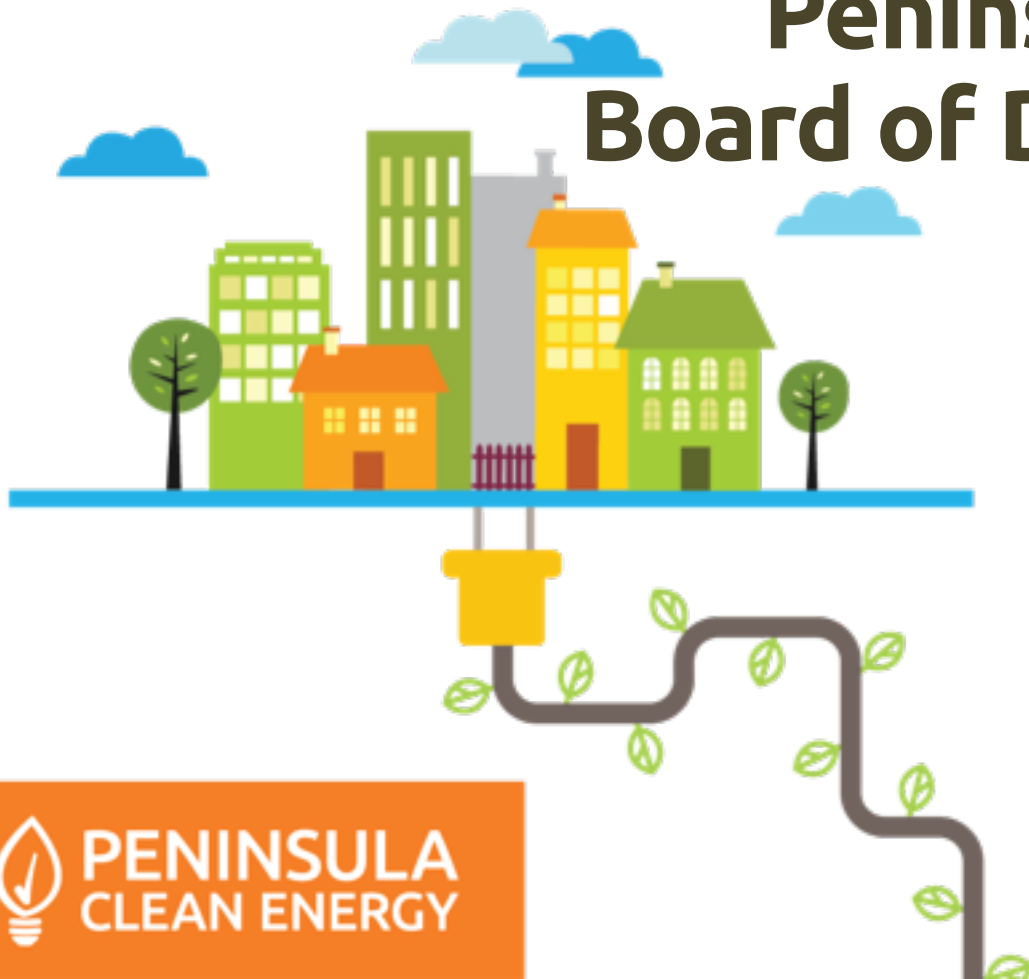


# Peninsula Clean Energy Board of Directors Meeting

July 26, 2018



**PENINSULA  
CLEAN ENERGY**

# **Agenda**

**Call to order / Roll call**

**Public Comment**

**Action to set the agenda and approve  
consent items**

# Regular Agenda

## **1. Chair Report (Discussion)**

# Regular Agenda

## **2. CEO Report (Discussion)**

# Personnel Update

- Full-time CFO:
  - Position Description completed and recruitment underway
  - Search firm: Carlson Beck
- Interim CFO:
  - Eric Hall, FLG Partners, has replaced Tina Caratan
- Energy Programs Manager:
  - Offer extended and accepted
- Community Outreach Associate/Coordinator:
  - Recruitment underway

# New County Staff Attorneys



- Jennifer Stalzer Kraske
- Matthew Sanders

# Legislative Meetings

- Assembly Member Phil Ting – July 20  
Rick Bonilla, Jan Pepper, Joe Wiedman, Charlsie Chang
- State Senator Marc Hershman (Jerry Hill's staff) – July 24  
Rick Bonilla, Rick DeGolia, Carole Groom,  
Jan Pepper, Joe Wiedman, Charlsie Chang
- State Senator Scott Wiener – July 26  
Rick Bonilla, Jan Pepper, Joe Wiedman, Charlsie Chang
- Assembly Member Marc Berman – July 30  
Rick Bonilla, Pradeep Gupta, Catherine Mahanpour, Jan Pepper,  
Joe Wiedman, Charlsie Chang
- Assembly Member Kevin Mullin – August 2  
Pradeep Gupta, Catherine Mahanpour, Jan Pepper, Charlsie Chang

# Wright Solar Ground Breaking

Save the date:

Thursday October 11



Check calendars now – who can attend?

Who else will you bring to the event?



# Audit Status

Auditors: Pisenti and Brinker

FY 2017-18 Tentative Audit Schedule	Date	Party	Status
Provide audit document list	31-May	P&B	✓
Perform preliminary audit procedures	25-Jun	P&B	✓
Communication with audit committee	20-Jul	P&B / A&FC	✓
Send bank confirmations	26-Jul	P&B/PCE	✓
Preliminary Trial Balance	15-Aug	Maher/PCE	
Draft Unaudited Financials	30-Aug	Maher/PCE	
Fieldwork	9/1-9/30	P&B	
Review Draft Unaudited Financials	11-Sep	A&FC	
Trial Balance and Financial Statements finalized	21-Sep	Maher/PCE	
Approve Draft Audited Financials	9-Oct	A&FC	
Approve Audited Financials	25-Oct	BOD	

# Regular Agenda

## **3. Citizens Advisory Committee Report (Discussion)**

# Regular Agenda

## **4. Marketing and Outreach Report (Discussion)**

# Participation Rates by City

CITY	Eligible Accts	Total	TOTAL OPT OUT %
PORTOLA VALLEY INC	1,676	100	5.97%
SAN BRUNO INC	16,424	602	3.67%
PACIFICA INC	15,429	516	3.34%
SO SAN FRANCISCO INC	24,849	821	3.30%
DALY CITY INC	33,897	1004	2.96%
EAST PALO ALTO INC	7,875	216	2.74%
HALF MOON BAY INC	4,955	135	2.72%
MILLBRAE INC	9,353	253	2.71%
UNINC SAN MATEO CO	24,541	641	2.61%
SAN MATEO INC	43,938	1038	2.36%
SAN CARLOS INC	14,472	340	2.35%
BELMONT INC	11,856	274	2.31%
HILLSBOROUGH INC	4,045	84	2.08%
BRISBANE INC	2,479	50	2.02%
REDWOOD CITY INC	34,789	690	1.98%
BURLINGAME INC	15,494	305	1.97%
FOSTER CITY INC	14,649	284	1.94%
WOODSIDE INC	2,291	38	1.66%
COLMA INC	687		1.60%
ATHERTON INC	2,690	42	1.56%
MENLO PARK INC	15,722	216	1.37%
Grand Total	302,111	7,660	2.54%

