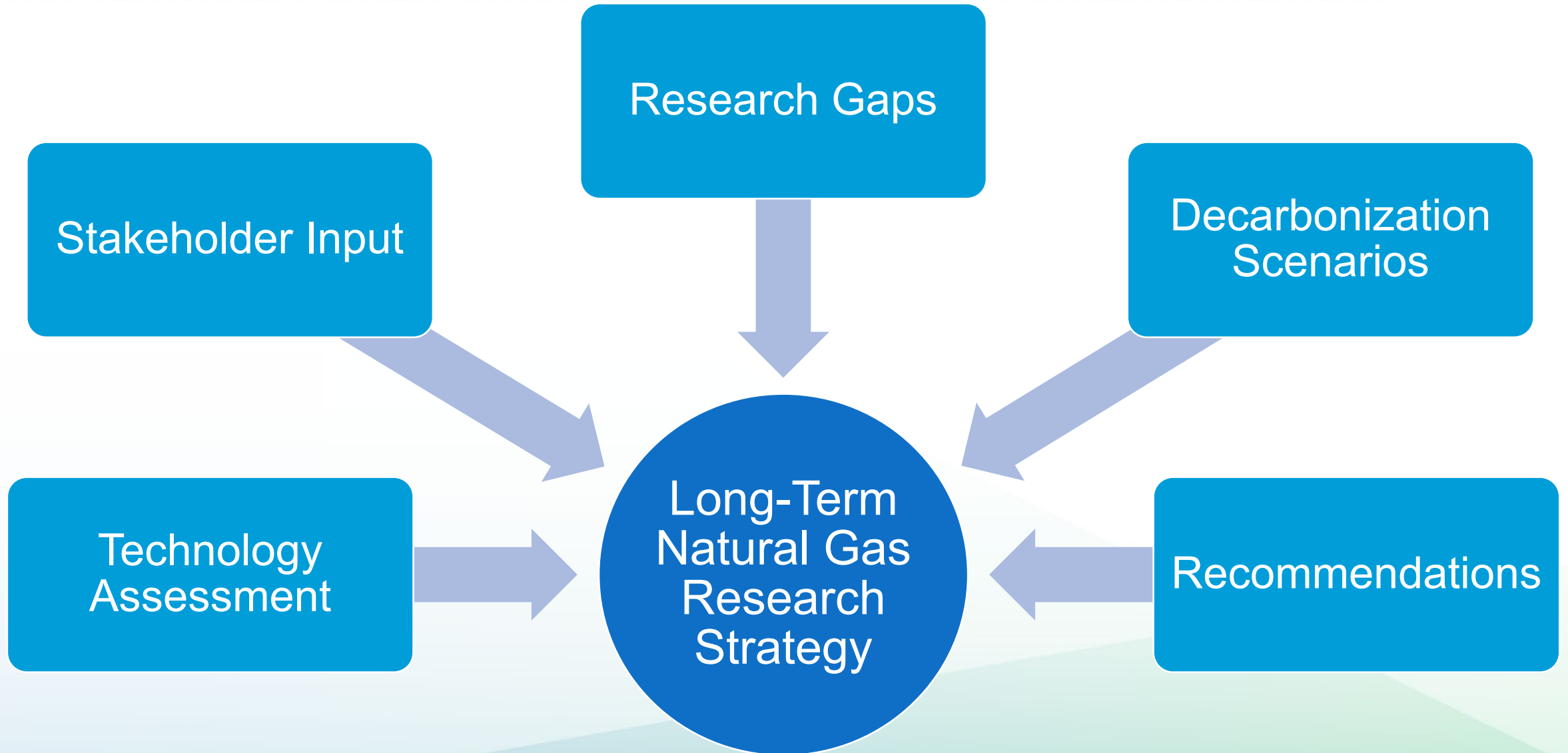
Support natural gas decarbonization technologies



Focus funding on areas supporting achievement of aggressive carbon neutrality goals



