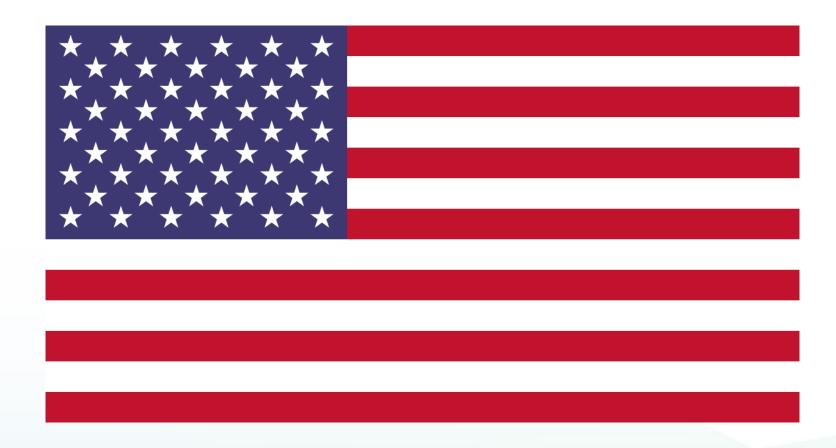
DOCKETED	
Docket Number:	21-BUSMTG-01
Project Title:	Business Meeting Agendas, Transcripts, Minutes, and Public Comments
TN #:	237781
Document Title:	May 12 2021 Business Meeting Presentation
Description:	N/A
Filer:	Dorothy Murimi
Organization:	California Energy Commission
Submitter Role:	Public Advisor
Submission Date:	5/12/2021 9:23:18 AM
Docketed Date:	5/12/2021



California Energy Commission Business Meeting May 12, 2021 10:00 a.m.



Pledge of Allegiance



CALIFORNIA IS SET TO FULLY REOPEN





WEAR A MASK



GET VACCINATED





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

California Energy Commission's



SAVETHDATE

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

If Zoom shuts down, Business Meeting will continue via Verizon.

• Dial: (888) 823-5065

Passcode: business meeting



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.

To comment, dial (888) 823-5065.

Passcode: business meeting

- 1) Tell Operator: <u>name</u>, <u>organization</u> and <u>item number.</u>
- 2) Tell Operator if you represent:
 - federal or state legislature;
 - tribal nation or California tribal government;
 - state agency; or
 - county/city government.
- 3) Spell your first and last name.
- 4) Do not use speaker phone when talking.
- 5) Mute Zoom while calling to comment.



Item 1 a. - e.: Consent Calendar

- a. School Bus Replacement for California Public School Districts, County Offices of Education, and Joint Power Authorities – GFO-17-607. Contact: Ian Baird
- b. Subpoena for Provision of Data. Contact: Christopher McLean
- c. Reappoint Two Members to the Disadvantaged Communities Advisory Group (DACAG). Contact: Noemí Gallardo
- d. Electricity Demand Forecasts. Contact: Kelvin Ke
- e. Electricity Resource Plans. Contact: Robert Kennedy



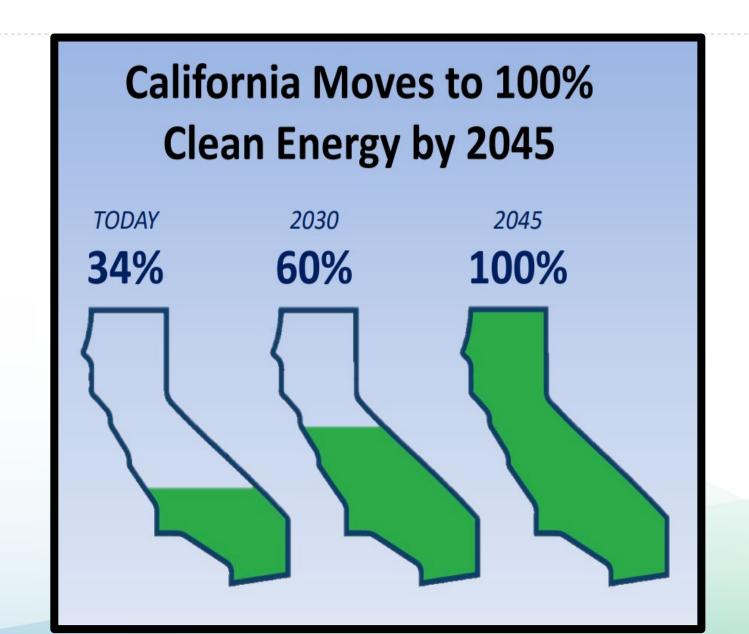
Item 2: 2020 Diversity Report

May 12, 2021 Business Meeting

Noemí Otilia Osuna Gallardo, Public Advisor



Benefits to All Californians





Overview of CEC Diversity Policy

"...to optimize fair and equal opportunities for

- > small businesses, and women-, disabled veteran-, minority-and LGBT-owned businesses,
- as well as economically disadvantaged and underserved communities,

to participate in and benefit from [CEC] programs..."

2015 Resolution



Investment Highlights as of 12/31/20

\$458 Million

Loan Program

\$23 Million

Tribal Projects



Grant Program Investments

\$996 Million

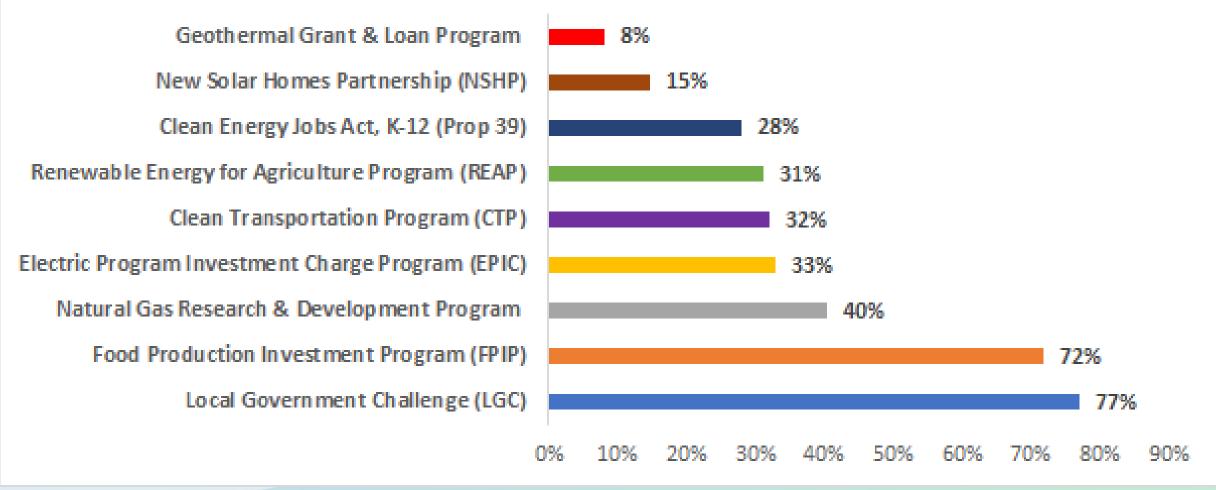
Spent in
Disadvantaged
Communities
(as of 12/31/20)

