Peninsula Clean Energy Executive Committee Meeting

October 13, 2020



Agenda

- Call to order / Roll Call
- Public Comment
- Action to set the agenda and approve consent items



Regular Agenda

1. Chair Report (Discussion)





2. CEO Report (Discussion)



Rate Projections for 2021

- PCIA Increase
 - PUBA Trigger
 - The "trigger" of the cap-and-trigger decision
 - PG&E zero out of 2020 PUBA balance across 12 months of 2021
 - Cap
 - 0.5 cents/kWh
 - Increase of 38-39% across all each customer class
- PG&E Generation Rates
 - 8.1% decrease



Rate Projections for 2021 (\$/kWh)

	Present	Present	Current PCE
Customer Class	Gen Rates	PCIA Rates	rate
Residential	0.1175	0.0334	0.0783
Small Commercial	0.1137	0.0320	0.0760
Medium Commercial	0.1209	0.0345	0.0804
Large Commercial (E-19)	0.1114	0.0316	0.0743
Streetlight	0.0936	0.0266	0.0623
Standby	0.0847	0.0241	0.0564
Agriculture	0.1052	0.0299	0.0701
E-20 T	0.0957	0.0271	0.0638
E-20 P	0.1025	0.0292	0.0681
E-20 S	0.1079	0.0304	0.0721
Total System	0.1118	0.0318	0.0745

	August Supp	August Supp	Projected
Customer Class	Gen Rates	PCIA Rates	PCE rate
Residential	0.1080	0.0461	0.0565
Small Commercial	0.1045	0.0446	0.0547
Medium Commercial	0.1112	0.0475	0.0581
Large Commercial (E-19)	0.1024	0.0437	0.0536
Streetlight	0.0861	0.0367	0.0450
Standby	0.0779	0.0333	0.0408
Agriculture	0.0967	0.0413	0.0506
E-20 T	0.0879	0.0375	0.0460
E-20 P	0.0942	0.0402	0.0493
E-20 S	0.0992	0.0423	0.0520
Total System	0.1028	0.0439	0.05377

Reduction of \$0.0207 per kWh

- Does not include FFS reduction
- PCIA ~ 43% of PG&E bundled generation rate



Root Cause Analysis of August 14-15: Extreme Heat Storm

Figure ES.1: August Temperatures 1985 - 2020 California ISO Daily Average Composite Temperature (°F) Day of August

(Source: CEC Weather Data/CEC Analysis)



Root Cause Analysis of August 14-15: Demand Peak and Net Demand Peak



Figure ES.2: Demand and Net Demand for August 14 and 15

On August 14 the Stage 3 Emergency was declared at 6:38 pm, right before the net demand peak at 6:51 pm. Similarly, on August 15 the Stage 3 Emergency was called at 6:28 pm, just after the net demand peak at 6:26 pm.



Regular Agenda

3. Super JPA – Long-Duration Energy Storage (Discussion)



Long Duration Storage Procurement Efforts and Formation of a Super Joint Powers Agency

PCE Executive Committee Discussion October 13, 2020



Purpose

- Overview of Super Joint Powers Agency
 - Potential Members
 - Benefits and Risks
 - Super JPA Structure
 - JPA Agreement Schedule
- Long-Duration Energy Storage Goals and Procurement
- Timeline
 - Super JPA
 - LDES Procurement



Business Need for Long-Duration Energy Storage (LDES) & Joint Procurement Super-JPA

Long Duration Energy Storage

- California Climate Goals require a clean electric grid & large-scale procurement of renewable power
- Keeping the lights on with high penetrations of renewable power requires energy storage
- CPUC has IRP requirements for Long Duration Energy Storage (LDES)
- Bills in 2020 session have included LDES
- Rolling blackouts result in more interest in storage
- To meet our PCE goal of 100% renewable on a 24/7 basis, we will likely need LDES

Joint Procurement Super JPA

- CCAs are proactive in purchasing cleaner power and are also focused on affordability & reliability
- LDES investments may be too large for any one CCA to successfully complete
- LDES is technically complex and has associated financial risk
- Joint procurement de-risks technology and financial risk



9 CCA's are taking steps to form a joint procurement Super-JPA













Super JPA Highlights

Objective: Develop a cost-effective, risk-minimized, CCA-controlled structure to develop or acquire necessary resources exceeding the procurement needs of a single CCA.