Overview





Staff Recommendation

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



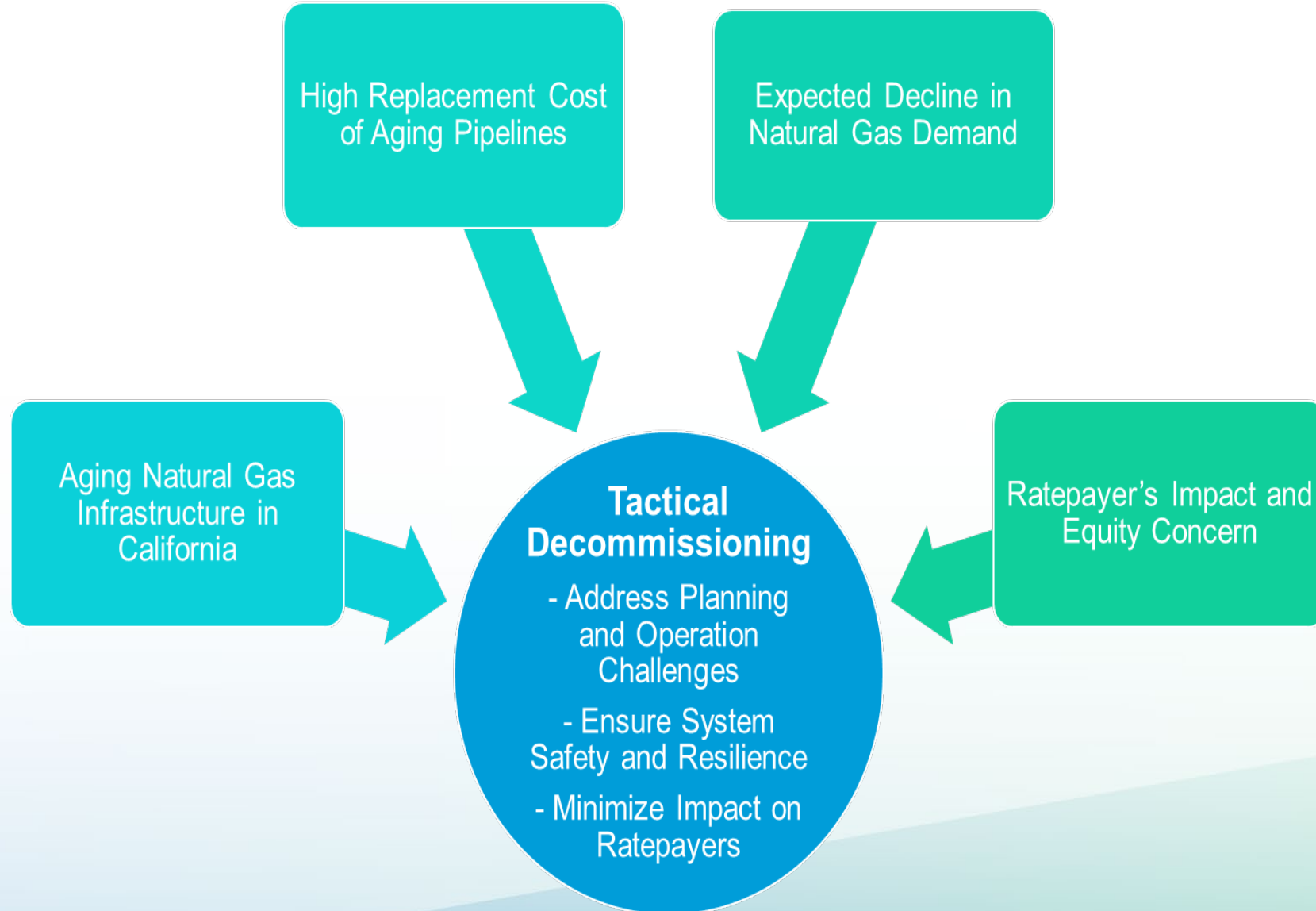
Item 13: GFO-20-503 - Strategic Pathways and Analytics for Tactical Decommissioning of Portions of Natural Gas Infrastructure