# ECO100 Opt-Ups by City

City	Active	ECO100	Opt-Up %
Atherton	2,603	54	2.07%
Belmont	11,413	150	1.31%
Brisbane	2,423	77	3.18%
Burlingame	14,929	318	2.13%
Colma	769	28	3.64%
Daly City	32,689	61	0.19%
East Palo Alto	7,585	17	0.22%
Foster City	14,078	264	1.88%
Half Moon Bay	4,744	86	1.81%
Hillsborough	3,912	61	1.56%
Menlo Park	15,239	425	2.79%
Millbrae	9,045	89	0.98%
Pacifica	14,802	121	0.82%
Portola Valley	1,578	1,467	92.97%
Redwood City	33,559	620	1.85%
San Bruno	15,660	85	0.54%
San Carlos	13,965	255	1.83%
San Mateo	42,436	580	1.37%
So San Francisco	23,877	78	0.33%
Uninc San Mateo Co	23,395	454	1.94%
Woodside	2,219	48	2.16%
Unallocated			
Unallocated (cust type)	241		
<b>Grand Total</b>	<b>291161</b>	<b>5338</b>	

# Solar Net Metering Bill Workshops

Completed 3 out of 4 scheduled workshops:

- 2 in Redwood City at PCE
- 1 in Pacifica, partnered w/ PG&E
- Next: August 1<sup>st</sup> 6:30 @ PCE

*Workshops are popular  
and fully booked!*



# Spanish Video Ad Campaign

*Goal:* Prevent opt-outs

*Main messages:*

Cleaner energy at lower rates, keep discounts

*Launched:* 6/29

*Status as of 7/23:*

- Running on major Spanish network You Tube stations (Univision, Telemundo, etc.)
- Geotargeted just to County
- 4,000 video views, mostly on phones
- Most views in SSF, San Bruno



*PCE's "You Have Great Energy" Spanish video ad features local business owner and chef Manuel Martinez in the kitchen of his Redwood City restaurant, LV Mar. He is also owner and chef at La Viga, featured in the Michelin Guide.*



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# Community Pilot RFP Launch

Press release sent to press, PCE mailing list, board, outreach partners, Thrive Network, and RICAPS

- Boosted social media impressions (approx.)
  - Twitter: 200,000 (71K organic)
  - Facebook: 6,000
  - LinkedIn: 5,000
- Application deadline is Aug
- **Share with your networks!**



*Approx 1,000 views of RFP webpage since June 21*  
*Average 4 minutes per view*

# Local Program Marketing

- Developed one sub-brand for all PCE fuel-switching programs:



- Launching Go Electric program marketing with:
  - Updated website
  - Press release about test drives at two major upcoming community events
  - PCE blog series on local EV owners boosted on social media

**Have an electric vehicle?**  
**Write about it for PCE's blog!**

# Regular Agenda

## **5. Regulatory and Legislative Report (Discussion)**

# Regulatory and Legislative Report

July 26, 2018

Joseph Wiedman  
Director of Regulatory and Legislative Affairs



# June/July Regulatory Activities



- CalCCA submitted testimony on Resource Adequacy framework reform
- Coalition comments on reforming Low-Carbon Fuel Credits Program

# June/July Legislative Activities

- CalCCA activity:
  - SB 237 (Hertzberg) – In discussions with stakeholders
  - SB 1088 (Dodd) – Oppose unless amended
  - AB 33 (Quirk) – In discussions with stakeholders
  - SB 901 (Dodd) – In discussions with stakeholders



# Regular Agenda

## **6. Local Programs Report (Discussion)**

# Programs Update & Redwood City Community Microgrid

July 2018





# PROGRAM STATUS

# Programs Status

Program	Status
<b>Community Pilots</b>  Up to \$75,000 for pilot	<b>In-Progress.</b> Solicitation released 6/21. Due 8/3.
<b>Ride &amp; Drive</b>  6 ride and drive events	<b>In-Progress.</b> Scheduling events. See next slide.
<b>Apartment Technical Assistance</b>  Electrical assessments and other assistance	<b>In-Progress.</b> Workshop held 7/10 with 25 apartment owners/managers.
<b>New Vehicle Promotion</b>  Dealer discounts for new EVs	<b>In-Progress.</b> Dealer RFP released 7/13. Due 8/3. Targeting Q4.
<b>Low-Income EV Incentive</b>  Rebate and financing for used plug-in hybrids	<b>Under development.</b> Working to integrate with state rebate and local community organization programs. Targeting Q4 launch.

# Ride and Drive Events

Event Location	City	Status	Event Date	Type
Genentech	South SF	Signed	August 9 <sup>th</sup>	Corporate
Facebook Summer Jam	Menlo Park	Confirmed	August 11 <sup>th</sup> 1-6 pm	Community (open to public)
Burlingame on the Avenue	Burlingame	Exploring	August 18 <sup>th</sup> 10am–7pm	Community (open to public)
SMC County Center	Redwood City	Confirmed	TBD: September	Mixed corporate/ community
Visa	Foster City	Confirmed	TBD: October	Corporate
TBD	Reaching out to other corporate prospects			

# Grant Opportunities

Program Area	Status
<b>Curbside &amp; Multi-Unit Dwelling Pilots</b>  3 year pilot for innovative technology for MUDs and curbside charging.	Board approved \$1M. Proposal to DOE submitted 7/13. Q4 initial steps.
<b>Resilient Solar on Critical Facilities</b>  AQMD grant to EBCE with PCE. 1 yr. scoping study to assess municipal sites.	Grant awarded, Q4 start.
<b>EV Buses for DAC Schools</b>  Collect data from RWC and Ravenswood School Districts for electric bus and charging	Consultant working with schools to submit 9/20 to the California Energy Commission

# Other: Staffing

- Program Associate (internal hire):  
Alejandra Posada
- Program Manager offer pending

# Regular Agenda

## **7. Approve Redwood City Resilience Project (Action)**

# **RWC MICROGRID (PENINSULA ADVANCED ENERGY COMMUNITIES PROPOSAL)**

# Board Request

- Authorize the commitment of **\$300,000 in funding over 6 years** for phase 2 of the Peninsula Advanced Energy Communities (PAEC) project.
- **Critical facilities solar plus storage microgrids.** Redwood City disadvantaged community areas.
- Proposal to be submitted by **Clean Coalition** to the CEC (GFO-15-312) by **August 10<sup>th</sup>**.
- Funds for excess **power purchase** and other activities. Contingent approval of the project proposal by the CEC.



