

DOCKETED

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Project Title:	Business Meeting Agendas, Transcripts, Minutes, and Public Comments
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Filer:	Dorothy Murimi
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Docketed Date:	9/8/2021



California Energy Commission Business Meeting September 8, 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.**



Get vaccinated. Wear a Mask.

Your actions save lives
Keep California healthy

GET VACCINATED 





California ISO

Sign up for
#FlexAlert notifications



**FLEX
ALERT**



Remote Compliance

Business Meeting held remotely, consistent with **Executive Order N-08-21** to continue to help California respond to, recover from, and mitigate the impacts of the COVID-19 pandemic. The public can participate in the Business Meeting consistent with the direction in this Executive Order.

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”

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



Consent Calendar a. – e.

- a. Center for Transportation and the Environment. Contact: Alex Wan
- b. National Association of State Energy Officials (NASEO). Contact: Christine Collopy
- c. Alliance to Save Energy. Contact: Brad Worster
- d. United States Fish and Wildlife Service. Contact: Andrea Stroud
- e. Western Interstate Energy Board. Contact: Christopher McLean



Item 2: Order on Process for Battery Storage Systems

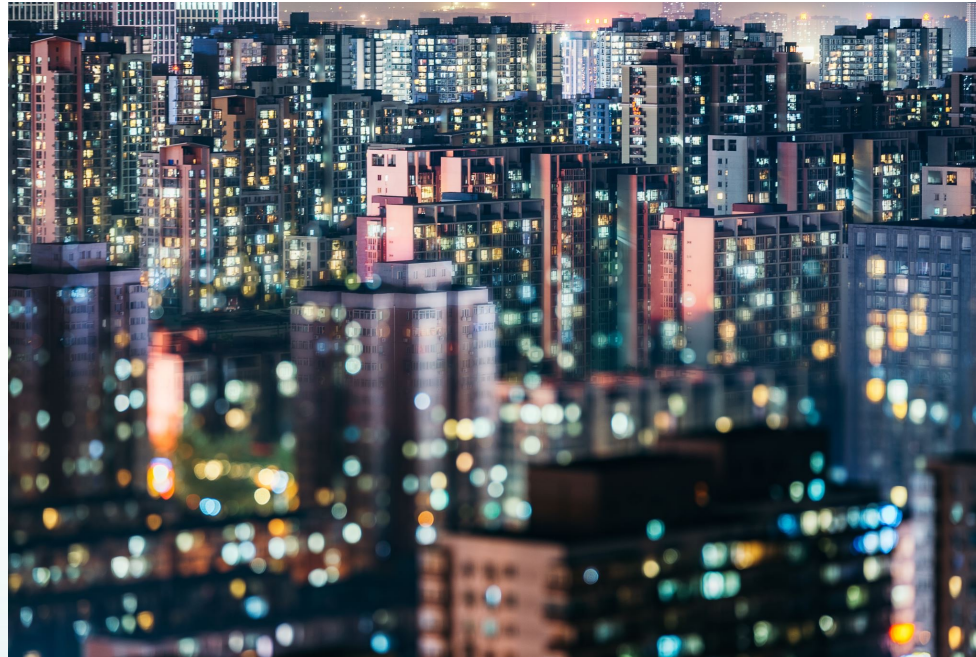
September 8, 2021, Business Meeting

Shawn Pittard, Deputy Director
Siting, Transmission, and Environmental Protection Division



Benefits to California

- Address climate change impacts
- Increase grid resiliency and reliability





Emergency Proclamation Context



Climate change
threatening CA's energy
supply

- Up to 3,500 MW shortfall in 2021
- Up to 5,000 MW shortfall for summer 2022



Emergency Proclamation Overview

Authorizes CEC to license new or expanded battery storage systems:

- 20 megawatts or more
- Discharge for at least 2 hours
- Deliver net peak energy by October 31, 2022





Battery Storage System Licensing

- CEQA suspended
- CEC exclusive licensing authority
- Meet and consult with local and state agencies
- License conditions and monitoring requirements
- Decision delegated to Executive Director
- Decision final – not subject to appeal



Staff Recommendation

Adopt Order No. 21-0908-1.



Item 3: Procter and Gamble Cogeneration Project (93-AFC-02C)

September 8, 2021, Business Meeting

Presented by Elizabeth Huber, CME Office Manager
Mary Dyas, lead Compliance Project Manager
Lisa DeCarlo, lead Counsel
Siting, Transmission and Environmental Protection Division



Project Benefits for California





Project Overview

Date	Action
11/16/1994	CEC Approved License
3/01/1997	Units Came Online
7/15/2021	Ownership and Name Change Petition Docketed
8/03/2021	Staff Approval of Project Change Docketed
8/05/2021	One Objection Docketed



Staff Recommendation

- Approve order for ownership and project name change.



Item 4: Campbell Cogeneration Project (93-AFC-03C)

September 8, 2021, Business Meeting

Presented by Elizabeth Huber, CME Office Manager
Mary Dyas, lead Compliance Project Manager
Lisa DeCarlo, lead Counsel
Siting, Transmission and Environmental Protection Division



Project Benefits for California





Overview

Date	Action
11/20/1994	CEC Approved License
10/30/1997	Units Came Online
7/15/2021	Ownership and Name Change Petition Filed
8/03/2021	Staff Approval of Project Change Docketed
8/05/2021	One Objection Docketed



Staff Recommendation

- Approve order for ownership and project name change.