June 9, 2021 Business Meeting

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



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



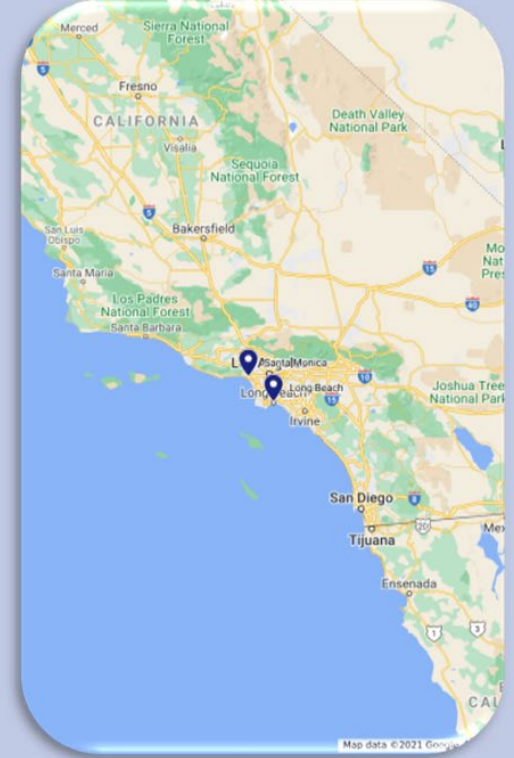
1. THE RAND CORPORATION

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

Project Sites



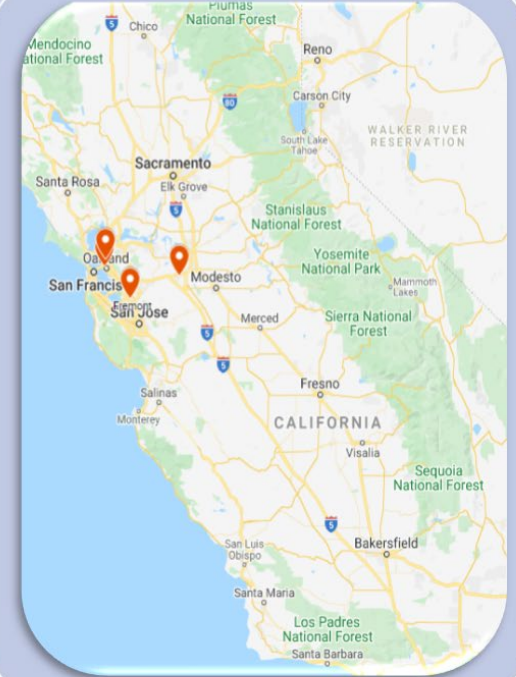
2. Energy and Environmental Economics, Inc.

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



Northern California

Project Sites



Staff Recommendation

- 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



Benefits to Californians



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



1,000+ employed



400+ patents



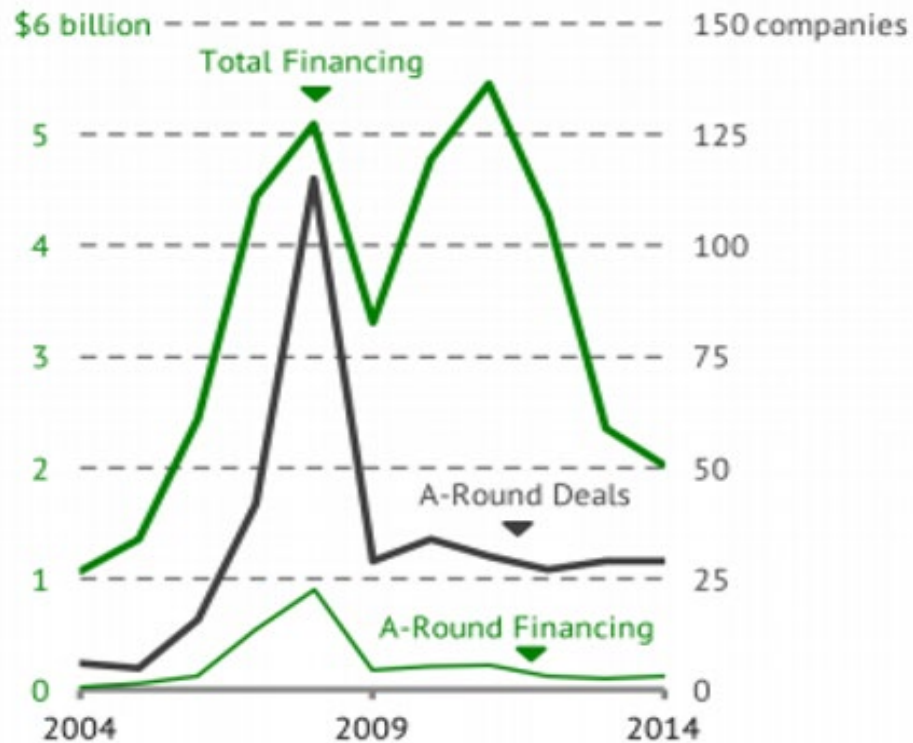
4 company exits
(3 acquisitions, 1
IPO)