- 9 programs
- Active last 5 years
- Started 1980-2018
- Per CalEnviroScreen 3.0



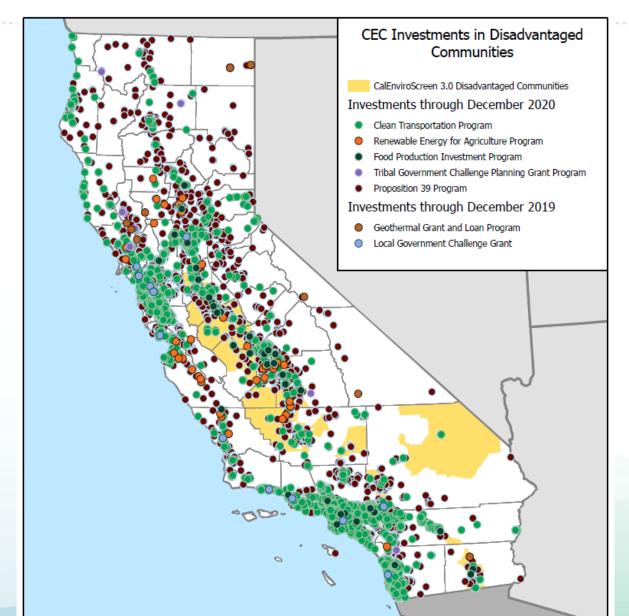
Investments in Disadvantaged Communities







Investments Across California





Daniel Johnson

Associate Energy Specialist Efficiency Division



Local Government Challenge

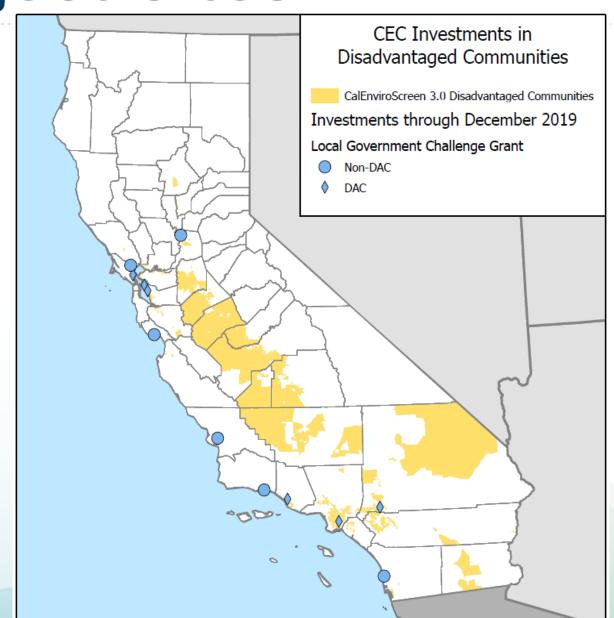
Investment in DACs

- 77% of funds
- \$7.9 Million
- 7 projects





LGC Project Sites





LGC Impact



Climate Action Planning Framework

RESOURCES



DATA

- **Gateway Cities GHG** Inventories and Forecasts
- **GHG Emissions** Tracker
- **Gateway Cities** Climate Action **Tracking Tool**



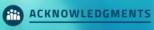
TOOLKITS

- **GHG** Reduction Measure Toolkit
- Climate Change Adaptation Toolkit
- **Public Engagement** Toolkit



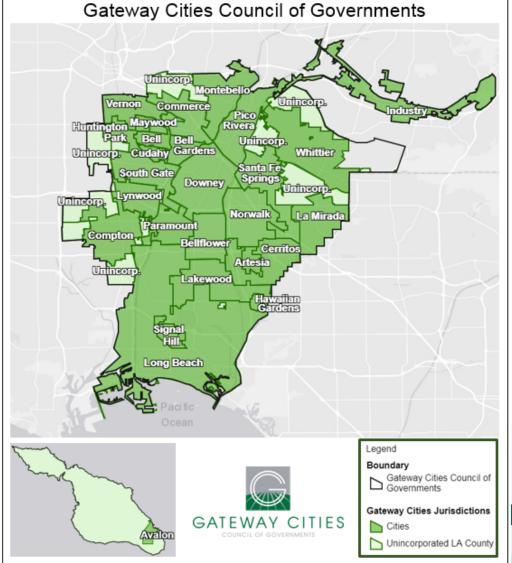
GUIDANCE

- **CAP Framework** User Guide (PDF)
- Model Climate Action Plan
- CEQA and Target Setting
- Implementation **Funding and Financing**





GLOSSARY





For More Details

energy.ca.gov/programs-andtopics/programs/local-government-

challenge





Katrina Leni-Konig

Supervisor, Technology Scale-up and Outreach Energy Research and Development Division, Assistant Tribal Liaison

Food Production Investment Program (FPIP)
Natural Gas Research and Development Program
Electric Program Investment Charge (EPIC)
Tribal Funding



Food Production Investment Program (FPIP)

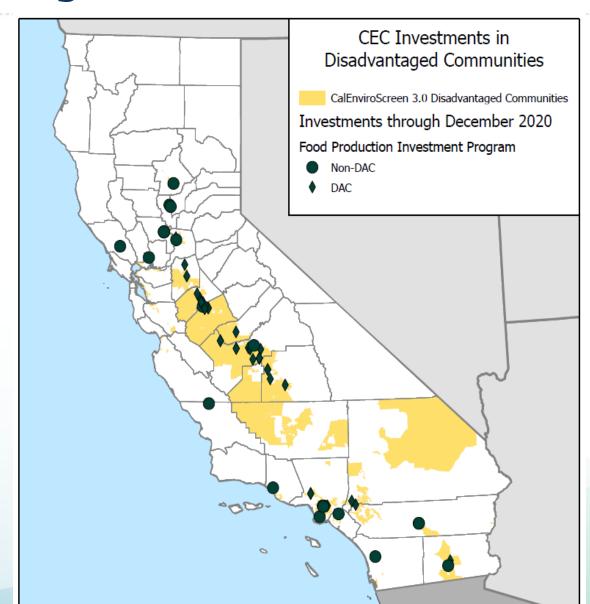
Investment in DACs

- 72% of funds
- \$80 Million
- 36 project sites





FPIP Project Sites







- Fire destroyed facility in 2016, requiring reconstruction
- Fire left 120 employees without jobs
- Modernizing with energy efficiency upgrades