Item 5: Lithium Valley

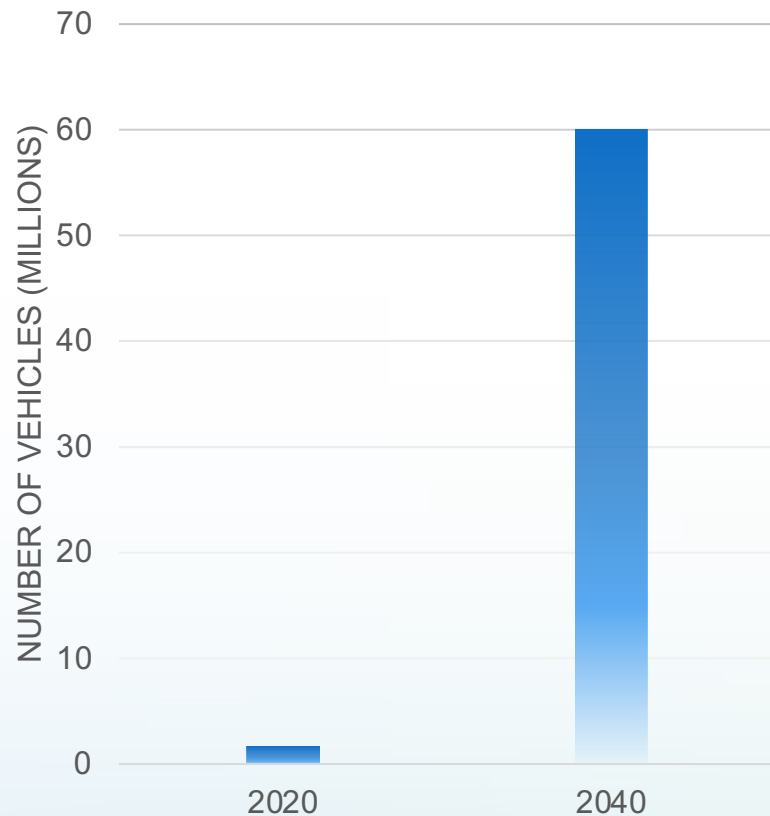
September 8, 2021 Business Meeting

Lauren Illa, Undergraduate Fellow
Office of Chair Hochschild

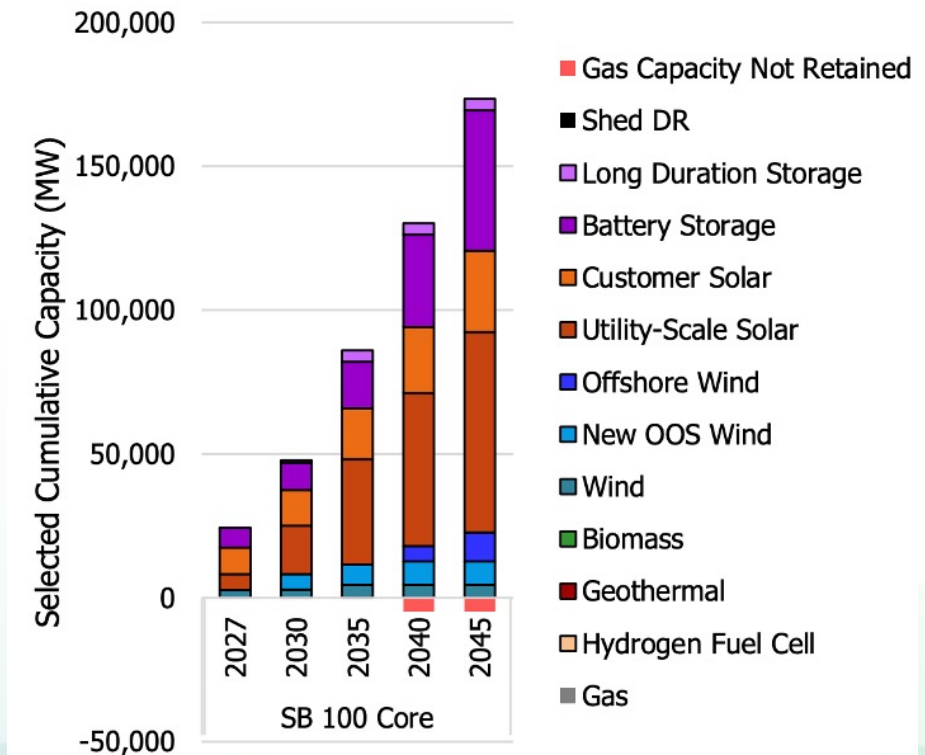


EVs Are Driving Lithium Demand

GLOBAL EV MARKET GROWTH

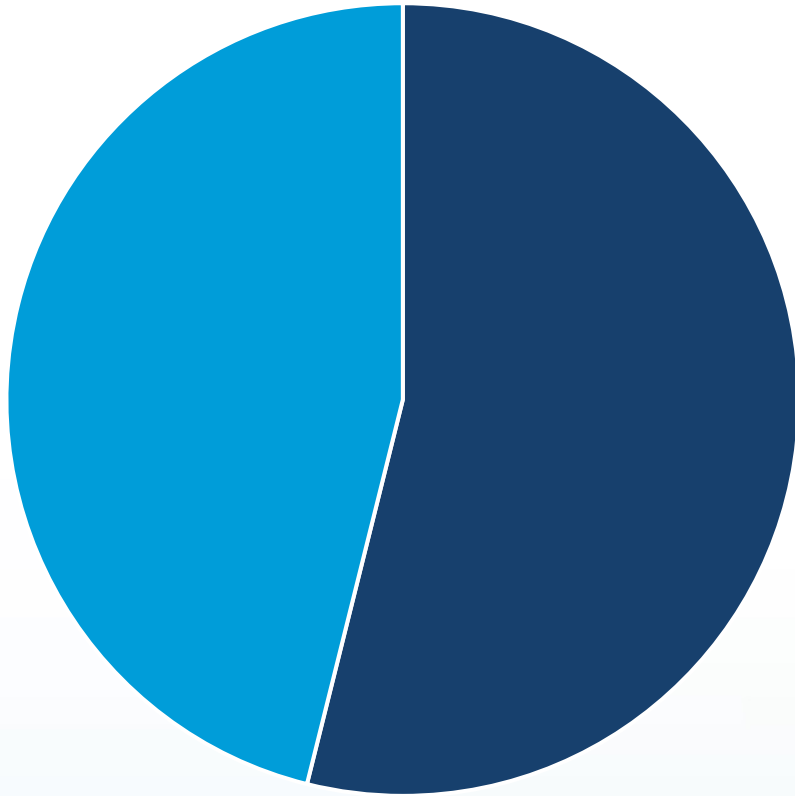


Cumulative Capacity Additions for the SB 100 Core Scenario





Current Lithium Extraction Methods

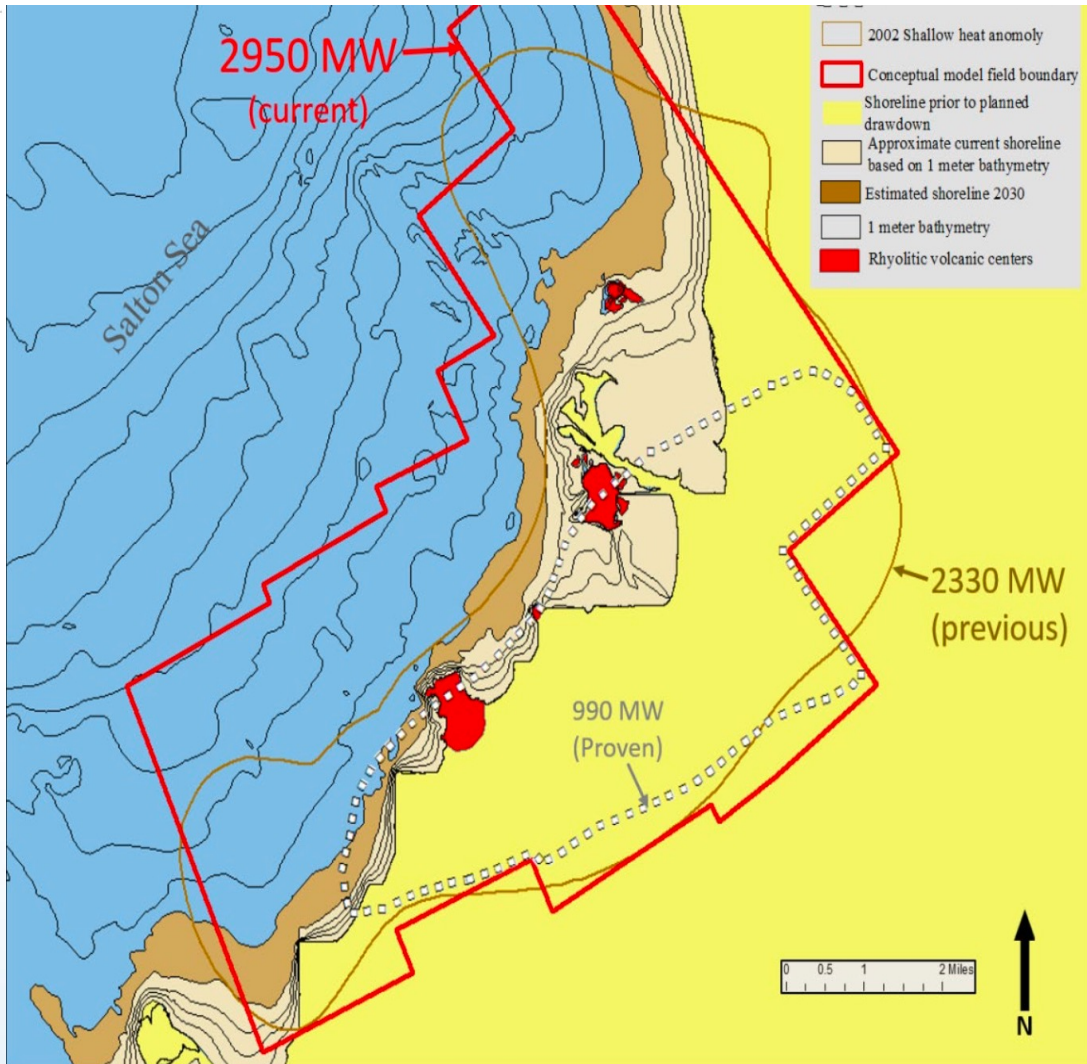


- Hardrock Mining
- Evaporative Brine Processing





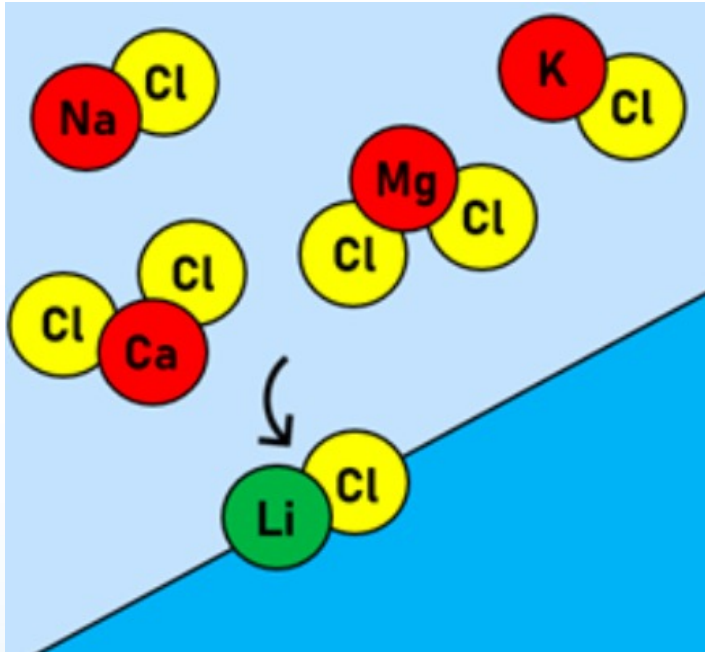
Lithium Resource Under the Salton Sea



- Salton Sea Known Geothermal Resource Area (KGRA)
- Average lithium concentration: **200 mg/kg**
- Potential inferred lithium resource: **15 million metric tons**
 - Global production: 300,000 metric tons of lithium carbonate in 2018

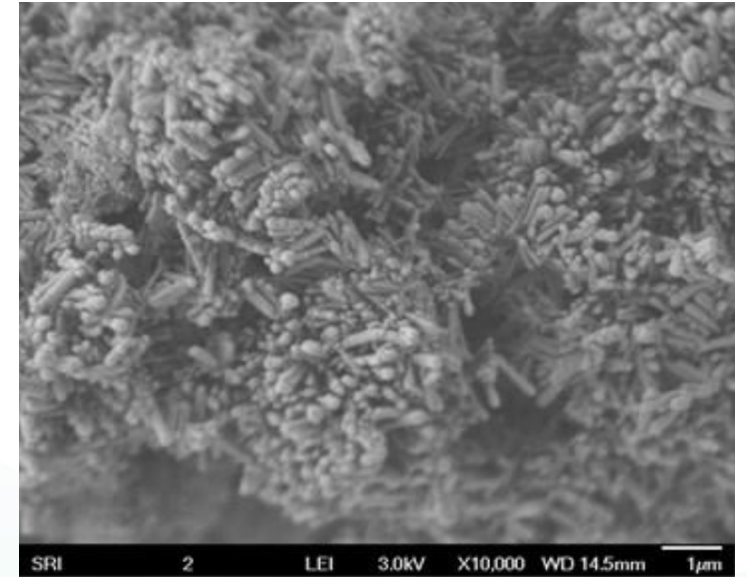
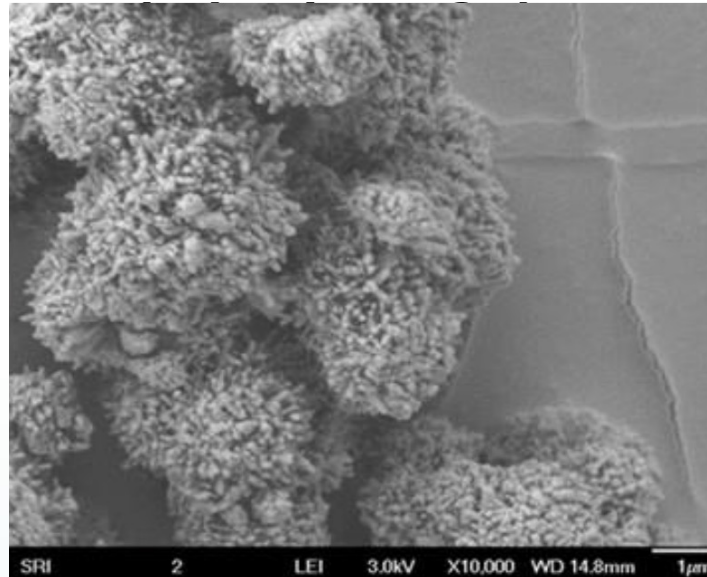