Background

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



Entrepreneurial Ecosystem



Imperial | Riverside | San Bernardino | San Diego

Activate



CalSEED



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

SOUTHERN
CALIFORNIA

**ENERGY
INNOVATION**
NETWORK

Imperial | Riverside | San Bernardino | San Diego

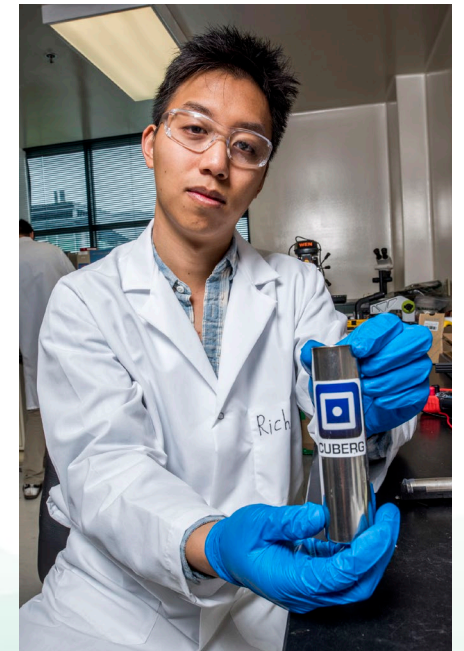




Activate Global, Inc.

- 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

Activate





California State University, Fresno

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





California Clean Energy Fund

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

CalSEED





Staff Recommendation

- 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



Benefits to Californians

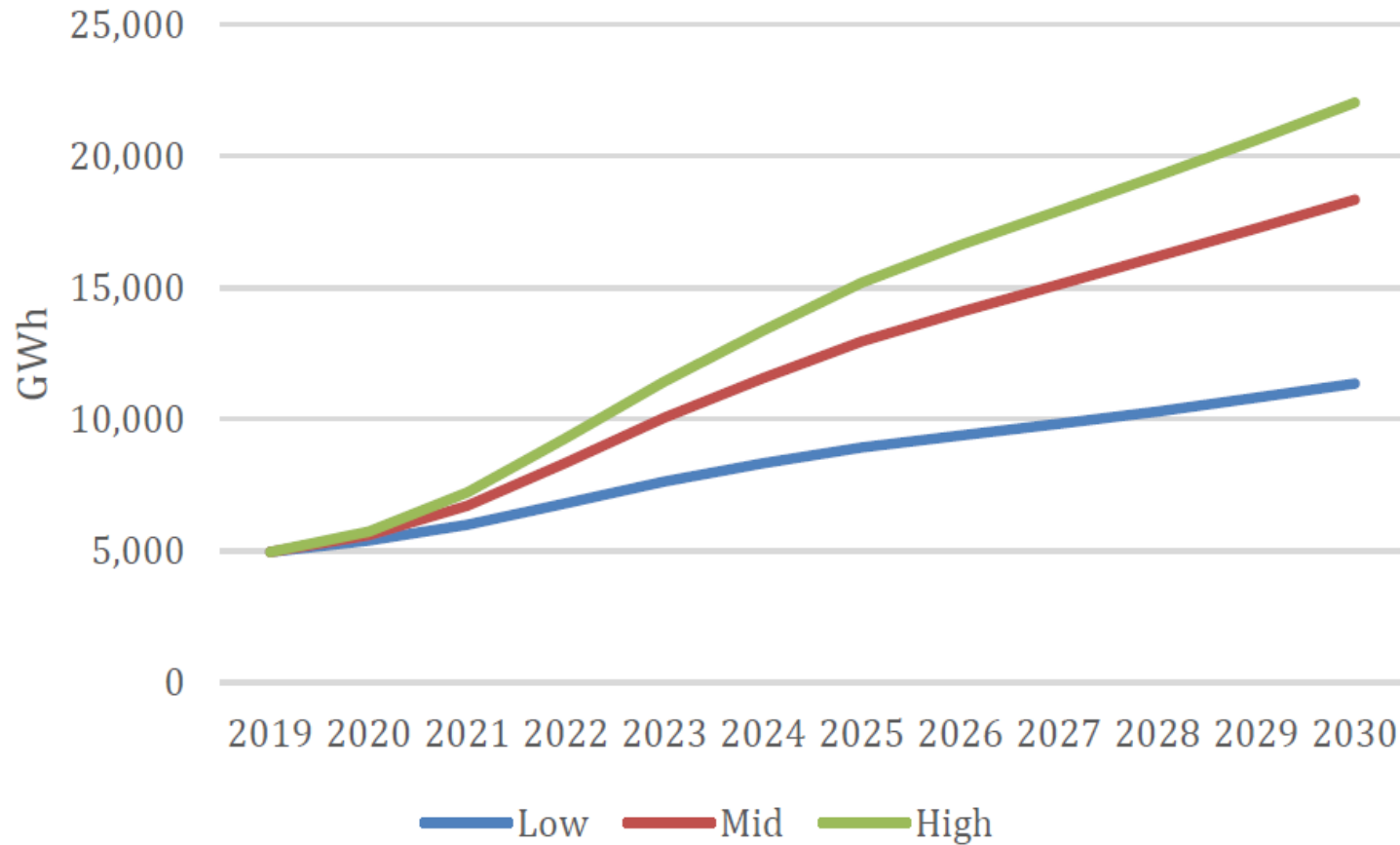
- Reduce stress on grid
- Increase use of distributed energy resources
- Reduce charging costs
- Provide site and community resilience
- Maximize emissions reductions