GHG Reduction 4,966 MT CO2e/yr



1080 Passenger Vehicles





Natural Gas Research & Development Program

Investment in DACs

 40% of demonstration, deployment, and manufacturing funding

• \$19 Million for demonstration, deployment, and manufacturing grants

27 demonstration sites



Natural Gas R&D Program Project Sites





Natural Gas R&D Program Impact

The Washington Post

Climate and Environment

Deadly air pollutant 'disproportionately and systematically' harms Americans of color, study finds

Black, Latino and Asian Americans face higher levels of exposure to fine particulate matter from traffic, construction and other sources

By Juliet Eilperin and Darryl Fears

April 28, 2021 at 11:00 a.m. PDT



Transitioning from Natural Gas Engines to Zero Emissions for Medium to Heavy-Duty Vehicles

Current Project: Assessing On-Road, In-Use Emissions and Fuel Usage



Provide real-world emissions data



Ensure NG engines operate as clean as possible during transition



Inform placement of charging infrastructure and hydrogen fueling stations



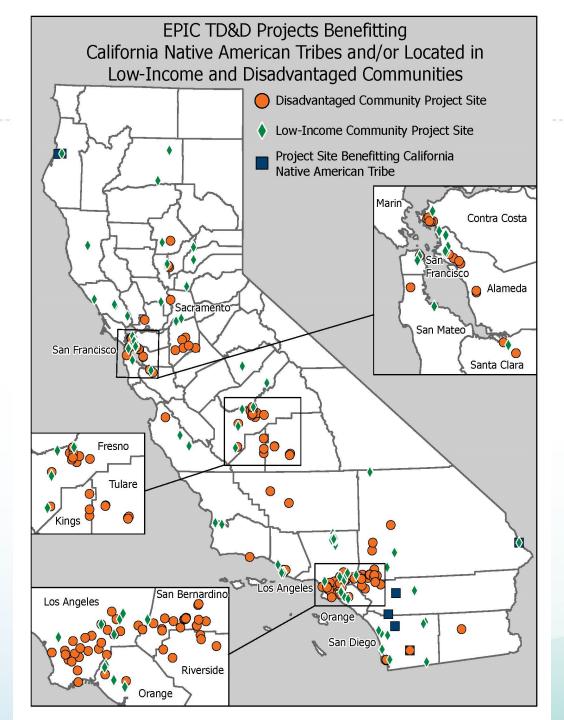
Electric Program Investment Charge (EPIC)

Investments in DACs

- 33% of demonstration funding
- \$112 Million for demonstration grants
- 136 demonstration sites







EPIC Project Sites



EPIC Impact

() OhmConnect



Kim McDermott earned \$13,400 in 4 years through energy savings and referrals

"That is life changing and it came at a time when we really needed it" - Kim McDermott

TIME

IS . CALIFORNIA

Californians Avoids Major Blackouts After
Dramatically Cutting Electricity Use During
Record Heatwave





Tribal Funding

Tribal Government Challenge

- \$1.9 Million invested
- 8 projects funded

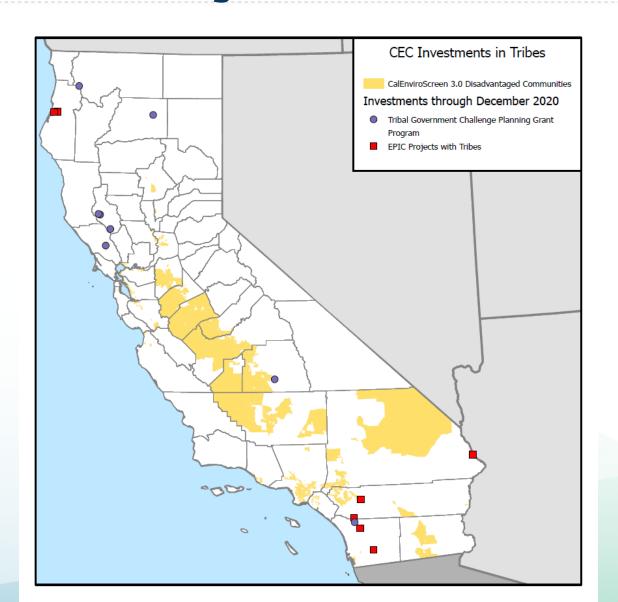
EPIC Tribal Grants

- \$21 Million invested
- 7 projects funded





Tribal Government Challenge Grants and EPIC Project Sites





Tribal Government Challenge Grants Impact

Energy Planning for Kashia Tribal Facilities



Renewable generation and energy efficiency at the "Kashia Abalone Center"



Biomass fuel supply and energy production



Renewable generation and energy efficiency at the Stewarts Point Rancheria



Establish Tribal Energy Utility for energy sovereignty



Solar array and Hydroturbine powering Atlantic Abalone facility (images from https://thefishsite.com/articles/renewables-power-south-african-abalone-boom)



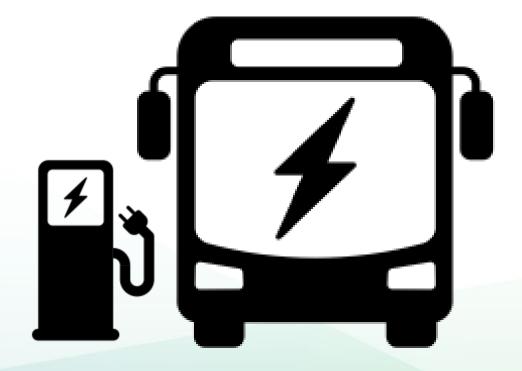
Larry Rillera Fuels and Transportation Division