Review of Research on Direct Lithium Extraction Technologies

ADSORPTION



LiCl molecules physically adsorbing to a sorbent (Jade Cove Partners)

ION EXCHANGE



Nanostructured HMO sorbent (Ventura et al., 2020)



Average Lithium Production Costs

**Geothermal
Brines**
\$4,000

**Evaporation
Ponds**
\$5,580

Hardrock Mining
\$4,540 -
\$5,040

Source: [Techno-Economic Analysis of Lithium Extraction from Geothermal Brines \(Warren, 2021\)](#)



CEC Demonstration Projects at Salton Sea

- Berkshire Hathaway Energy Renewables Minerals Demonstration Project
- Controlled Thermal Resources Hell's Pilot Plant
- Materials Research Pilot Plant



Elmore Geothermal Plant (Berkshire Hathaway Energy Renewables)



Thank You!



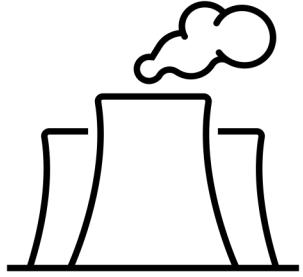
Item 6: MIDAS Status Update

September 8, 2021 Business Meeting

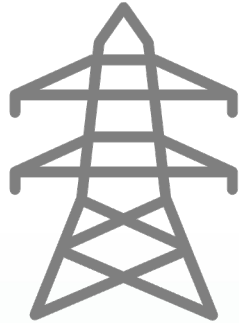
Morgan Shepherd, Energy Analyst
Existing Buildings Office, Efficiency Division