Purpose of Solicitation

Three Scenarios of Transportation Energy Demand Through 2030



From CEC Energy Assessments Division Transportation Electrification Demand Forecast, 2020 IEPR Vol III



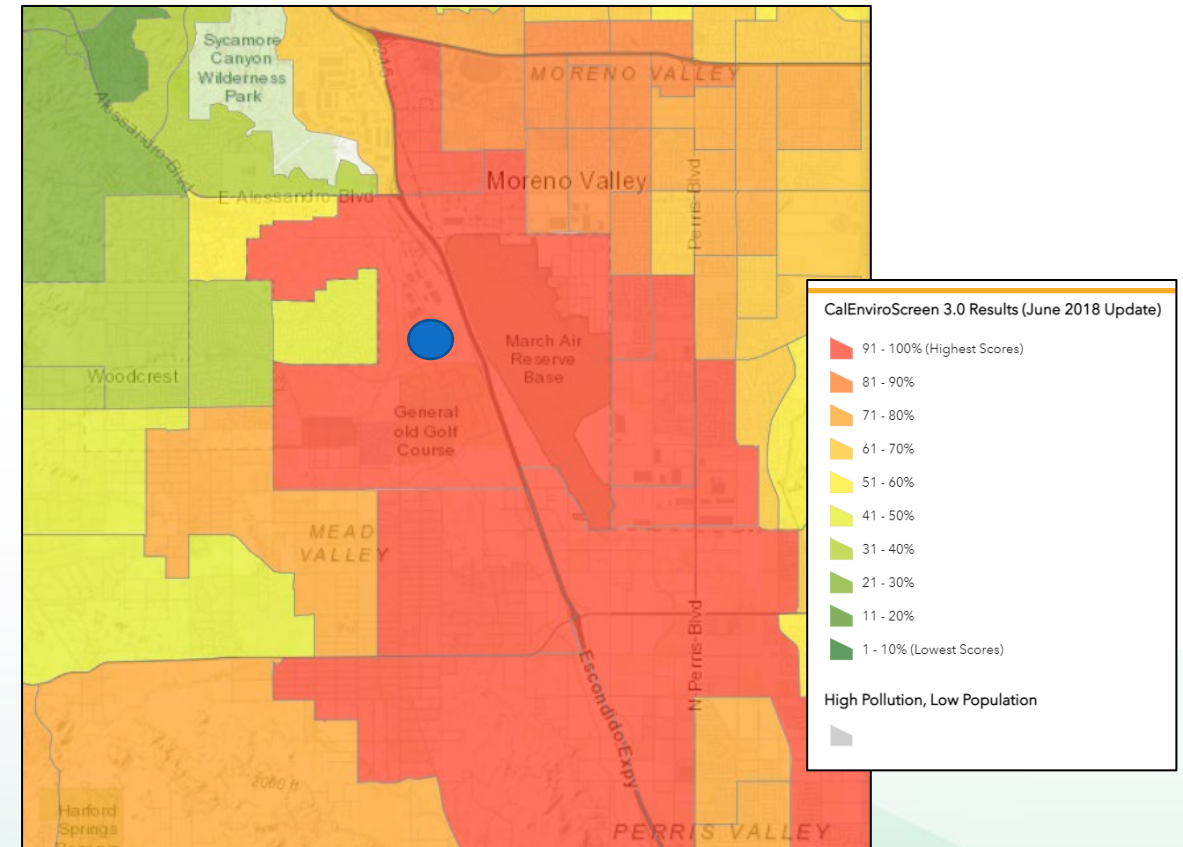
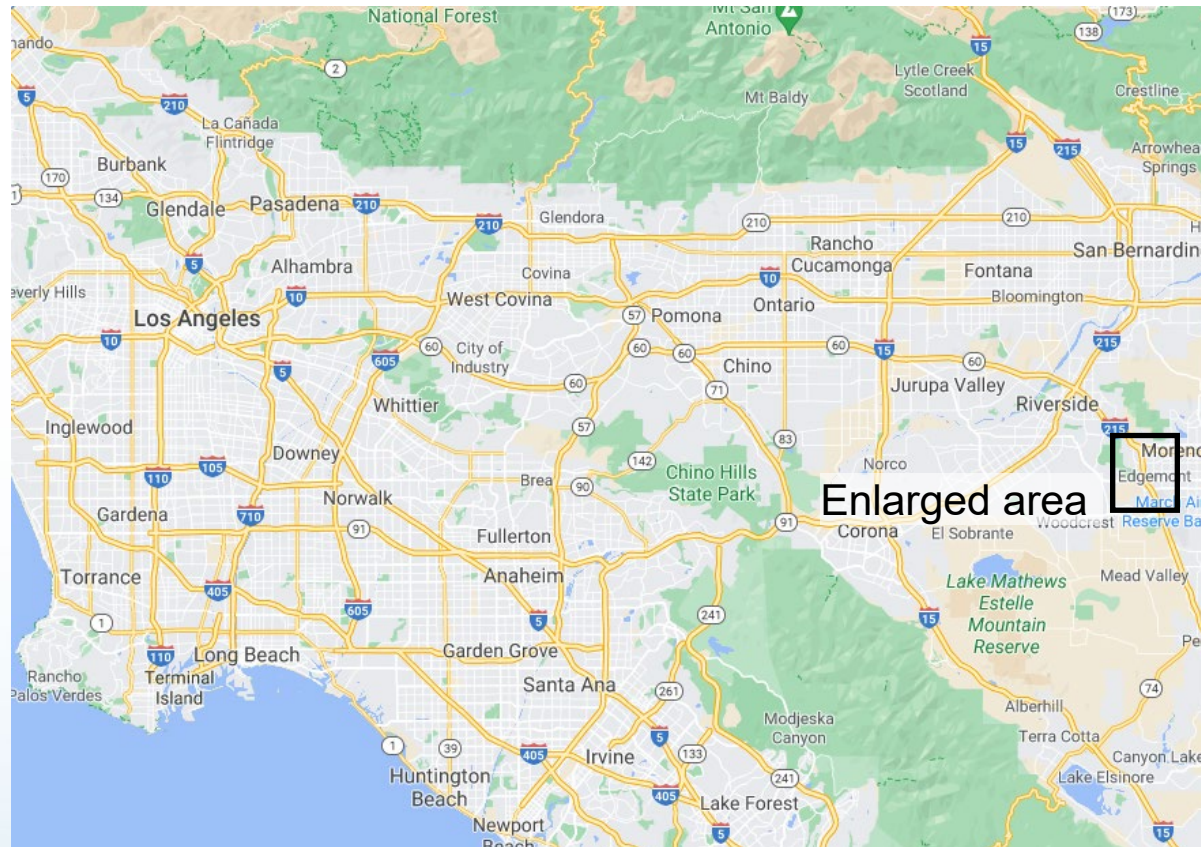
TA Operating LLC