Clean Transportation Program

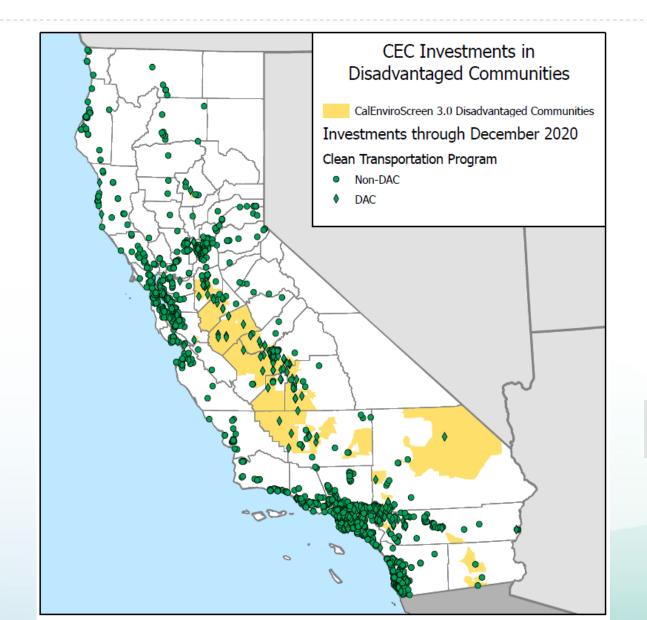
Investment in DACs

- 32% of funds
- \$485 million
- 1,338 projects





Clean Transportation Program Project Sites













Clean Transportation Program Impact





IDEAL Communities Partnership







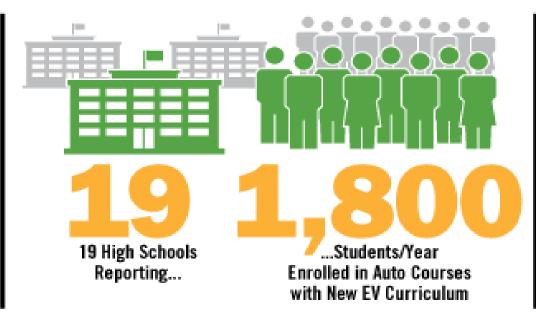
Clean Transportation Program Impact

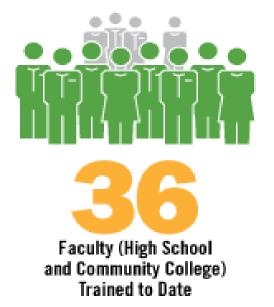
Zero Emissions Vehicle High School Pilot Program

\$2 Million Total Funding

(with augmentation)









Clean Transportation Program Impact







9,000+ Jobs 20,000+ Trainees



Hally Cahssai Supervisor Renewable Energy Division

New Solar Homes Program (NSHP)
Geothermal Grant and Loans Program
Renewable Energy for Agriculture Program (REAP)



New Solar Homes Partnership (NSHP)

Investment in DACs

- 15% of funds
- \$34 Million
- 11,755 projects



^{*} Data as of 12/31/2020



Variable Incentive Types

- Market Rate: \$0.75
- Affordable Housing Rate: \$1.85

Program Contributions

- Expanding Solar Adoption
- Solar Resources
- Sector Development





Geothermal Grant and Loan Program

Investment in DAC

- 8% of funds
- 1 project



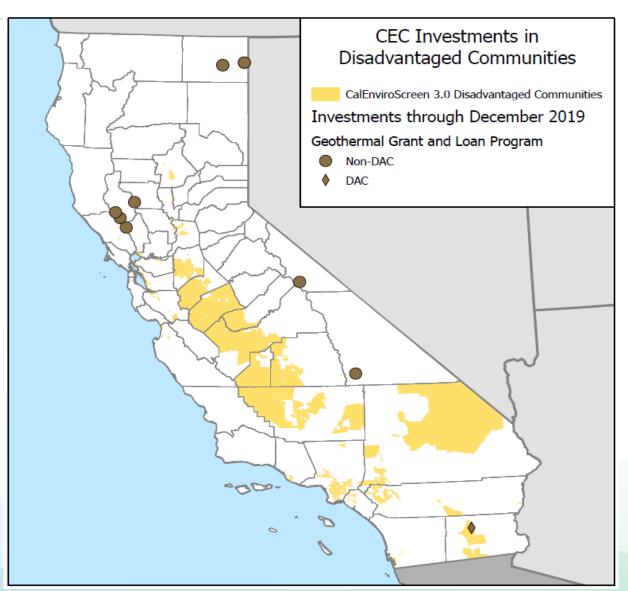
Source: Dr Thomas Borrmann (2019)



Geothermal Grant and Loan Project Sites

Highlights

- Salton Sea Geothermal power plant
- \$2.5 million Budget and
 \$2.53 Match Budget
- Lithium extraction from geothermal brine





Geothermal Grant & Loan Program Impact

- California has the most geothermal electricity capacity worldwide
- Lithium extraction from geothermal brine efforts in Salton Sea Area



Source: Janet C. Harvey

45



Renewable Energy for Agriculture Program (REAP)

Investment in DACs

- 39% of funds
- \$3.7 Million
- 16 projects





REAP Project Sites





Clean Energy Opportunities in Agriculture

- Invested in highly agricultural counties
- Opportunities supporting low-income communities and individuals
- Experience gained for future program designs





David Velazquez

Energy Commission Specialist Local Assistance and Financing Office

California Clean Energy Jobs Act: Prop39-K-12 Program
Energy Conservation Assistance Act (ECAA)
Energy Conservation Assistance Act-Education Subaccount (ECAA-ED)



Clean Energy Jobs Act: Prop-39-K-12

Investment in DACs

- 28% of funds
- \$419 Million
- 1,684 projects





Prop-39 K-12 Project Sites





Prop-39 K-12 Program Impact

- \$1.7 billion for energy projects in 7,131 sites
- Save nearly \$105 million in annual energy costs.
- Improved learning environment with better lighting and cleaner air.
- Energy efficiency and generation projects in all 58 counties.





Energy Conservation Assistance Act (ECAA)

Zero-interest loans for schools

- 56 total loans
- \$73 Million in loans
- Provided to schools throughout CA

Low-interest loans

- 922 total loans
- \$472 Million loaned to cities, counties, and other public entities.
- Issued throughout CA





- Provide much-needed lowinterest loans to communities and schools.
- Cities, counties and schools are prime candidates for implementing energy-efficiency measures that can provide significant cost-savings.





2020 Diversity Report Takeaways

Lessons Learned

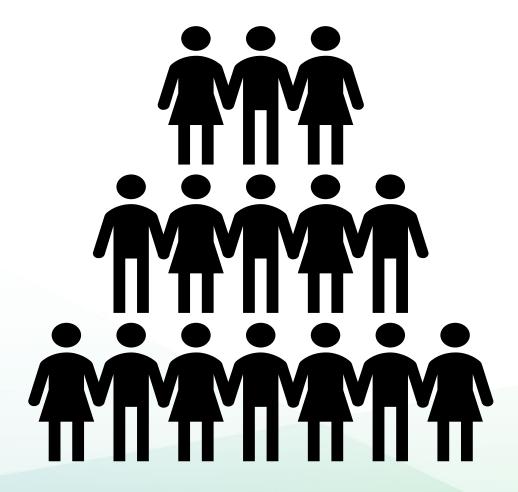
- Respond well to current context
- Need more standardized metrics
- Intentionality makes bigger impact

Opportunities to Advance Equity

- Transition to in-person engagement
- Collaborate with peers/stakeholders
- Create task forces for gaps and goals



- Daniel, Katrina, Larry, Hally, David
- Tom Gates
- Travis David, Gabriel Blossom
- Dorothy Murimi, Karina Camacho
- Armand Angulo, Heather Bird





Item 3: Appointment of Committee for CA3 (Vantage) Backup Generating Facility (21-SPPE-01)

May 12, 2021 Business Meeting

Eric Knight, Manager, Siting and Environmental Office Siting, Transmission, and Environmental Protection Division



CA3 Project Overview

Data Center:

1 building (469,482 sq. ft.)