Benefits to Californians



Decrease emissions



Increase grid reliability

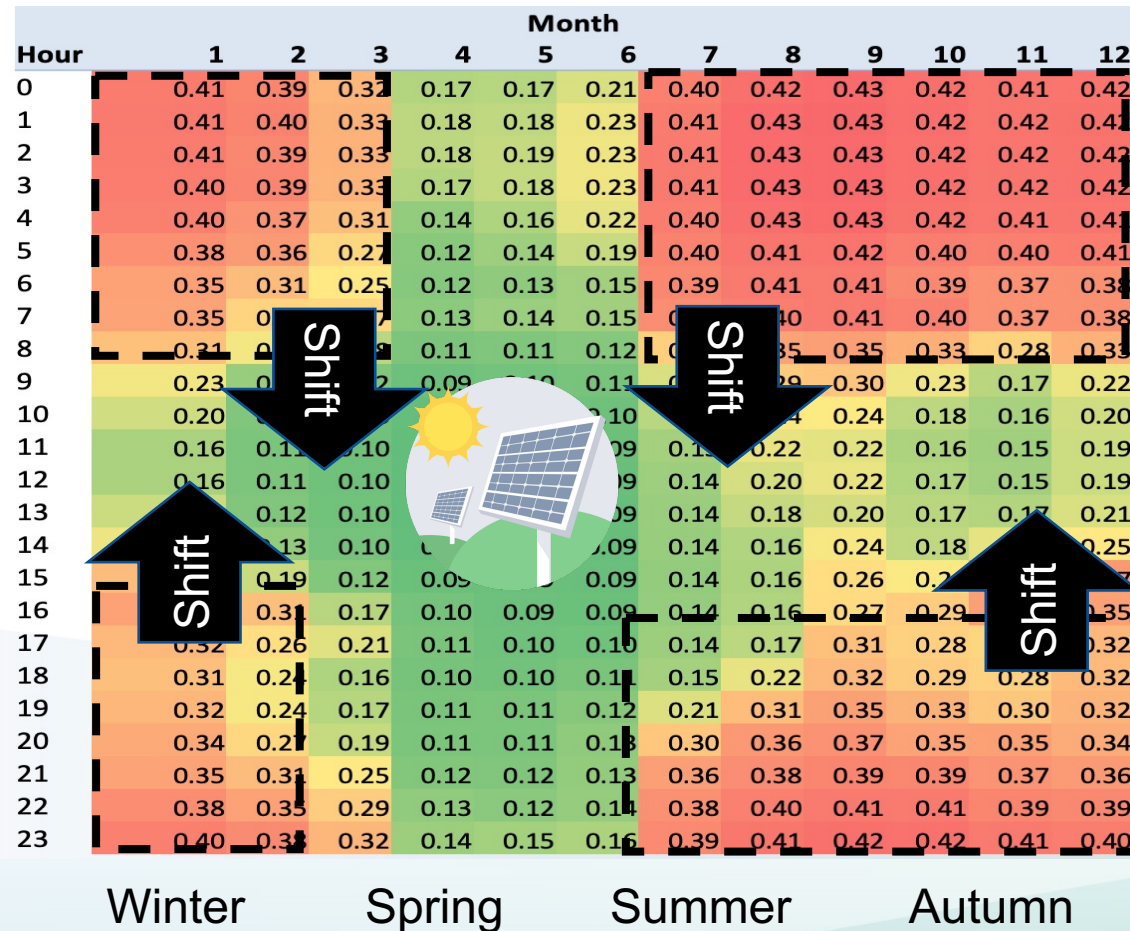


Decrease customer bills



Background

2021 Hourly Marginal Emissions Intensity (MT CO₂/MWh)



**Shift electricity use
from carbon
intensive hours...**

**...to low carbon hours
(9 a.m. to 3 p.m.)**

HOW?

Publish price and emissions signals
for automation devices to reschedule
default run-times



MIDAS Overview





Progress to date

- ✓ Preliminary Testing
- ✓ TOU Rates Uploaded
- ✓ FlexAlerts Signal
- ✓ GHG Signals from SGIP
- ✓ Limited Release for Public and Stakeholder Evaluation
- ✓ Public workshop on 8/27/21



Next Steps



Review Public Comments

September 2021



Load Management Standards &
Flexible Demand Appliance Standards

2022 / 2024



MIDAS Locational Hourly Pricing

TBD (proposed)



Public Broadcast

TBD (under study)

<https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=19-OIR-01>



Item 7: 2019 Public Domain Residential and Nonresidential Compliance Software and Residential and Nonresidential Alternative Calculation Method Reference Manual Updates

September 8, 2021 Business Meeting

RJ Wichert, Mechanical Engineer
Efficiency Division, Building Standards Office



Benefits to Californians

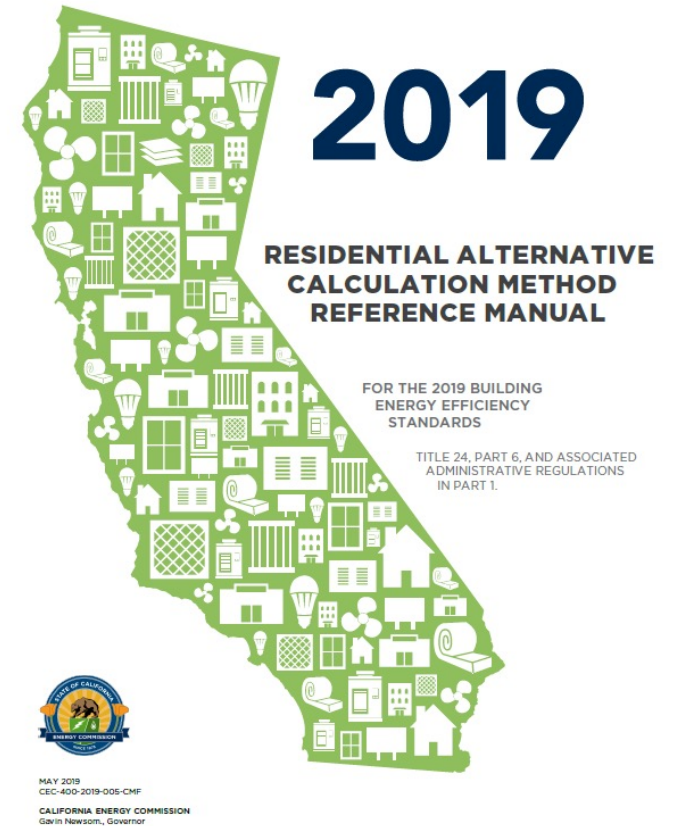
- Expands compliance modeling tools to account for building decarbonization
- Improves modeling accuracy





Overview

- Corrects indoor air quality baselines
- Updates nonresidential HVAC baseline
- Expands HPWH options
- Updates CBECC-Com EnergyPlus version





Proposed Action

- Approve CBECC-Res and CBECC-Com 2019.2.0
- Approve Residential and Nonresidential ACM Reference Manuals



Item 8: Revised 2022 Summer Stack Analysis

September 8, 2021 Business Meeting

Angela Tanghetti
Energy Assessments Division



Midterm Reliability Analysis vs Stack Analysis

LOLE Analysis

Purpose: Inform procurement need

Uses distributions of conditions

- Demand profiles
- Wind and solar profiles
- Randomized outages

Challenge:

- Dependent on historic weather patterns which may not fully reflect climate change

Stack Analysis

Purpose: Inform need for contingencies

Provides potential of average and extreme:

- High demand days like summer 2020
- Drought impacts on hydro
- Capped imports

Challenge:

- Assumptions designed to capture extreme weather events



Stakeholder Comments

Why develop 2022 stack analysis and probability analysis?

- Provides situational awareness in the event of west-wide extreme weather and prolonged drought
- Provides point of reference for consideration in other energy related proceedings
- Provides insight as to amount and duration of need for contingency resource options





Stakeholder Comments

Assumptions are overly conservative

- Hydro derate too high
 - Considers specific drought year conditions
- 7.5% forced outages may be high
 - Extreme weather, fire and smoke can adversely impact supply
- No economic imports is too conservative
 - Assumes west-wide extreme weather event