# Project Goals

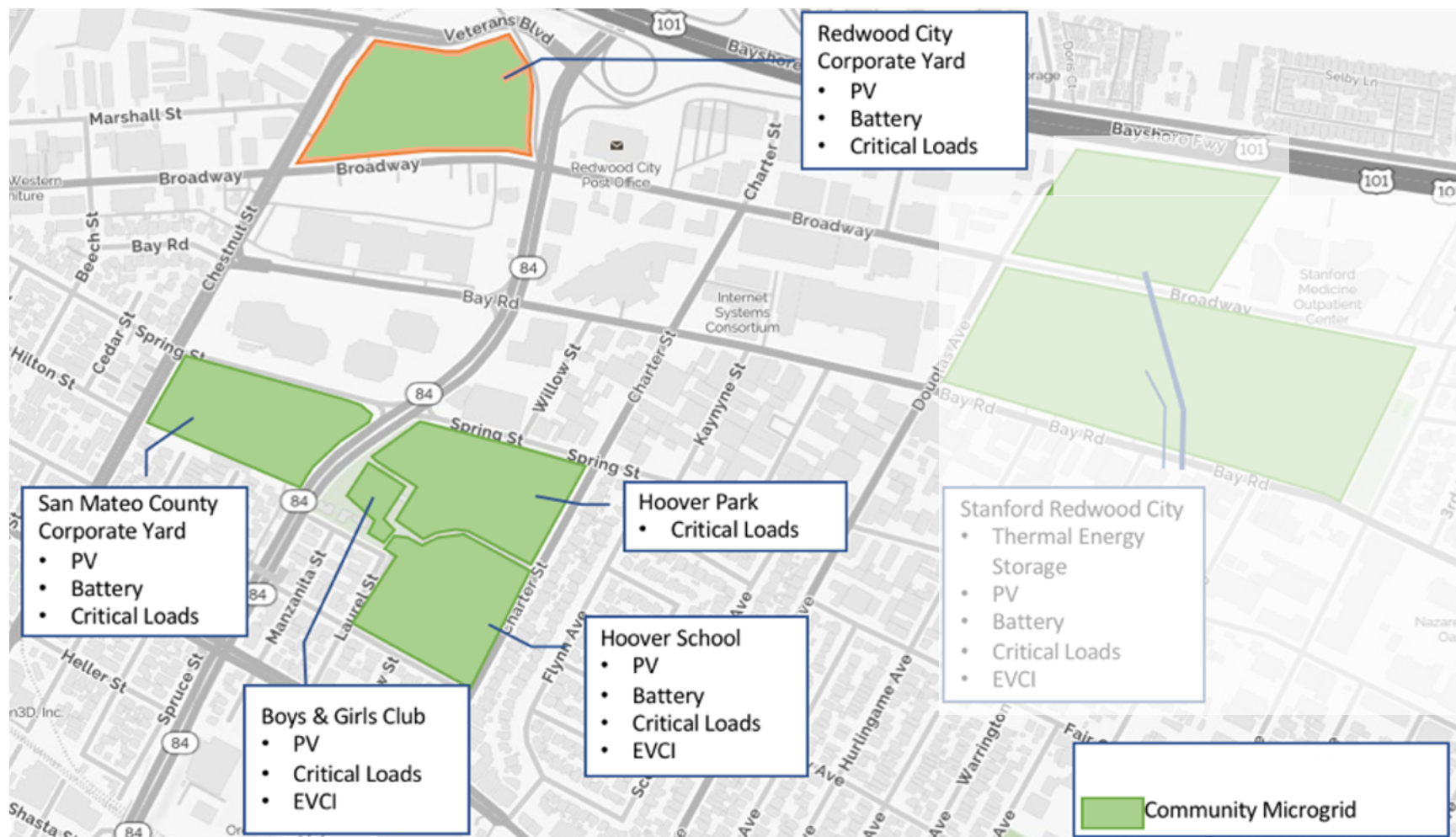
Demonstrate the deployment of an advanced energy community which includes commercially viable Community Microgrids.

Key objectives:

- Provide **community resilience**
- **Integrate solar, energy storage, and demand response**
- Provide **operational savings**
- Develop the **business case for resilience and utility-scale load shaping**
- **Eliminate the need for backup diesel generators.**

*Provides an opportunity for PCE to develop replicable models of program to support municipal critical facilities resilience systems.*

# Sites & Deployment



The portion of the project PCE is supporting will deploy 1,163 kW local solar (rooftop and carports), 750 kWh of battery energy storage and 30 new L2 EV charging ports.

# Partners

Partner	Role
Redwood City School District	Site host
Boys & Girls Club of the Peninsula	Site host
City of Redwood City	Site host
San Mateo County	Site host
Stanford University	Site host & match funds provider
Gridscape Solutions	Developer, key technology partner, financing resource & match funds provider
Peninsula Clean Energy	Local load-serving entity, off-take for local solar+energy storage that cannot be used on-site.
Pacific Gas & Electric	Local utility, key partner for finalizing interconnection and developing replicable market opportunities.
Clean Coalition	Grant prime, administrator. Technical coordinator.

# Board Request

- Authorize the commitment of **\$300,000 in funding over 6 years** for phase 2 of the Peninsula Advanced Energy Communities (PAEC) project.
- **Critical facilities solar plus storage microgrids.** Redwood City disadvantaged community areas.
- Proposal to be submitted by **Clean Coalition** to the CEC (GFO-15-312) by **August 10<sup>th</sup>**.
- Funds for excess **power purchase** and other activities. Contingent approval of the project proposal by the CEC.

# Regular Agenda

## **8. Approve CPUC IRP (Action)**

# CPUC IRP Approval

July 26, 2018



PENINSULA  
CLEAN ENERGY

# Agenda

- Recommendation
- IRP Background
- IRP Requirements
- Disadvantaged Communities Analysis
- CPUC Modeling Framework
- CPUC Modeling Constraints
- PCE's Proposed Portfolios

# Recommendation

Approve PCE's California Public Utilities Commission (CPUC) Integrated Resource Plan (IRP) in a form similar to that attached here and delegate authority to the CEO to file the IRP with the CPUC on or before the deadline. Staff may make some small changes and corrections to ensure that the requirements of the CPUC are met.



# Integrated Resource Plan (IRP) Background

- This is a different kind of document from the “strategic” IRP that PCE produced and the Board approved in December 2017.
- This CPUC IRP was mandated by SB350 and over the past two years, the CPUC has had an ongoing proceeding to develop the requirements for the IRP.
- The IRP is targeting 42 MMT GHG from the electric sector in 2030; consistent with state goal to reduce GHG emissions 40% below 1990 levels by 2030.
  - Electric sector currently represents 19% of statewide GHG.
- The main purpose of the CPUC IRP is to provide CPUC staff with the inputs from each LSE to forecast industry-wide procurement and determine whether LSEs in CA are on track to meet GHG and reliability needs for 2030.