Structure: Joint Powers Authority composed of CCAs; Enabling Agreement with Opt-in Project Participation

Target Projects: Stand-alone storage and renewable resources exceeding individual CCA demand

• Long Duration Energy Storage – first project

JPA Timeline: Form JPA by end of 2020 and not later than early 2021



Super JPA - Joint Procurement Benefits

- Economies of Scale
- Enhanced Negotiating Power
- Shared Risk execution, development and performance
- Potential for Shared Financing prepay/bonds
- Strategic value in demonstrating CCA self-procurement, reliability contributions (if successful)



Super-JPA - Joint Procurement Risks

- Joint Procurement allows for sharing of risk but does not eliminate underlying risk
 - Project Development and Performance Risk
 - Regulatory, Policy and Market Risk
 - Potential for establishment and/or expansion of centralized procurement entity or mandated procurement
- Sharing risk with other members may increase risk for individual members due to step-up and/or other contract provisions



Proposed Super JPA Structure

- Enabling Agreement allows for CCAs to potentially participate in projects – *no obligation*
- Super JPA intended to be the direct party to any contract with storage or project developers
 - We will learn details on this as we go through the solicitation process
 - CCAs that chose to participate will sign Project Participation Agreement(s) with Super JPA

First Joint Procurement Project Target: Long Duration Storage Agreement by September 2021



Super JPA Agreement Schedule

- First Draft of JPA Enabling Agreement circulated to potential JPA member attorneys in late September
- Collaborative revisions are ongoing
- Draft JPA Agreement is scheduled for completion by the end of October 2020
- Potential Members are targeting November-December timeframe for individual governing body consideration and approval
 - Some potential JPA members may take a bit longer for local approval processes



Long Duration Energy Storage ("LDES")

- LDES are energy storage technologies with 8-hour minimum discharge duration
- Technologies lithium ion, chemical flow batteries, gravity, pumped hydro, compressed air, etc.
- Can be grid-charged not renewable
- Used to integrate renewables onto the grid and support reliability

CPUC's Integrated Resource Plan (IRP) - LDES needed to meet GHG reduction goals



LDES Procurement Goals

- Target up to 500 MW of LDS from one or more projects with on-line date no later than 2026
 - Notional value \$2 billion
- Assess Project Viability, Uncertainty & Risk
- LDS should not be procured for compliance alone must have market and/or strategic value and be <u>cost-effective</u>
 - Cost, Energy value, Resource Adequacy, Ancillary Services



LDES Procurement Efforts

- June 2020
 - Multi-CCA Request for Information (RFI)
 - 13 CCAs Participated
 - Over 58 Projects submitted
- Sep-Oct 2020
 - Stakeholder Outreach CPUC, CAISO & Legislature
- October 2020
 - Multi-CCA (8) Request for Offers/Proposal



Super JPA & LDES Procurement Timeline

June 2020 Initiate Super JPA Formation Agreement

October 2020

Finalize Super JPA Agreement Issue LDES RFO Dec to February 2021 CCA Super JPA Board Approvals Evaluate RFO Proposals March to September 2021 Negotiate/Execute LDES Project(s) CCA Board Approvals for

Project Participation Agreement



Super JPA & LDES Procurement Timeline

	2020)			2021	1										
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Long-Duration Energy Storage (LDES) RFO & Transaction																
a. RFI (done)																
b. RFO																
c. Shortlist Projects																
d. Negotiate LDES & Participation Agreements														←		
2. Super JPA Enabling Agreement & Project Principles												Th				
a. Develop Enabling-Agreement Super JPA document					identical and merge REQ and SuperIPA		s are Ierge IPA	the								
c. Obtain individual member approvals of SuperJPA					tracks											
d. Hire lead negotiator and associated support																
d. Negotiate LDES & Participation Agreements														-		



Regular Agenda

4. Discuss Existing Building Code Development Support (Discussion)



Existing Buildings Codes

Executive Committee October 13, 2020

PENINSULA © CLEAN ENERGY

Agenda

- 1. Programs Portfolio
- 2. Building Programs Status
- 3. Natural Gas Emissions
- 4. Replacement in Existing Buildings for 2045
- 5. Menlo Park 2030 Plan
- 6. Potential Support and Benefits

Programs Portfolio



Building Programs Status

New Construction

- Reach Codes: adopted 7 of 21 agencies
- Projected End 2020: 8-10
- Projected End 2021: 15+
- 2022 New Code Cycle

Existing Construction

- Heat Pump Water Heater Incentive
- Low Income Home Upgrade

Natural Gas Emissions Breakdown in SMC



CLEAN ENERGY 29

2045 Replacement Example: Single Family Water Heaters

Water Heaters in Single Family

- Approximately 160,000
- Conversion to electric by 2045

Conversion Assumptions

- 5% in year 1 (592)
- Yearly increase required;
 2021 2025 = 10%
 2026 2035 = 15%
 2036 onwards = 18%

Trajectory

• Current program 1,800/4 yrs



PENINSULA CLEAN ENERGY 30

Menlo Park Climate Action Plan

- Adopted Climate Action Plan for 2030 decarbonization
- Includes
 - Existing building decarbonization code
 - Existing building EV infrastructure code
- Code Development
 - Technical and legal assessment, stakeholder engagement
 - Specific approach is TBD
 - Target adoption Q4 2021
- Projected expense \$360,000 for building codes