Backup Generating Facility:

- 44 2.75-megawatt diesel-fired generators
- 1 generation yard

Purpose: Generate 96 megawatts (maximum) of backup electricity if prolonged lack of primary electricity supply from Silicon Valley Power exceeds storage capacity of uninterruptable power supply systems.





Staff Recommendation

Approve proposed order establishing committee to oversee CA3 (Vantage) Backup Generating Facility SPPE proceeding.



Item 4: Integrated Environmental Solutions Virtual Environment Approved Computer Compliance Program for 2019 Title 24, Part 6 Nonresidential, Version 1.0.

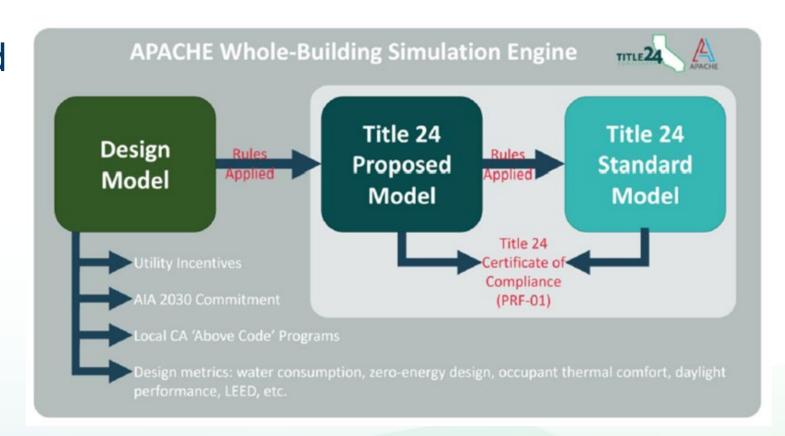
May 12, 2021 Business Meeting

RJ Wichert, Mechanical Engineer Efficiency Division, Building Standards Office



Benefits to Californians

- Expands list of approved nonresidential compliance software
- Simplifies building design and compliance steps





Alternative simulation engine

Meets compliance requirements of ACM manual



Proposed Action

 Approve IES VE Title 24 2019 Version 1.0 as nonresidential alternative calculation method for 2019 Energy Code



Item 5: ECAA Funded Loans for the City of Ferndale and County of Mariposa & One ECAA-Ed Funded Loan for the Ravenswood City School District

May 12, 2021 Business Meeting

Matt Jones Renewable Energy Division, Local Assistance and Finance Office



Benefits of the ECAA Loans to Californians

Creates Green Jobs



Promotes Energy Efficiency & Renewable Generation



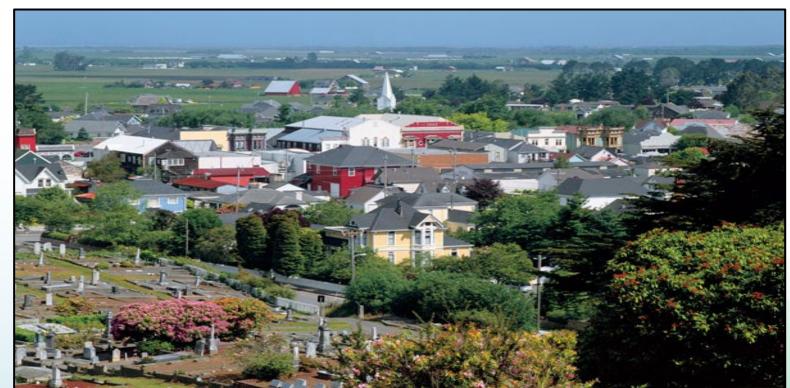
ers Utility Bills





City of Ferndale Project Overview

- \$203,200 loan
- 1% interest
- LED lighting at 1 city facility
- Rooftop PV at 2 city-owned sites





Mariposa County Project Overview

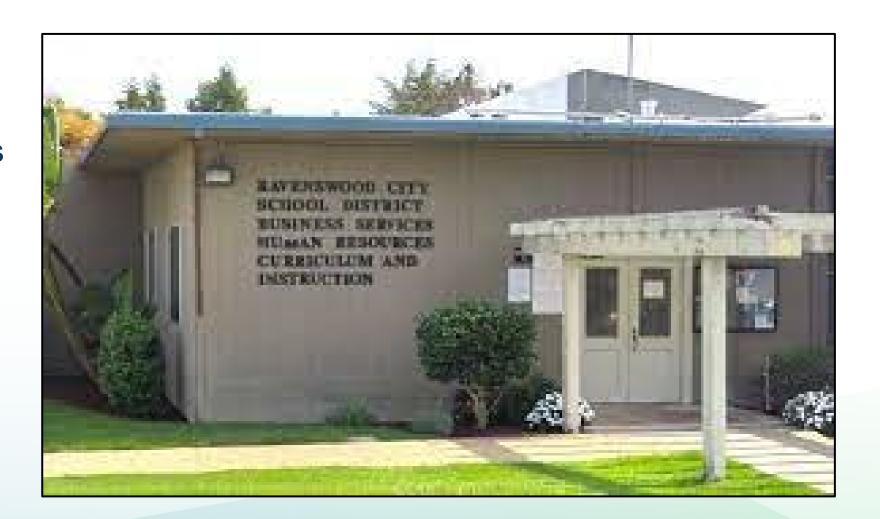
- \$2,838,826 loan
- 1% interest
- LED lighting at 8 county sites
- Carport PV installation at 4 county facilities





Ravenswood Project Overview

- \$2,925,948 loan
- 0% interest
- LED at 2 schools
- PV systems at 4 schools





Project Savings

Loan Recipient	Annual Energy Savings	Loan Amount	Annual Cost Savings
City of Ferndale	77,760 kWh	\$203,200	\$14,827
County of Mariposa	919,257 kWh	\$2,838,826	\$190,823
Ravenswood City School District	823,564 kWh	\$2,935,948	\$158,279