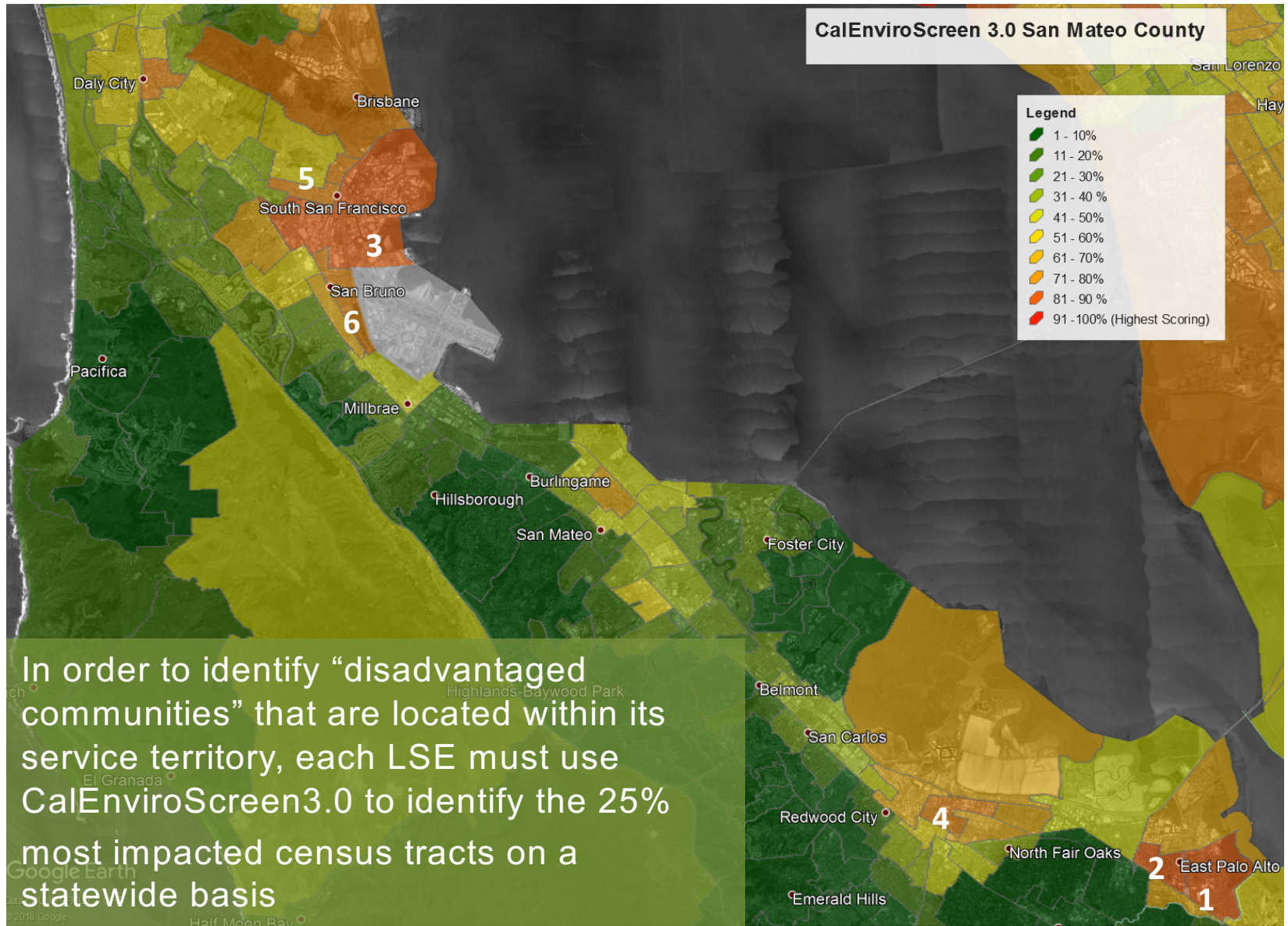
# Biannual IRP Process

- The CPUC is planning for a two-year IRP process.
- In odd-numbered years, CPUC will conduct modeling to recommend a GHG emissions target for the electricity sector and identify optimal portfolio.
- During even-numbered years, LSEs will submit IRP to the commission.
- CPUC will aggregate individual IRPs and conduct production cost modeling and a reliability assessment.

# Submission Requirements

- As part of the IRP filing, PCE will submit the following 4 files:
  1. Attachment A Standard LSE Plan – written description of IRP, including:
    - A discussion of impacts on disadvantaged communities (DACs)
    - Description of modeling process and assumptions
  2. CPUC Provided GHG Calculator
  3. Base Resource Data Template – Identifies projects under contract
  4. New Resource Data Template – Identifies what we expect to contract for over the next 12 years (2018-2030)

# CalEnviroScreen3.0 DACs in San Mateo County



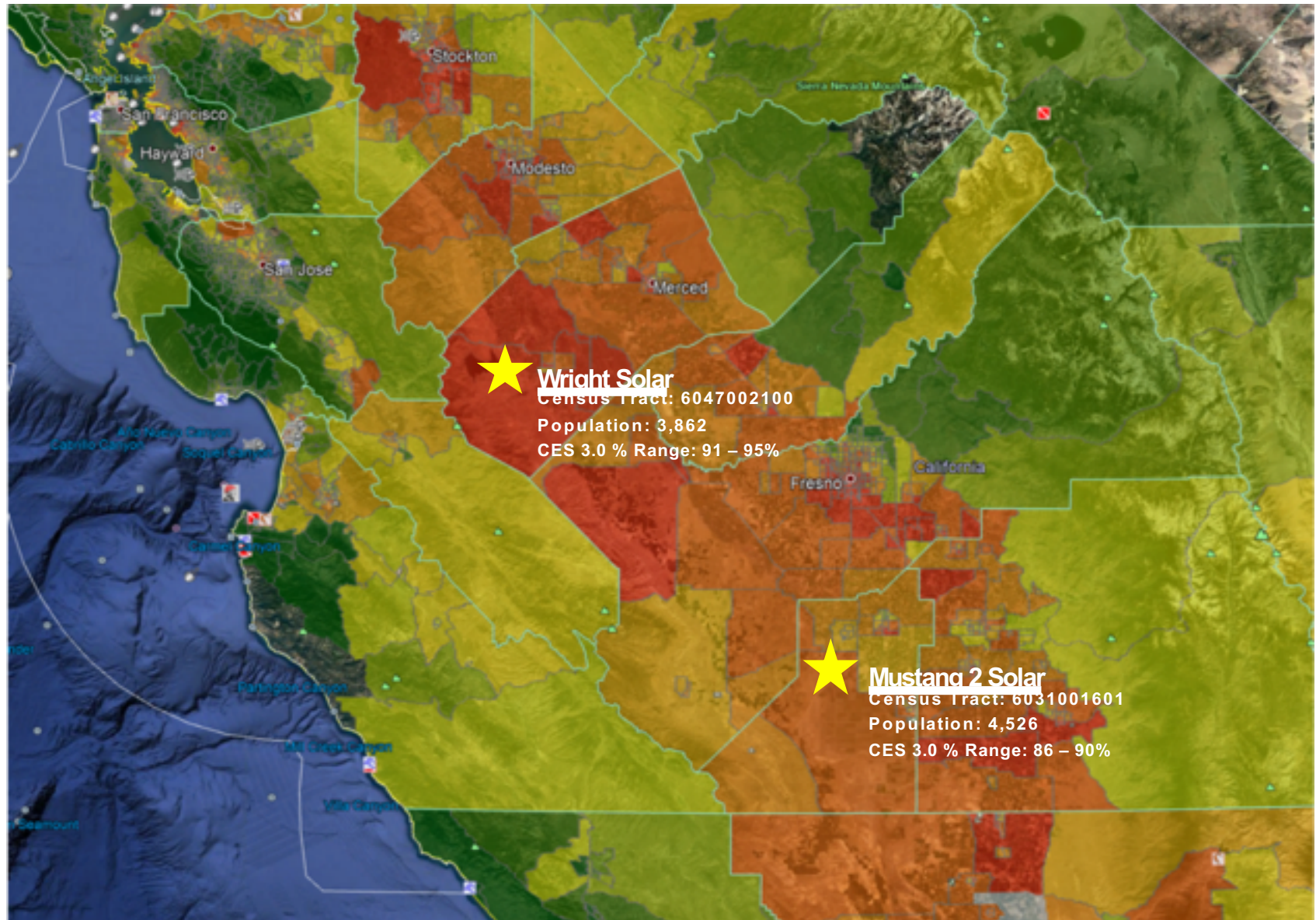
# Disadvantaged Communities in SMC

CalEnviroScreen 3.0 Results						PCE DACs		Demographics (%)					
Census Tract	CES 3.0 %	CES 3.0 % Range	City	Population	Customer Accounts <sup>1</sup>	Hispanic	White	African American	Native American	Asian	American	Other	
1 6081611900	86.85	86-90%	East Palo Alto	10,325	1,235	56.9	6.8	19.8	0.1	13.3	3.1		
2 6081612000	81.70	81-85%	East Palo Alto	7,327	710	72.8	3.2	13	0.1	9.0	2.0		
3 6081602300	80.89	81-85%	South San Francisco	3,753	1,160	45.4	19.5	1.5	0.2	30.3	3.2		
4 6081610201	80.20	81-85%	Redwood City	5,764	2,125	74.4	12.1	2.5	0.4	8.3	2.2		
5 6081602100	77.93	76-80%	South San Francisco	3,615	943	72.4	9.0	1.9	0.4	14.1	2.1		
6 6081604200	75.46	76-80%	San Bruno	4,170	888	56.9	14.9	0.9	0.5	23.1	3.7		
Total				34,954	7,061								

1. Not included in CalEnviroScreen 3.0 results, figures calculated by PCE.



# Impact Outside San Mateo County



# Modeling Requirements

- As part of the IRP filing, PCE must submit a conforming portfolio as described below.
- Conforming portfolio must
  - Make explicit use of the CPUC-approved GHG-planning price;  
OR
  - Be at or below the assigned 2030 GHG emission benchmark for the LSE, as calculated by the CPUC-provided GHG Calculator;  
AND
  - Use a specific load projection<sup>1</sup> from the CEC's 2017 Integrated Energy Policy Report (IEPR).
- PCE has chosen to submit a portfolio that is below our assigned GHG emission benchmark.
- PCE's assigned emissions benchmark is **0.636** MMTCO<sub>2</sub> in 2030.