Requests for more specific data and assumptions



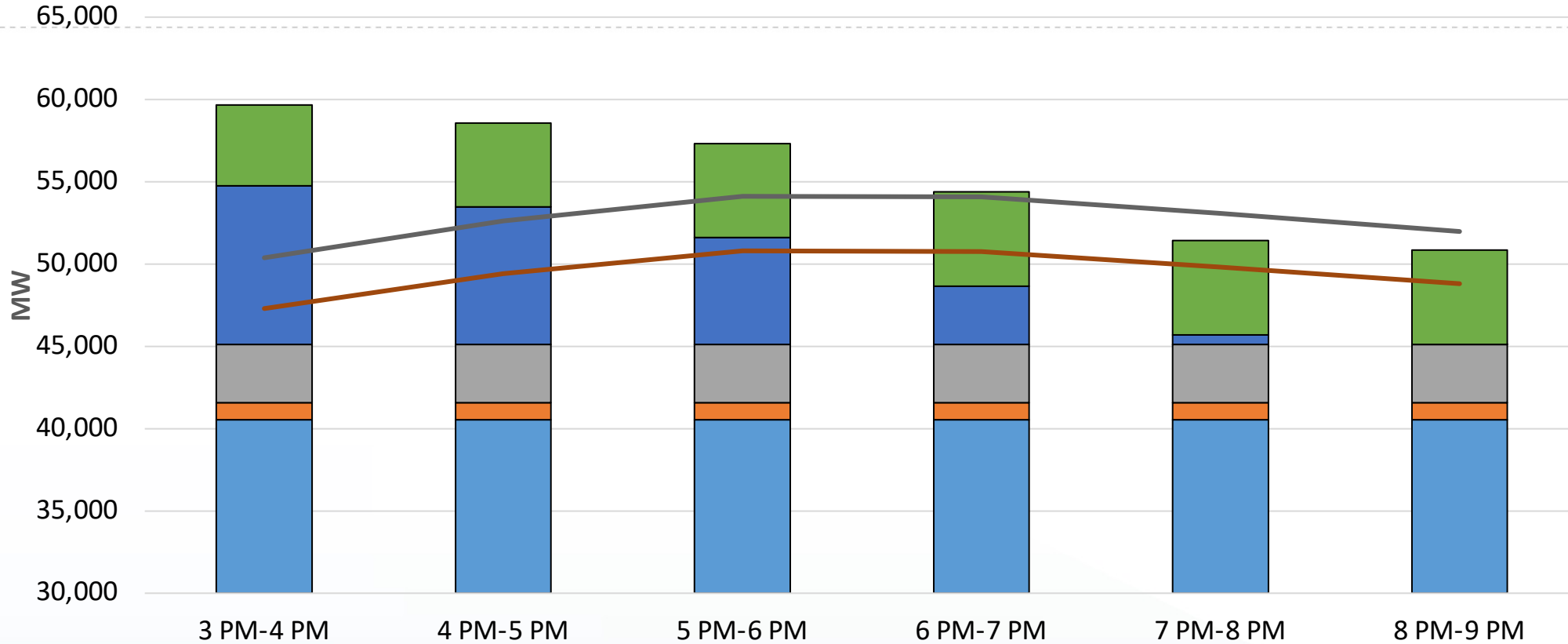


Summer 2022 Stack Analysis Updates

- Incorporates additional CPUC Procurement and Retirements
 - + 878 MW (up from 556 MW) CPUC emergency procurement July 2022
 - + 1,270 MW (up from 840 MW) CPUC ordered procurement August 2022
 - + 363 MW (up from 0 MW) CPUC ordered procurement September 2022
 - 834 MW (unchanged from draft) Redondo Beach Retirement
- Incorporates additional Demand Response and Imports for Publicly Owned Utilities
 - + 478 MW July 2022
 - + 398 MW August 2022
 - + 385 MW September 2022



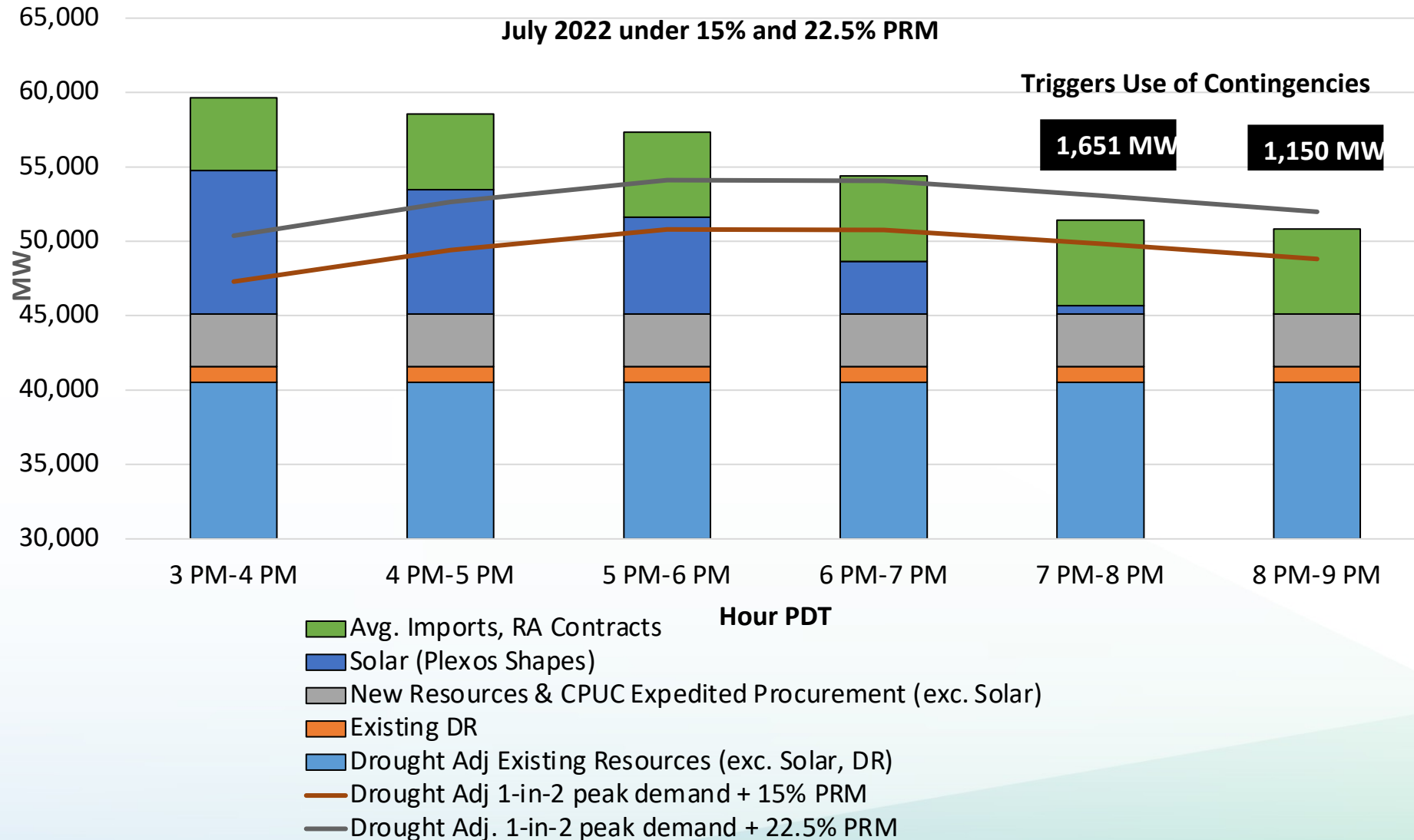
July 2022



- Hour PDT**
- Avg. Imports, RA Contracts
 - Solar (Plexos Shapes)
 - New Resources & CPUC Expedited Procurement (exc. Solar)
 - Existing DR
 - Drought Adj Existing Resources (exc. Solar, DR)
 - Drought Adj 1-in-2 peak demand + 15% PRM
 - Drought Adj. 1-in-2 peak demand + 22.5% PRM