Staff Recommendation

- Approve agreements
- Adopt staff's determinations that actions are exempt from CEQA



Item 6: Agreement 600-20-009 with UC Davis for a \$125,000 Contract

May 12, 2021 Business Meeting

Miki Crowell, Air Pollution Specialist Fuels and Transportation Division, Advanced Vehicle Infrastructure Office



Benefits to California

Contribute to Study of Future Hydrogen System



Help Shape Future Policies, Solicitations, and Projects



Advance State towards Air Quality and Climate Change Goals



Overview of Study

- Scope is Role of Vehicles and Infrastructure in a California Hydrogen Transition
 - Vehicle Scenarios
 - Location of Hydrogen Demand and Supply
 - Station Investment Behavior
 - Impact of Demand from Transportation Sector









Staff Recommendation

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



Item 7: Zero-Emission Transit Fleet Infrastructure Deployment (GFO-20-602)

May 12, 2021 Business Meeting

Esther Odufuwa, Energy Commission Specialist I
Fuels and Transportation Division
Advanced Fuels & Vehicle Technologies Office, Freight & Transit Unit



Benefits to California

Enables:

- Reduced emissions
- Large-scale infrastructure demonstrations
- Lessons learned for replicability
- Accelerated process to meet regulations





Project Overview

North County Transit District (ARV-20-013)

- Construct hydrogen fueling station
- Will support up to 50 fuel cell buses







Project Overview

Sunline Transit (ARV-20-014)

- Construct new stand-alone liquid hydrogen station
- Will support up to 96 fuel cell buses







Staff Recommendation

Approve

Both agreements

Adopt

 Staff's determination that action is exempt from CEQA



Item 8: Solar Heating, Cooling and Power for Industrial and Commercial Applications (GFO-20-502)

May 12, 2021 Business Meeting

Baldomero Lasam, Mechanical Engineer Energy Research and Development Division Energy Generation Research Office

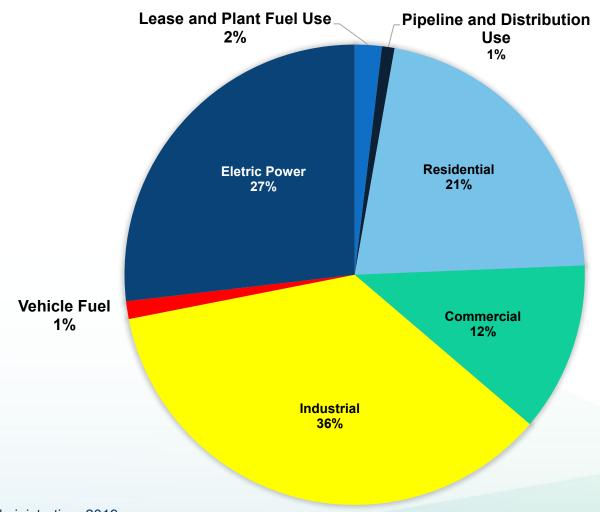


Benefits to Californians

- Reduce natural gas consumption
- Reduce greenhouse gas emissions
- Inform future deployment strategies



California Natural Gas Consumption By End Use



Source: U.S. Energy Information Administration. 2019.

https://www.eia.gov/dnav/ng/NG_CONS_SUM_DCU_SCA_A .htm



Skyven Technologies, Inc.

Low Cost, High Concentration System for Industrial Cogeneration

- Develop and demonstrate low-cost, reliable and high efficiency system
- Innovative design increases annual power and heat generation
- Reduces dependence on natural gas and power sourced from grid



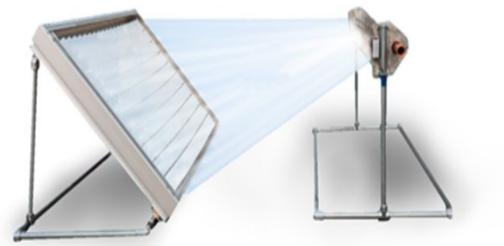


Figure: Intelligent Mirror Array collector



Staff Recommendation

- Approve grant agreement
- Adopt staff's determination that project is exempt from CEQA



Item 9: Load Shifting During Critical Summer Hours via Programmable Irrigation (EPC-20-036)

May 12, 2021 Business Meeting

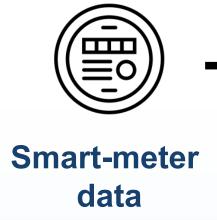
Anish Gautam

Energy Research and Development Division

Energy Efficiency Research Office



Benefits to California









- Lower electricity costs
- Increase grid reliability
- Reduce greenhouse gas emissions



Project Overview

- Enhance technology demonstrated under previous EPIC grant
- Permanently shift peak irrigation loads (5-8PM) into non-peak hours
- Deploy on at least 10,000 acres (PG&E and SCE)
- Shift 7MW
- \$87,368 in match funds



Water



Energy



Source: AgMonitor Inc.

Food





Staff Recommendation

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



Item 10: Bringing Rapid Innovation Development to Green Energy (BRIDGE) 2020 (GFO-20-301)

May 2021 Business Meeting

Michael Ferreira

Energy Deployment & Market Facilitation Office

Energy Research & Development Division



Benefits to California Ratepayers

- Advances clean energy economy
 - Supports clean energy entrepreneurs
 - Speeds up transition from fossil fuels
- Improves grid resilience and reliability

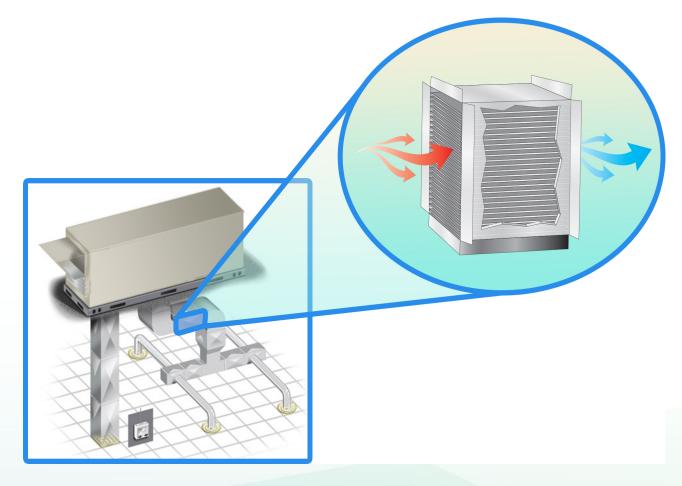




Stasis Energy Group, LLC

Thermal Energy Storage System for Packaged HVAC Systems

- Bio-based phase change material
- 60-75% reduction peak period energy use
- Demonstrations at 10 commercial buildings