1. The mid-AAEE version of Form 1.1c of the 2017 IEPR Mid-demand case

# How the Clean Net Short Calculator Works

- The Clean Net Short Calculator aims to calculate expected GHG emissions based on hourly load and procurement.
- PCE subtracts its contracted (either current or planned) GHG-free generation (like renewables) from the projected hourly electricity demand (our load).
- PCE will subtract the discharging pattern (and add the charging pattern) of any storage resources contracted to PCE from the hourly profile derived in the previous step. The result is the “clean net short” (CNS) in each hour.
- The CNS will then be multiplied by the system GHG emissions intensity on an hourly basis.
  - This yields PCE’s total emissions associated with using unspecified system power for every hour of 2030.

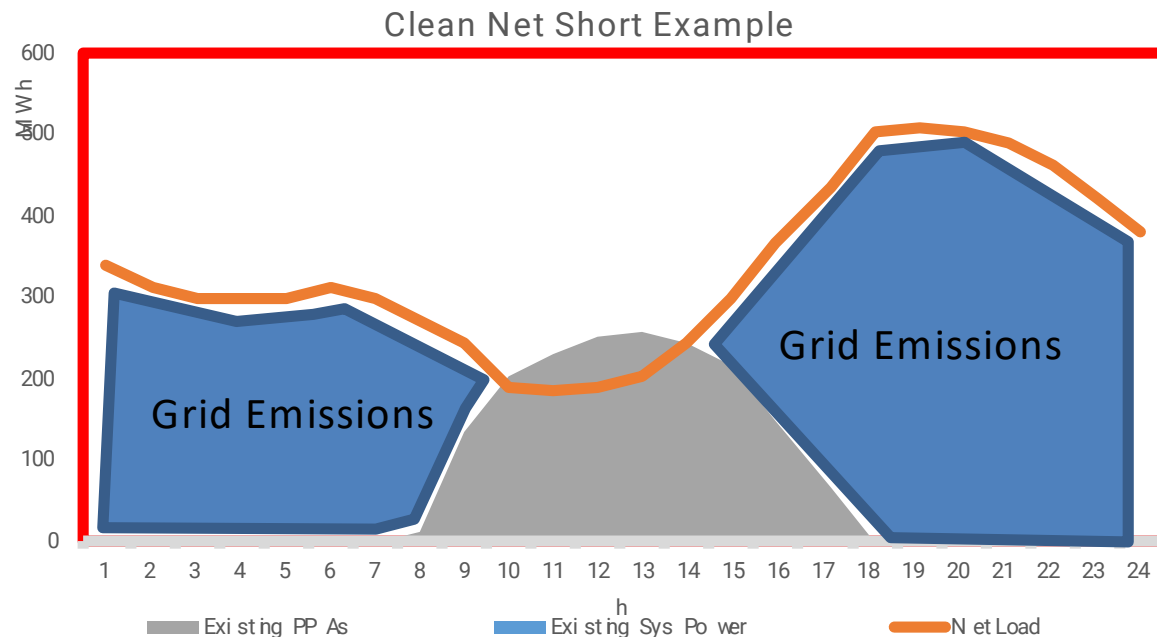


# How the Clean Net Short Calculator Works

For every hour, the following calculation happens:

$$\text{Assigned Emissions} = \text{Grid Emissions Factor} \times (\text{Load} - \text{Renewable Generation})$$

It is then summed to give a total annual emissions factor



# Portfolio Modeling Objectives

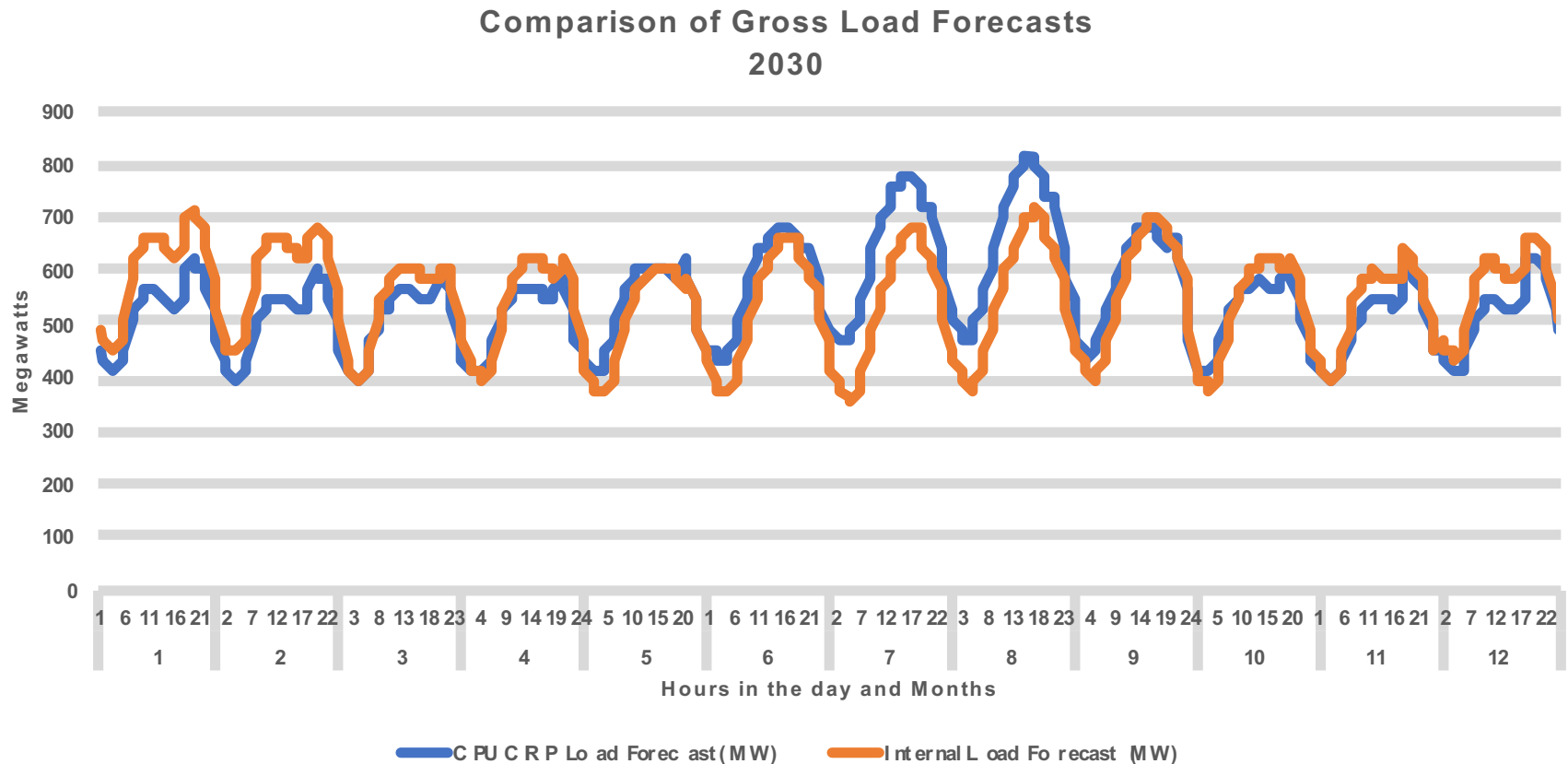
- In addition to meeting the requirements of the CPUC filing, PCE is targeting internal objectives and IRP-strategies:
  - 100% renewable by 2025
  - Matching generation to load on an hourly basis
  - 50% new resources
  - 50% long-term contracts

# Modeling Constraints

- The CPUC requires that LSEs use certain specific assumptions in their Conforming Portfolio, including the following:
  - Load shape;
  - Energy production profiles;
  - BTM PV, EE, and EV charging profiles;
  - Battery storage dispatch profiles; and
  - Biomass/Geothermal/Hydro dispatch profiles.
- Due to these fixed constraints, arriving at a 0 MMTCO<sub>2</sub> emissions portfolio (load-following generation) for the IRP filing is difficult.
- We have created a conforming portfolio meeting the CPUC requirements and PCE's requirements as closely as possible while minimizing the 2030 GHG benchmark.