July 2022

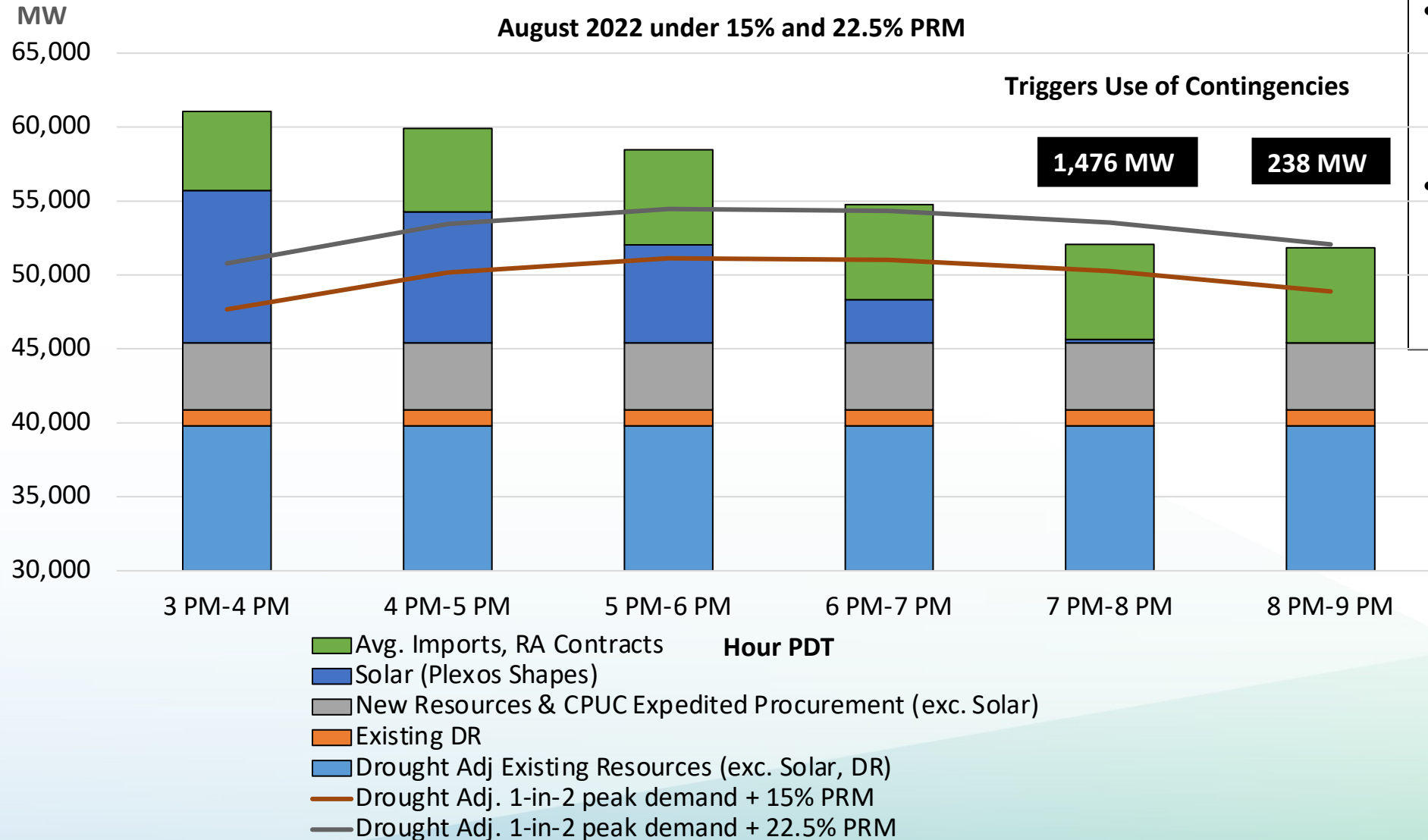


Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~885 MW



August 2022

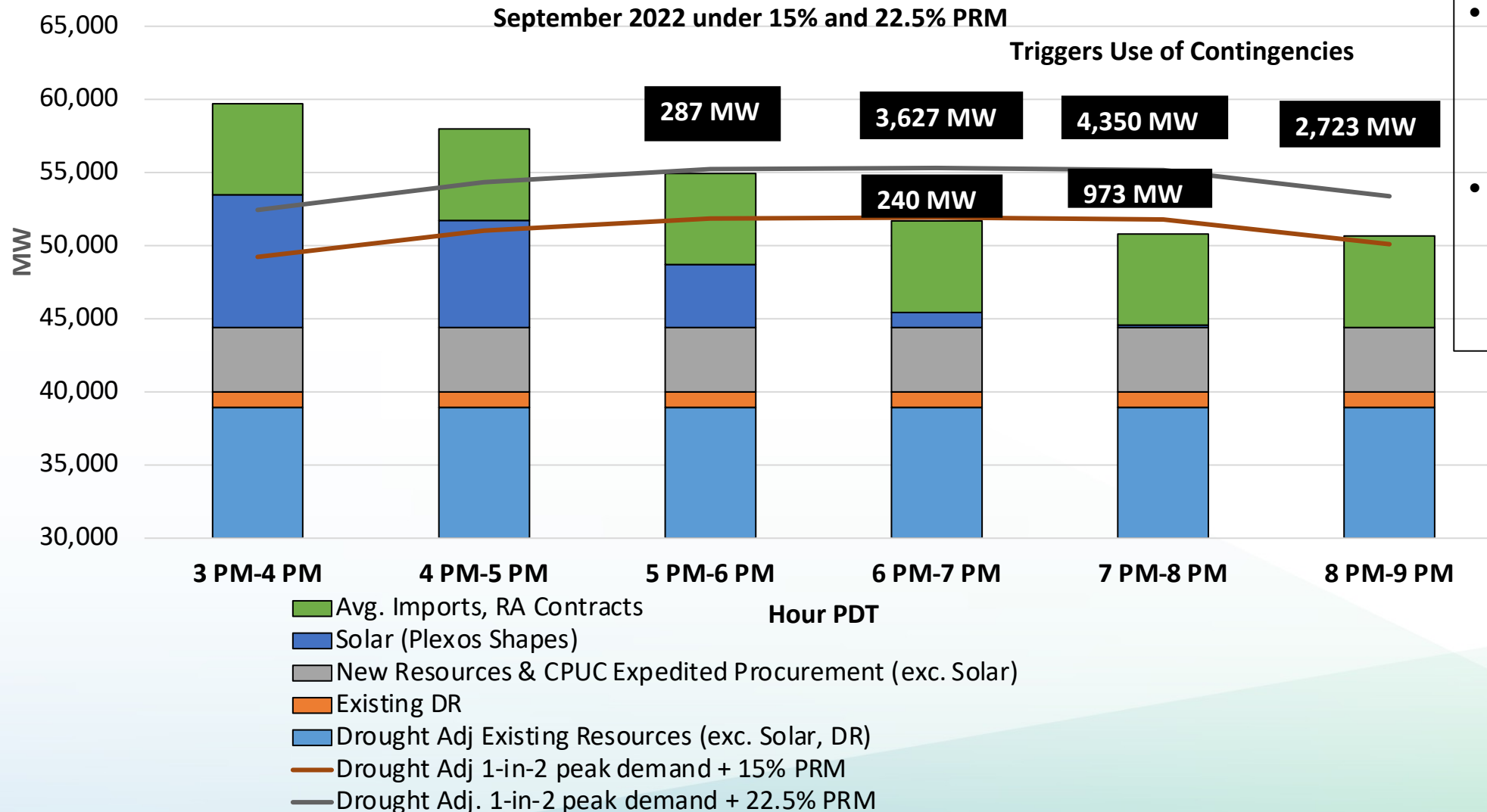


Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 6PM-7PM hour for the 22.5% PRM
- Reduced contingencies in all other hours by ~1,004 MW



September 2022



Revised Stack Analysis compared to Draft

- Eliminated contingencies in the 8PM-9PM hour for the 15% PRM
- Reduced contingencies in all other hours by ~924 MW



Recommendation

Adopt 2022 Summer Stack Analysis.

**Docketed presentations
and revised white paper:
Docket #: 21-ESR-01**





Item 9: Association for Energy Affordability, Inc. Building Initiative for Low-Emissions Development Program Technical Assistance Provider Contract (500-21-001)

September 8, 2021 Business Meeting

Myoung-Ae Jones
Renewable Energy Division



Benefits to California

Decarbonization &
GHG Emission
Reduction

Clean Energy
New Housing
for
Low-Income Californians

Market Transformation
& Adoption of
Near-Zero Emission
Technologies



Almond Court, Wasco, CA Low-rise Affordable MFH
Heat pump water heater, high efficiency ducted heat pumps



Coliseum Place, Oakland, CA All-electric affordable mid-rise
Decentralized heat pump hot water system



Technical Assistance Agreement

Agreement	Detail
Terms	<ul style="list-style-type: none">• \$6 million• 6 years• Option to add \$2 million
Purpose	<ul style="list-style-type: none">• Absorb building developer's soft cost• Transfer knowledge• Advance access and equity



Contractor Team

Prime Contractor	Subcontractors	Secondary Subcontractor
Association for Energy Affordability, Inc.	TRC Engineers, Inc.	
	California Housing Partnership Corporation	
	Highlands Diversified Inc.	The Ortiz Group, LLC
	Celery Design Collaborative LLC	
	David Baker Architects	
	Mithun, Inc.	
	SmithGroup Architects and Engineers	
	Integral Group, Inc.	