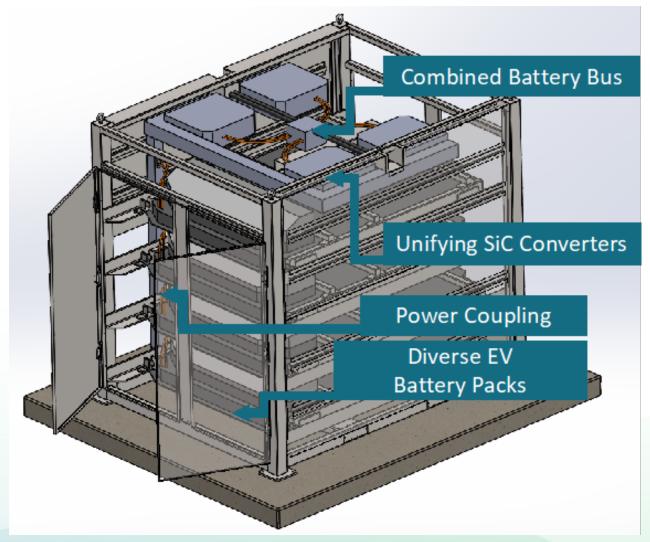




EPC Power Corporation

Solid-State DC-DC Power Electronics for Grid-Scale Lithium EV Battery Pack Integration

- 2nd life EV batteries used for grid storage
- Can adapt to increasing number of EV models and volumes
- 1 MW demonstration to show energy savings and potential demand charge cost reduction





Staff Recommendation

Approve and adopt staff's findings that projects are exempt from CEQA.



Item 11: Evaluating Bi-Directional Energy Transfers and Distributed Energy Resource Integration for Medium- and Heavy-Duty Fleet Electrification

May 12, 2021 Business Meeting

Ben Wender Electric Generation System Specialist Research and Development Division



Benefits to Californians

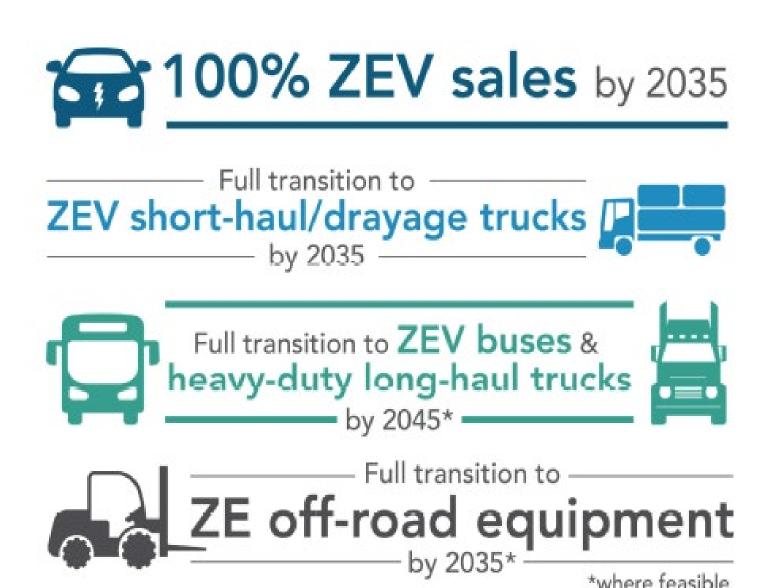
- Reduce stress on grid
- Increase use of distributed energy resources
- Reduce charging costs
- Provide site and community resilience
- Maximize emissions reductions





Purpose of Solicitation

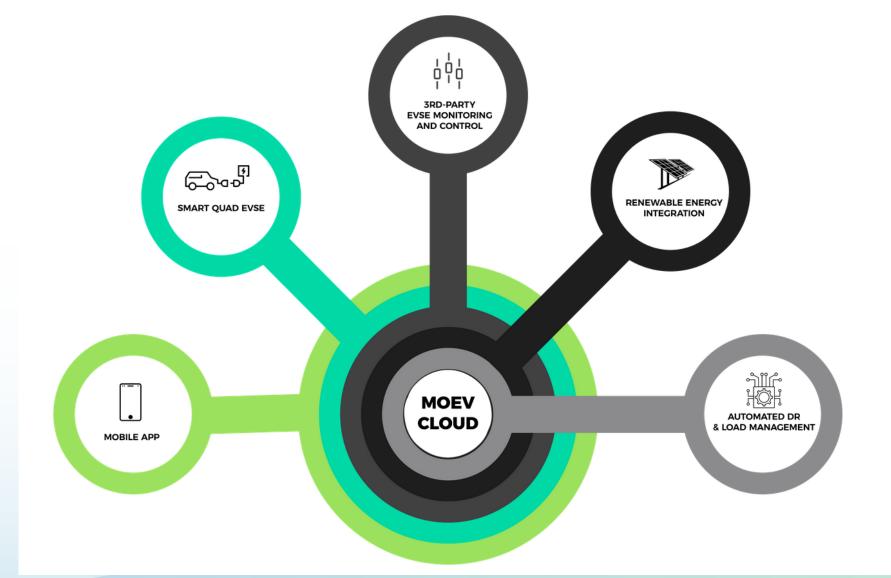
EO-N-79-20



CARB ACF presentation



MOEV, Inc., Artificial Intelligence Based Heavy-Duty Fleet Charging



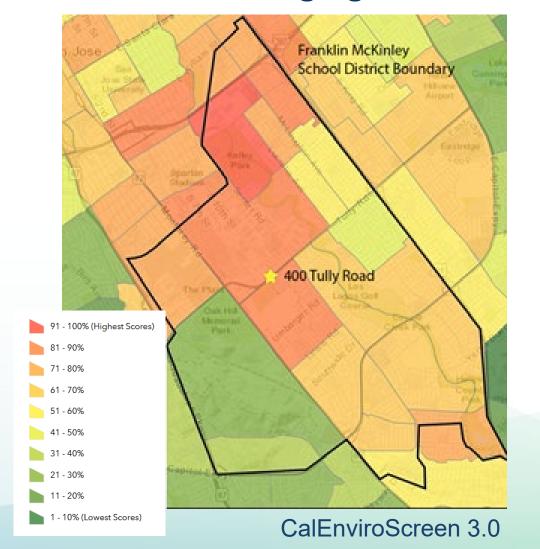




Lawrence Berkeley National Lab



Innovative School Bus Charging for Resilient Communities





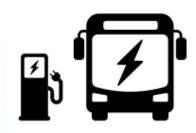


Staff Recommendation

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











Item 12: Food Production Investment Program (GFO-20-307)