# Modeling Constraints: Load

The default load shape projections in the CPUC GHG calculator is an average for all of California. PCE's internal forecast differs, especially in summer months.



# Proposed Conforming Portfolio – Draft

Conforming Portfolio	2018	2022	2026	2030
Assigned Load Forecast (GWh)	3,804	3,710	3,641	3,579
Annual Emissions Estimated by GHG Calculator (MMT)	0.354	0.002	(0.023) <sup>1</sup>	0.001

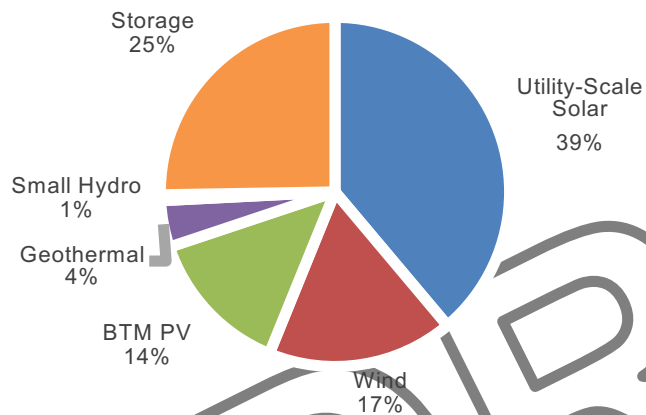
1. Note: PCE is a net exporter to the grid, therefore calculating a negative emissions factor

# Proposed Conforming Portfolio –Draft

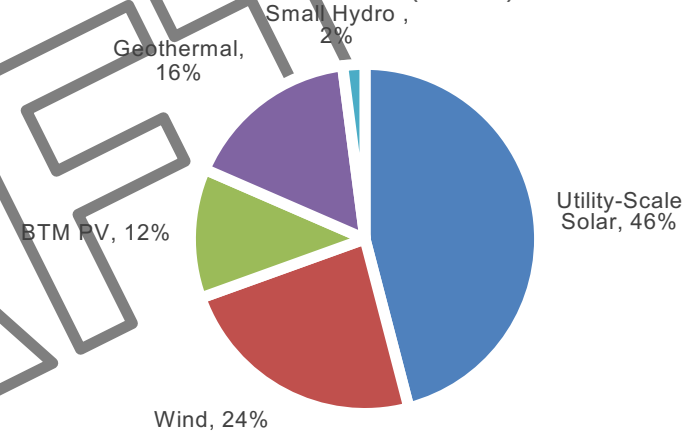
Resource	Total MW	% of Total Capacity	MWh	% of Total MWh
Utility Scale Solar	900	39%	2,450,548	48%
Storage	585	25%	(232,613)	-5%
Wind	400	17%	1,256,155	25%
Geothermal	100	4%	876,000	17%
BTM Solar	318	14%	640,177	13%
Small Hydro	12.5	1%	109,500	2%
<b>TOTAL</b>	<b>2316</b>		<b>5,099,767</b>	

# Proposed Conforming Portfolio –Draft

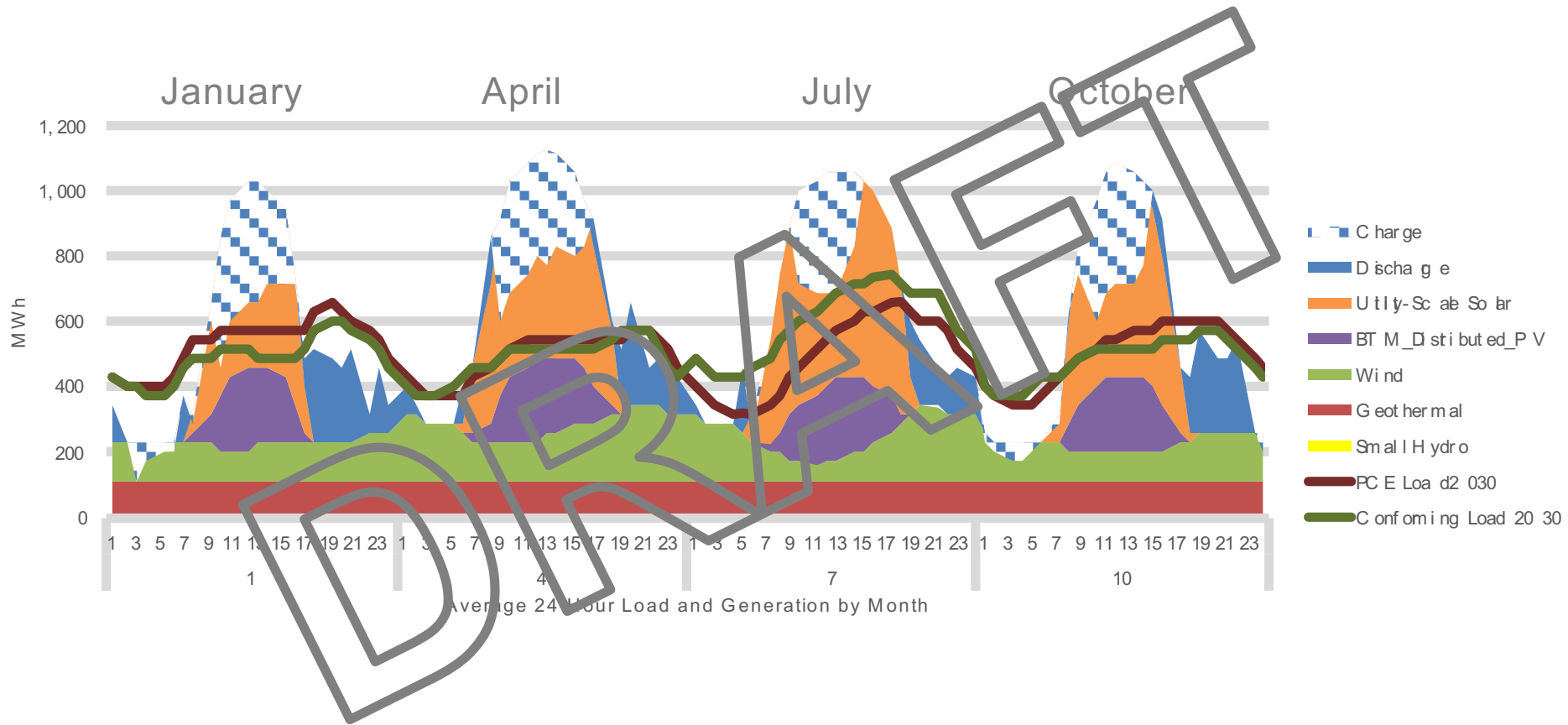
Proposed Conforming Portfolio by MW Capacity



Proposed Conforming Portfolio by Generation (GWh)



# Proposed Conforming Portfolio –Draft





# Recommendation

Approve PCE's California Public Utilities Commission (CPUC) Integrated Resource Plan (IRP) in a form similar to that attached here and delegate authority to the CEO to file the IRP with the CPUC on or before the deadline. Staff may make some small changes and corrections to ensure that the requirements of the CPUC are met.