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



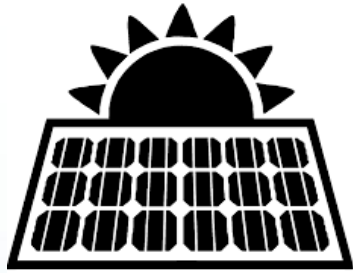
Distributed Resources for Diversified Renewable Energy





Staff Recommendation

- 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

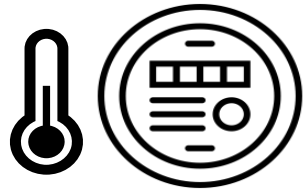
June 9, 2021 Business Meeting

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



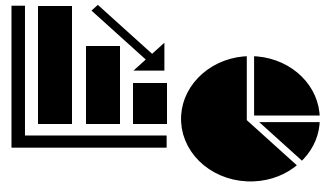
Benefits to California

Group 1: Dairies



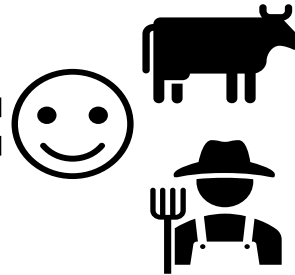
Smart
Sensors

+



Big data
analytics

=



- Happy Cows
- Lower electricity costs
- Reduced GHG emissions

Group 2: Wastewater Treatment



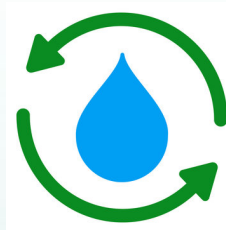
Wastewater

+



Advanced Tech

=



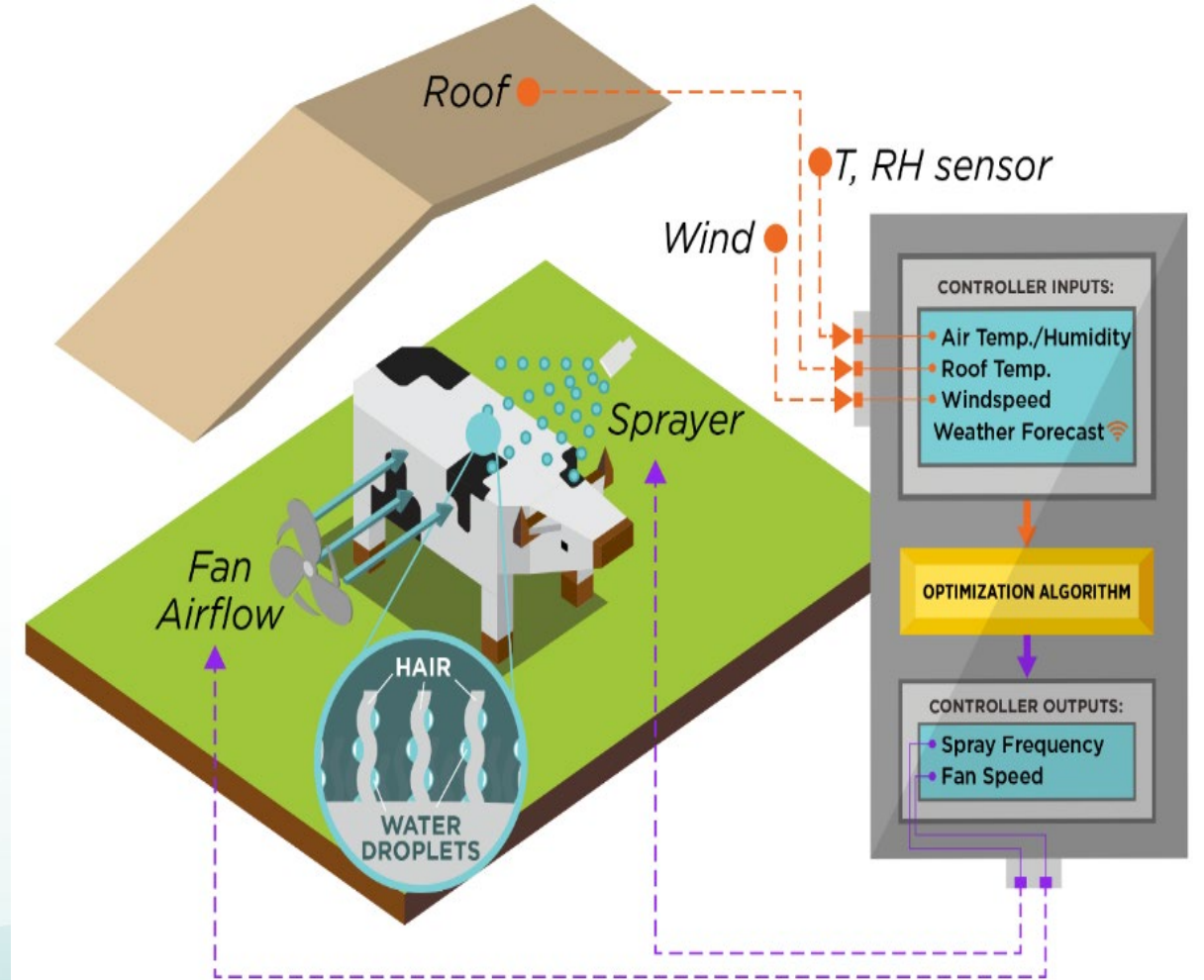
- Lower electricity costs
- Increased capacity
- Smaller footprint
- Lower O&M costs



Item 16a - UC Davis

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)

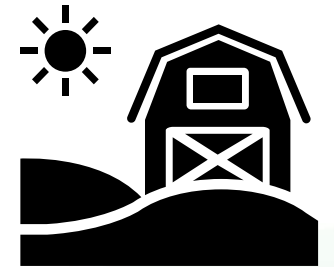
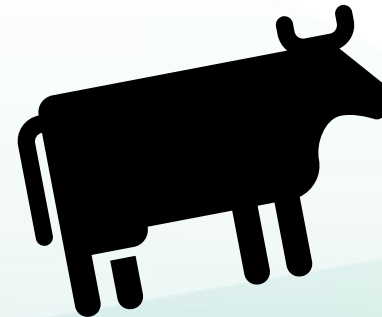
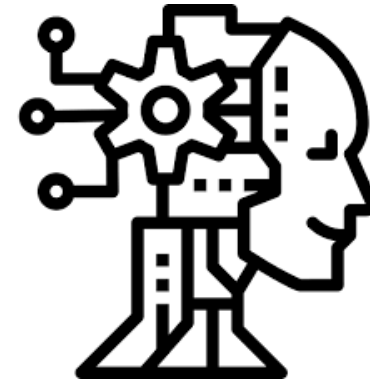