Request & Benefits

- PCE Committed Support: Modest technical assistance
- Request: Additional PCE support
- Benefits
 - Menlo Park's New Construction Code became a statewide model
 - The existing construction codes could also be a model
 - Timing coincides with 2022 code cycle

Backup slides

PENINSULA Q CLEAN ENERGY

High-Level Roadmap: Buildings



PENINSULA © CLEAN ENERGY 34

Residential natural gas appliances



PENINSULA Q CLEAN ENERGY 35

Water Heating Retrofit Costs

Vintage	Heat pump	Gas
1990s	\$4,662 - \$4,952	\$2,598
Pre 1978	\$4,662	\$2,598

- Typical appliance life: 8-12 years
- Current available incentive: \$1,000 through BayREN Home+
- Prospective incentive: ~\$2,000 (\$1,000 from PCE, \$1,000 from Home+)
 - Additional PCE incentive: \$1,500 for panel upgrade

Source: E3 2019 Study "Residential Building Electrification in California"

PENINSULA © CLEAN ENERGY 36

Space Heating Retrofit Costs

Vintage	Heat pump*	Gas*** Without AC install	Gas With AC install
1990s	\$16,772 - \$17,985	\$15,000	\$18,468
Pre 1978	\$20,056 - \$23,376**	\$22,000	\$25,331

- Typical appliance life: 15-20 years
- Current available incentive: \$1,000 through BayREN Home+
- * Assumes no existing AC in the home
- ** Assumes panel upgrade required (~\$2.5k)
- *** Estimated AC cost (~\$3.5k)

Source: E3 2019 Study "Residential Building Electrification in California"

PENINSULA Q CLEAN ENERGY 37

Existing Building Program Budget

4-Year program for \$6.1 M, includes:

- 1. Incentives = \$2.8 M (47%)
 - Incentives for appliances and service panels
- **2.** Low Income = **\$2** M (33%)
 - Turnkey program building on Healthy Homes concept + electrification
- **3.** Other components = \$1.3 M (21%)
 - Includes workforce development, load shaping, innovation pilots, electrification potential study and administration

Regular Agenda

5. Discuss Peninsula Clean Energy Holidays (Discussion)



PCE Holidays Executive Committee October 13, 2020

PENINSULA © CLEAN ENERGY

Current PCE Holidays

Current Standard Holidays

- 1. New Year's Day Jan 1 (observed on nearest weekday)
- 2. Martin Luther King Jr. Day
- 3. Presidents' Day
- 4. Memorial Day
- 5. Independence Day July 4 (observed on nearest weekday)
- 6. Labor Day
- 7. Columbus Day
- 8. Veteran's Day Nov 11 (observed on nearest weekday)
- 9. Thanksgiving Day
- 10. Day after Thanksgiving
- 11. Christmas Day Dec 25 (observed on nearest weekday)
- Floating Holidays award based on start date
 - 1. If employed on January 1, awarded 4 for the year
 - 2. If hire date is April 1 June 30, awarded 3 for the year
 - 3. If hire date is July 1 September 30, awarded 2 for the year
 - 4. If hire date is after October 1, awarded 1 for the year

PENINSULA Q CLEAN ENERGY 41

Public Agencies Researched

- Federal Government
- State of California
- San Mateo County
- Merced County
- 20 Cities/Towns of San Mateo County

Note: Holidays were pulled from city's publicly available calendars online if available. Not all data was available or consistently located.

PENINSULA Q CLEAN ENERGY 42

Public Agencies Offer Different Holidays

- Most agencies offer 11 holidays
 - All of them offer the same 10 holidays
 - A couple offer 12 and a couple offer 10
- Columbus Day (2nd Monday in October)
 - One of PCE's Holidays
 - Not consistently offered by public agencies (only 5 cities in San Mateo County)
 - Federal and Bank Holiday
 - Has been renamed to Indigenous People's Day by some agencies that have maintained it
- Other Holidays that are inconsistent
 - Cesar Chavez Birthday March 31 (observed on nearest weekday)
 - Christmas Eve
 - Week between Christmas and New Year's Day

Public Agencies Offer Different Holidays

	Cesar Chavez	<u>Columbus Day</u>	<u>Christmas Eve</u>	<u>Xmas Week</u>
Peninsula Clean Energy		Yes		
Federal Government		Yes		
State of California	Yes			
San Mateo County		Yes*		
Merced County				
5 Cities in San Mateo County		Yes*		
8 Cities in San Mateo County			Yes**	
3 Cities in San Mateo County				Yes
1 City in San Mateo County	Yes			
* Some agencies have renamed this	to Indigenous People's Day			
** 5 are all day and 3 are afternoon	only			

Columbus Day Options for PCE

- 1. Keep Columbus Day as is
- 2. Keep holiday as is, but rename to Indigenous People's Day
- 3. Replace Columbus Day with Cesar Chavez Birthday
- 4. Replace Columbus Day with Floating Holiday

Regular Agenda

6. Committee Members' Reports (Discussion)



Regular Agenda

Adjourn