# Appendix

# Appendix: CPUC EV Charging, Energy Efficiency, Building Electrification

- CNS calculator includes other factors that affect PCE's GHG emissions
  - EV Charging
  - Energy Efficiency
  - Building Electrification
- These are fixed constraints within the calculator that are the same for all LSE's, including PCE
- Forecasts for EV penetration, advancement in energy efficiency, and building electrification are also fixed

# Modeling Constraints: Storage Dispatch in 2030

Months

Hours in Day

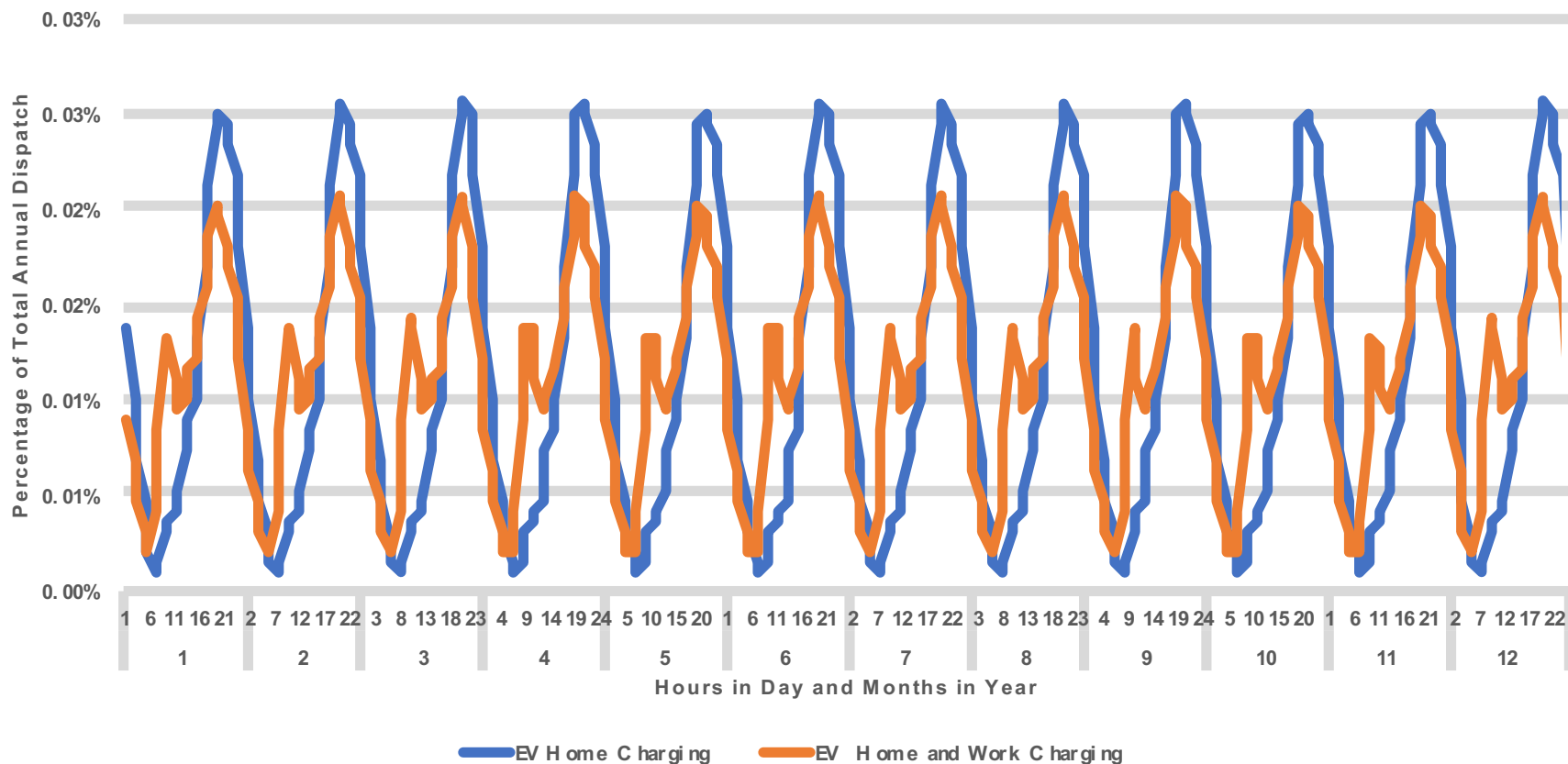
2030	1	2	3	4	5	6	7	8	9	10	11	12
1	19%	-3%	3%	16%	18%	10%	4%	19%	9%	-1%	5%	1%
2	-1%	-5%	-2%	6%	1%	5%	0%	0%	1%	-6%	-2%	0%
3	-22%	-8%	-1%	0%	6%	3%	0%	-1%	-4%	-12%	1%	11%
4	-11%	-14%	-1%	0%	4%	4%	0%	1%	0%	-13%	0%	-7%
5	-5%	-12%	-3%	3%	-9%	8%	31%	-12%	-18%	-5%	14%	0%
6	-8%	0%	22%	22%	-9%	4%	-13%	-15%	-20%	-3%	-10%	-16%
7	23%	21%	9%	-1%	0%	3%	0%	-1%	-3%	-3%	20%	42%
8	-5%	0%	11%	25%	-2%	44%	0%	7%	-3%	1%	-6%	-20%
9	-9%	53%	-21%	-50%	-17%	-57%	-1%	-42%	-30%	-11%	-11%	18%
10	-65%	-72%	-45%	-53%	-54%	-49%	-44%	-60%	-61%	-60%	-28%	-71%
11	-61%	-61%	-47%	-55%	-58%	-51%	-60%	-60%	-60%	-60%	-34%	-60%
12	-63%	-66%	-57%	-54%	-59%	-53%	-60%	-61%	-56%	-63%	-61%	-60%
13	-61%	-61%	-61%	-58%	-54%	-57%	-60%	-42%	-52%	-60%	-64%	-62%
14	-48%	-60%	-39%	-45%	-31%	-41%	-39%	-16%	-10%	-42%	-55%	-60%
15	-38%	-48%	-24%	-42%	-13%	-41%	0%	-6%	-5%	7%	-48%	-52%
16	-5%	8%	-3%	-26%	-7%	-25%	1%	1%	0%	19%	4%	9%
17	15%	6%	2%	16%	-5%	20%	-3%	3%	-1%	0%	2%	55%
18	49%	28%	16%	6%	3%	-4%	0%	0%	0%	32%	11%	34%
19	42%	55%	35%	28%	34%	16%	28%	13%	51%	54%	69%	75%
20	36%	74%	24%	54%	22%	28%	37%	61%	45%	37%	17%	20%
21	46%	20%	40%	21%	43%	19%	20%	50%	35%	39%	48%	20%
22	10%	20%	17%	25%	14%	23%	17%	24%	53%	50%	17%	7%
23	36%	8%	17%	19%	49%	16%	23%	17%	21%	2%	9%	0%
24	17%	4%	5%	17%	11%	54%	20%	17%	8%	-8%	0%	0%