May 12, 2021 Business Meeting

Cyrus Ghandi, Electric Generation System Specialist Energy Research and Development Division Energy Efficiency Research Office



FPIP Benefits to California



164,000 MT CO2E*

PROJECTED ANNUAL EMISSIONS REDUCTION

\$116M **AWARDED**

51 PROJECTS

85% IN DISADVANTAGED/ LOW-INCOME COMMUNITIES



FPIP Created by Collaboration



Food Processor's Working Group

Government:

California Air Resources Board

California Department of Food and

Agriculture

California Energy Commission

California Public Utilities

Commission

Office of the Governor of California

San Joaquin Valley Air Pollution

Control District

South Coast Air Quality

Management District

Utilities:

Modesto Irrigation District

Pacific Gas and Electric

Sempra Utilities

Southern California Edison

Southern California Gas Company

Turlock Irrigation District

Food Producers:

Campbell Soup Supply Company

California Dairies

Foster Farms

E&J Gallo

Hilmar Cheese

Land O Lakes

Morning Star Company

Pacific Coast Producers

Stanislaus Food Products

Company

The Wonderful Company

Researchers:

California Polytechnic State University, San Luis Obispo

Lawrence Berkeley National Laboratory

University of California, Davis

Trade Organizations:

California Cotton Ginners and Growers Association

Agricultural Council of California

California League of Food Producers

West Coast Advisors



14.a Blue Diamond Growers, Sacramento



Install high-efficiency compressed air system upgrades at almond processing facility.

- Variable frequency drive
- Advanced controls



Workers inspecting almonds at a Blue Diamond facility.

Photo credit: Blue Diamond Growers



14.b Pacific Coast Producers, Woodland



Upgrade compressed air system at tomato processing facility.

- High-efficiency air compressor
- Air dryer
- Receiver tank
- Variable frequency drives
- New control system



Flumes conveying tomatoes at Pacific Coast Producers in Woodland.

Photo credit: Pacific Coast Producers



14.c Jessie Lord Bakery, Torrance



Install energy efficient equipment at industrial baking facility boiler economizer.

- Steam traps
- Insulation
- New burners and controls for baking oven
- Low-global warming potential refrigeration system



Jessie Lord Bakery produces a variety of fruit, cream, and seasonal pies.

Photo credit: Jessie Lord Bakery



14.d Baker Commodities, Vernon



Install steam system upgrades at animal feed and biofuels production facility.

- High efficiency boilers
- Insulation on 2 large holding tanks to conserve heat



Baker Commodities produces animal feed supplements, fertilizer, and biodiesel *Photo credit: Baker Commodities, Inc.*



14.e WWF Operating Company, City of Industry



Install over 200 steam traps at dairy processing facility.

- Capture and drain condensate from steam lines
- Vital part of steam distribution network.



WWF Operating Co. produces various dairy and plant-based food and beverage products for Danone

Photo Credit: Danone North America



14.f Campbell Soup Supply Company, Dixon



Retrofit double effect to high efficiency triple effect evaporator at tomato processing facility.

- Increase evaporation capacity
- Increase process efficiency



Tomato harvesting operation

Photo credit: Campbell Soup Company



14.g E&J Gallo Winery, Livingston and St. Helena



Install energy efficient equipment at two large wineries.

- New compressor system at Livingston winery
- New low-GWP refrigeration system at St. Helena winery



Wine, juice, and concentrate is stored in over 260 insulated tanks at the Livingston winery

Photo credit: E&J Gallo Winery



Sun-Maid Time-Lapse Video







Staff Recommendation



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



Item 13: Local Ordinance Applications (19-BSTD-06)

May 12, 2021 Business Meeting

Danuta Drozdowicz, Efficiency Specialist Efficiency Division, Building Standards Office



Benefits to California

Jurisdictions that adopt local ordinances:

- Are live laboratories for clean energy future
- Reduce greenhouse gas emissions
- Lead from the grassroots



lives in a community with an energy code exceeding state standards

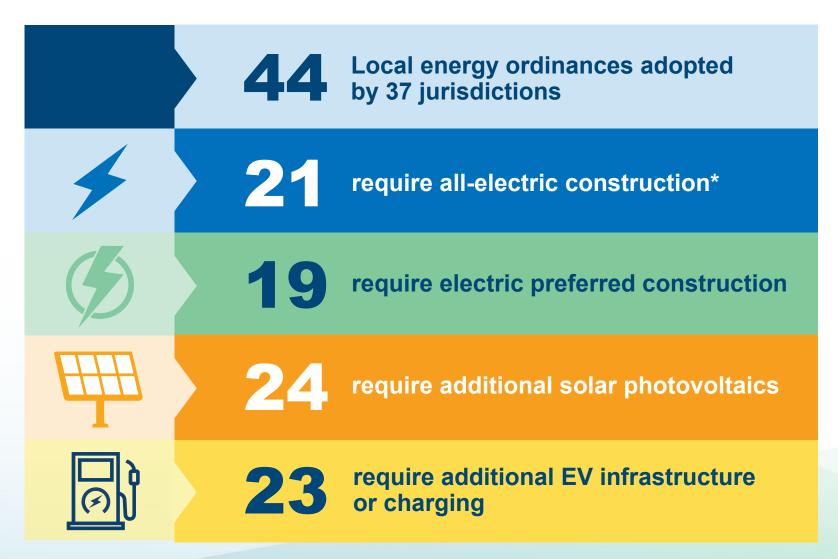


Overview of Local Ordinance Approval Process

- 1. File application with CEC showing standards are costeffective
- 2. CEC finds standards reduce energy consumption compared to current statewide Energy Code
- 3. Staff confirms criteria are met; makes recommendation based on findings



Local Ordinances Exceeding 2019 Building Energy Efficiency Standards



^{*} May not apply to all building types



Local Ordinances

	Jurisdiction	Cost Effective	Energy Reduction	Energy Efficiency or All-Electric Provisions	Exceptions
OLINDED 1981	City of Piedmont	yes	yes	Energy efficiency requirements for low-rise residential retrofits; all-electric for new low-rise residential construction	Retrofit projects with a value less than \$25,000
UBBRO UILLOGE BY THE BRY	City of Albany	yes	yes	Newly constructed buildings meet or exceed Energy Design Ratings or Compliance Margins more stringent that Energy Code	Accessory Dwelling Units
The City of Good Call FORMS	City of San Carlos	yes	yes	Requirements for all- electric new construction and for solar on new nonresidential buildings	Accessory Dwelling Units and applications such as cooking and fireplaces

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Staff Recommendation

Approve jurisdictions to enforce local ordinances