Staff Recommendation

- Approve agreement with Association for Energy Affordability, Inc.
- Adopt determination that Agreement is exempt from CEQA



Item 10: California Department of Food and Agriculture

September 8, 2021 Business Meeting

Sharon Purewal, Associate Energy Specialist
Advanced Vehicle Infrastructure Office, Fuels and Transportation Division



Benefits to Californians.

- **Standardize** ZEV fueling infrastructure
- **Support** counties without field testing access
- **Assure** equity





Overview



- California Department of Food and Agriculture will procure certified field standards to:
 - Test and verify commercial electric vehicle supply equipment
 - Test and verify commercial hydrogen fueling systems



Staff Recommendation

- Approve \$401,580 to enter interagency contract with California Department of Food and Agriculture
- Approve staff's determination that this action is exempt from CEQA





Item 11: Blueprints for MD/HD ZEV Infrastructure (GFO-20-601)

Kate Reid, Air Resources Engineer
Fuels and Transportation Division
Advanced Fuels & Vehicle Technologies Office, Freight & Transit Unit



Benefits to California

Will Enable:

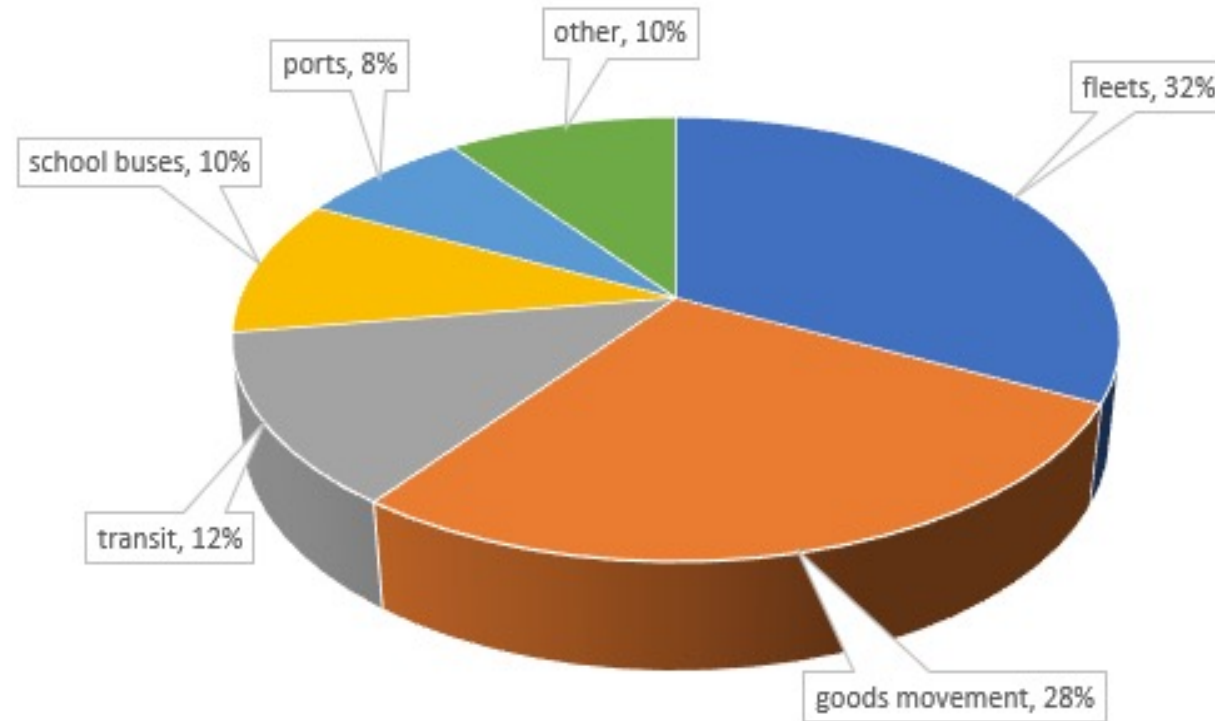
- Roadmaps
- Resiliency
- Replicability
- Compliance





Market Potential

Vehicle Sectors Addressed:





Project Overview

Sacramento Municipal Utility District (SMUD) (ARV-21-032)

MD/HD electric charging and hydrogen refueling infrastructure for SMUD service territory





Project Overview

City of Culver City (ARV-21-033)

MD/HD electric charging infrastructure for Culver City's transit fleet





Project Overview.

CALSTART (ARV-21-034)

- MD/HD electric charging infrastructure in and around the City of Porterville
- Private fleet use of public charging infrastructure





Project Overview.

The Redwood Coast Energy Authority (ARV-21-035)

- MD/HD electric charging and hydrogen refueling infrastructure for Humboldt County
- Will benefit low-income and DACs



REDWOOD COAST
EnergyAuthority



Staff Recommendation.

Approve

- 4 grant agreements

Adopt

- Staff's determination that projects are exempt from CEQA



Item 12: Agreement with WattEV, Inc. for Public MD/HD Electric Truck Stop (ARV-21-025)

September 8, 2021 Business Meeting

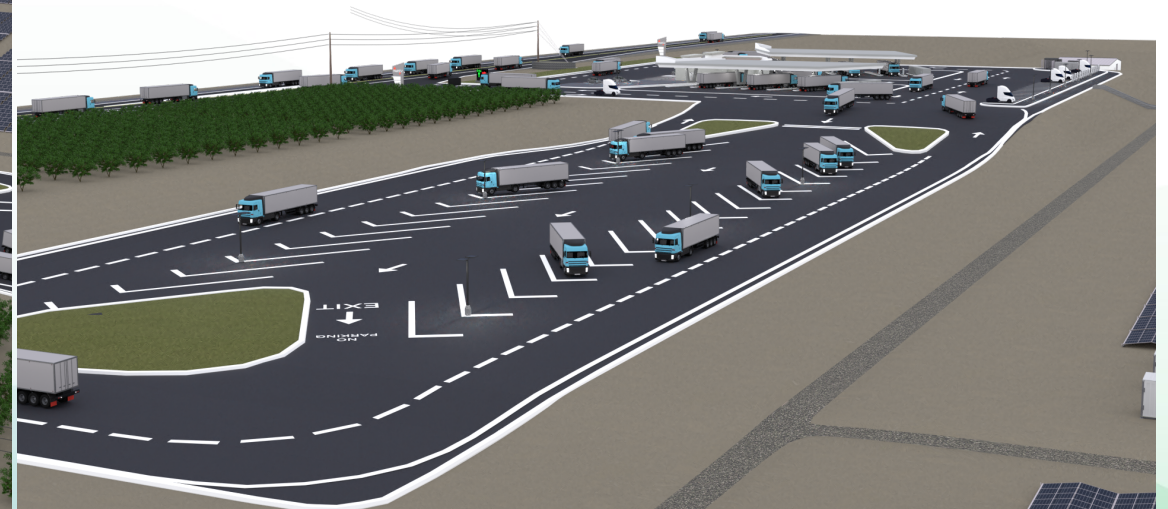
Matthew Kozuch, Air Pollution Specialist
Fuels and Transportation Division, Freight & Transit Unit



Benefits to California

Enables:

- accessible MD/HD public electric charging options
- progress converting all MD/HD vehicles to ZE
- targeted emission reductions in Bakersfield area