Charging from Grid

Discharging to Grid

# Appendix: EV

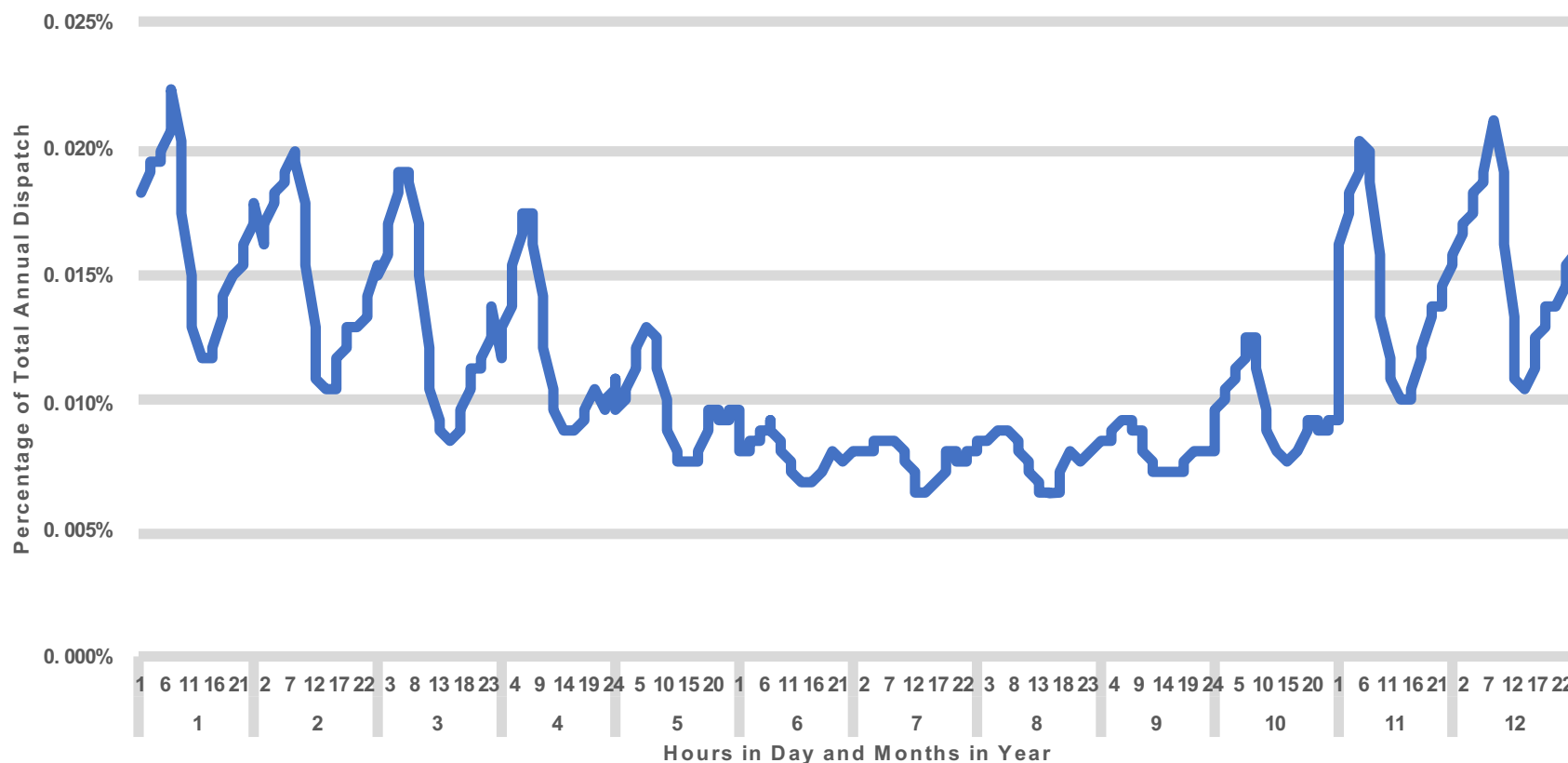
CPUC Electric Vehicle Charging Profile



This profile was provided by the CPUC GHG calculator. The primary source for the inputs is the CEC's 2017 Integrated Energy Policy Report.

## Appendix: Building Electrification

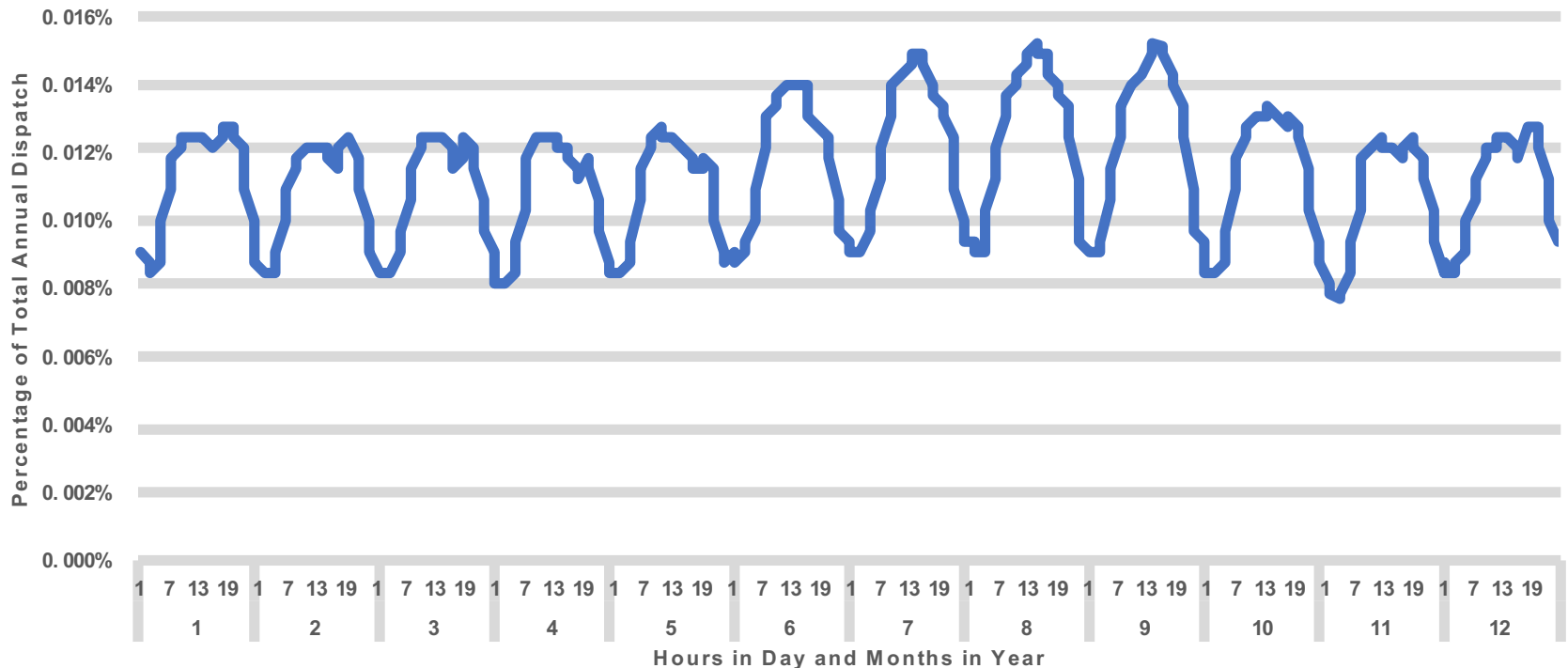
## CPUC Building Electrification Profile



This profile was provided by the CPUC GHG calculator. The primary source for the inputs is the CEC's 2017 Integrated Energy Policy Report.

# Appendix: Energy Efficiency

CPUC Energy Efficiency Profile



This profile was provided by the CPUC GHG calculator. The primary source for the inputs is the CEC's 2017 Integrated Energy Policy Report.

# **Regular Agenda**

## **9. Approval of Employment Contract Amendment and Compensation Adjustment for Chief Executive Officer (Action)**



# Regular Agenda

## **10. Board Members' Reports (Discussion)**

# Regular Agenda

**Adjourn**