Item 16b - Zira Group

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

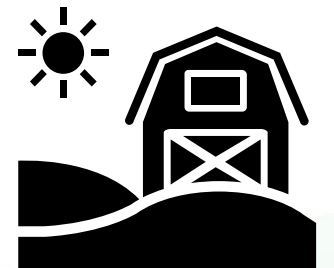
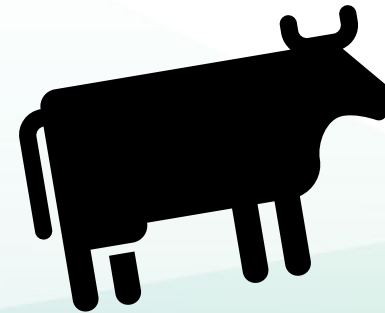
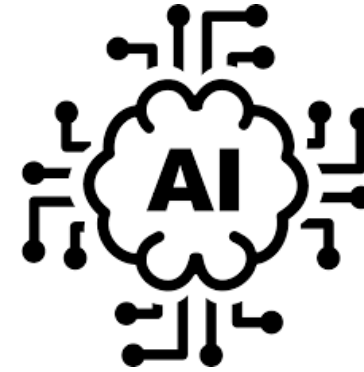




Item 16c - Empowered Solutions

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





Item 16d - Caliskaner Water Technologies

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

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

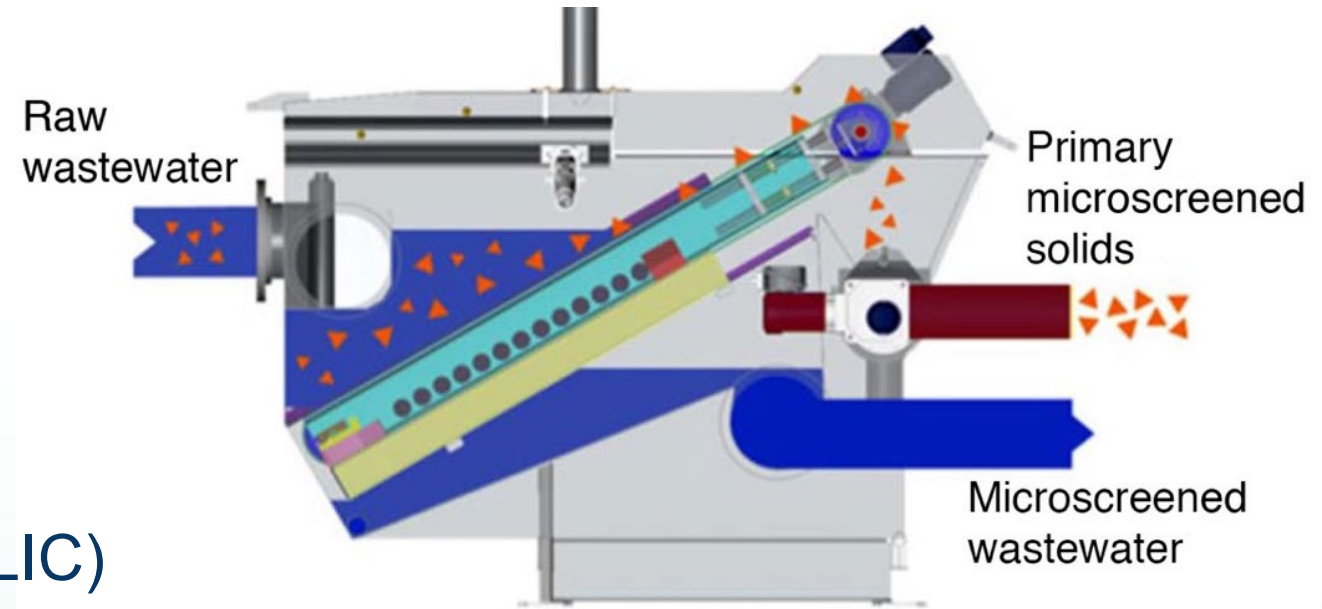




Item 16e - Gate 5 Energy Partners

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)





Staff Recommendation

- 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.