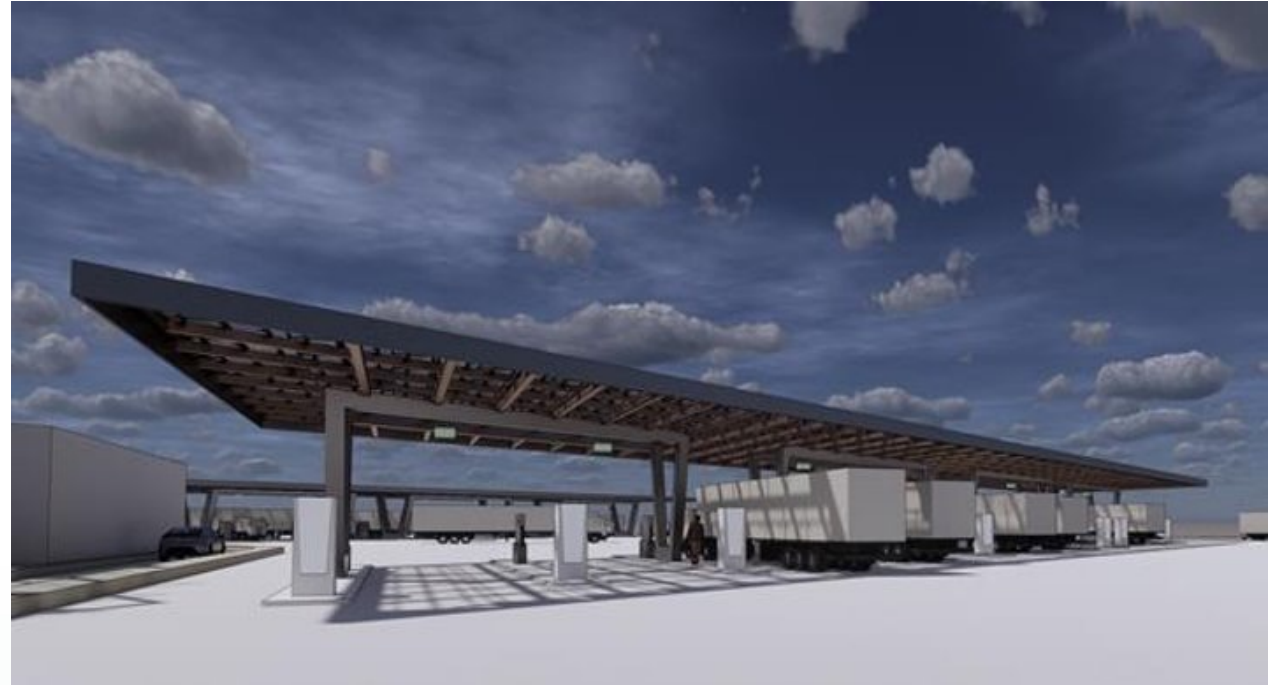




Project Overview

WattEV, Inc. will:

- develop public charging facility for MD/HD BEVs
- demonstrate business model for continued operation
- deploy at least 10 trucks making daily use of facility



WattEV

POWER ELECTRONICS

JTI
ELECTRICAL ENGINEERING SERVICES & CONTROLS
Providing innovative Engineered Solutions

CCAC
CENTRAL CALIFORNIA
ASTHMA COLLABORATIVE

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

DAIMLER

gna **CLEAN TRANSPORTATION
& ENERGY CONSULTANTS**



greenlots®



Market Potential

Public Charging Stations

Provides sustainable model for new electric truck stops

MD/HD Infrastructure

Demonstrates higher capacity charging options

MD/HD Vehicles

Establishes reliable charging for nearby fleet operators



Staff Recommendation

Approve

- Agreement for \$1,000,000 with WattEV, Inc.

Adopt

- Determination that this action is exempt from CEQA



Item 13: Evaluating Bi-Directional Energy Transfers and Distributed Energy Resource Integration for Medium- and Heavy-Duty Fleet Electrification

September 08, 2021, Business Meeting

Elise Ersoy

Electric Generation System Program Specialist
Energy Research and Development Division



Benefits to Californians

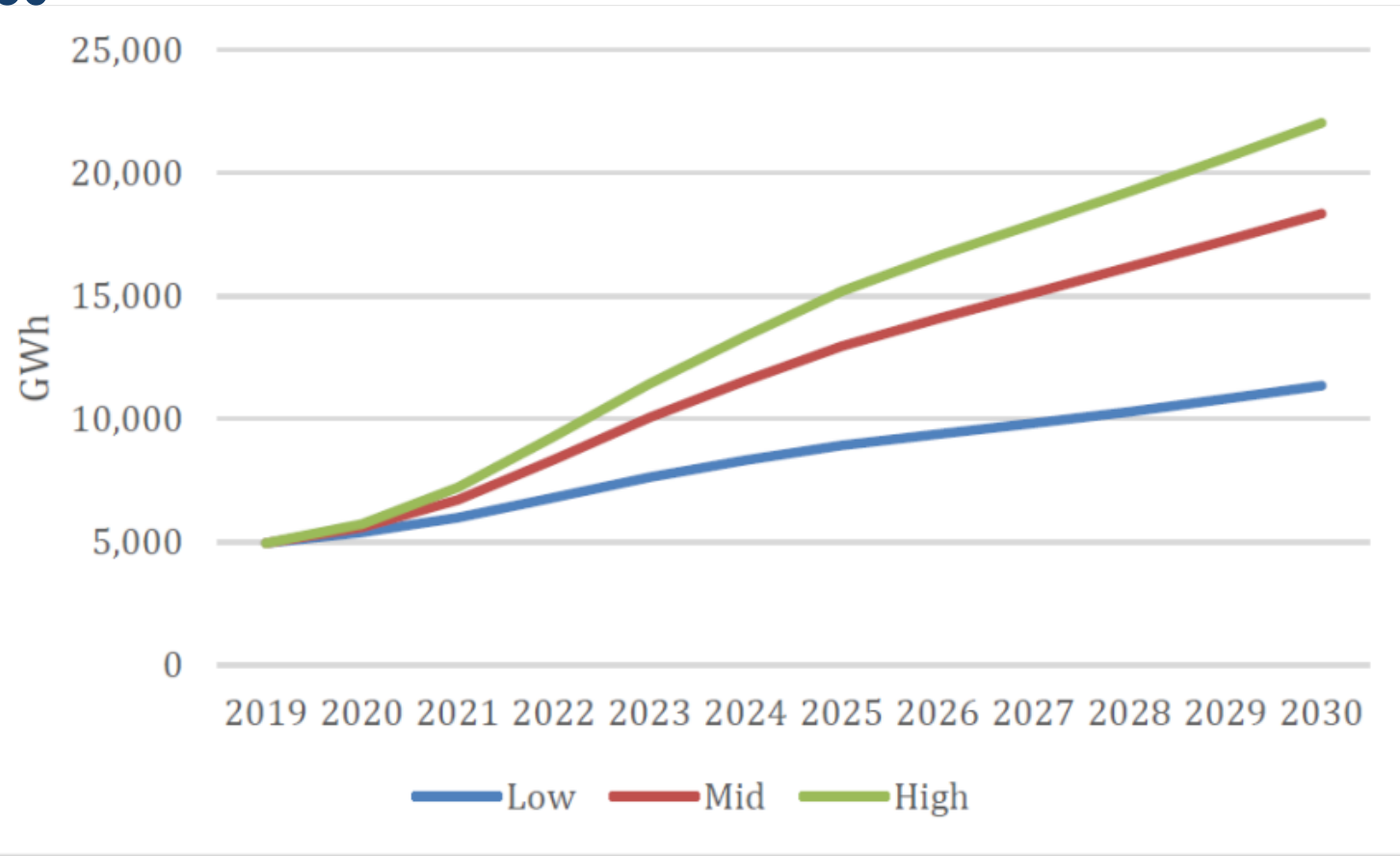
- Reduce stress on grid
- Increase use of distributed energy resources
- Reduce charging costs
- Provide site and community resilience
- Maximize emissions reductions





Purpose of Solicitation

Three Scenarios of Transportation Energy Demand Through 2030





Watt EV



WattEV

21st Century Truck Stop 1st MD/HD eTruckStop in CA





Staff Recommendation.

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

