



# **Peninsula Clean Energy Board of Directors Meeting**

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November 19, 2020

# Agenda

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

# Regular Agenda

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## 1. Chair Report (Discussion)

# Regular Agenda

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## 2. CEO Report (Discussion)



# Today's Updates

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- Staffing Updates
- Welcome to new Board Member
- Thank you to Departing Board Members
- COVID-19 Update
  - Load Impact Analysis
- PCIA Update
- Power On Peninsula Update
- Reach Codes Update
- Upcoming PCE Meetings

# Staffing Updates

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- Welcome to Kim Le, Senior Manager Data and Technology, who joined us on November 16!



# Welcome to New Board Member

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- Welcome new Board Member, Los Banos Mayor Mike Villalta, and Alternate, Los Banos City Manager Alex Terrazas!



# Thank you to Departing Board Members

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- Catherine Mahanpour – Foster City
- Catherine Carlton – Menlo Park
- Wayne Lee – Millbrae
- Ian Bain – Redwood City
- Daniel Yost – Woodside



# COVID-19 Load Impact Analysis

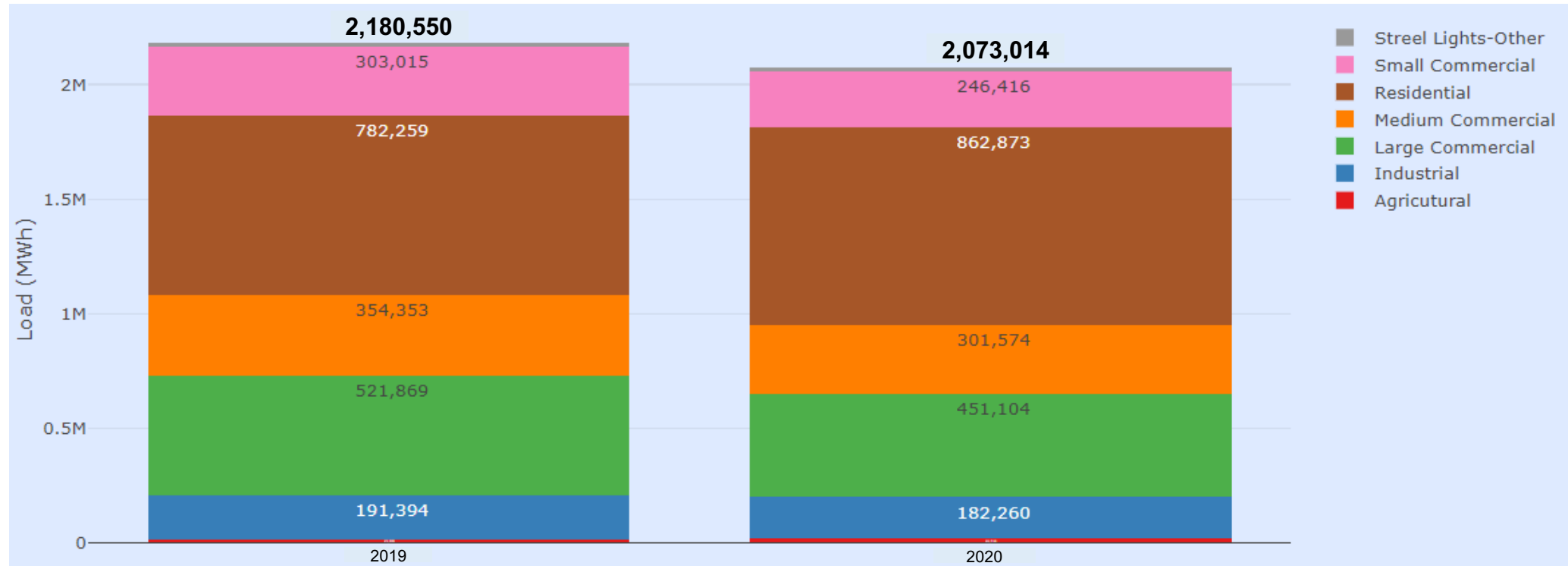
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- Overall PCE load
- Monthly Load Changes
- Load Changes and Shapes by Customer Type

Thank you to the power resources team for this analysis!

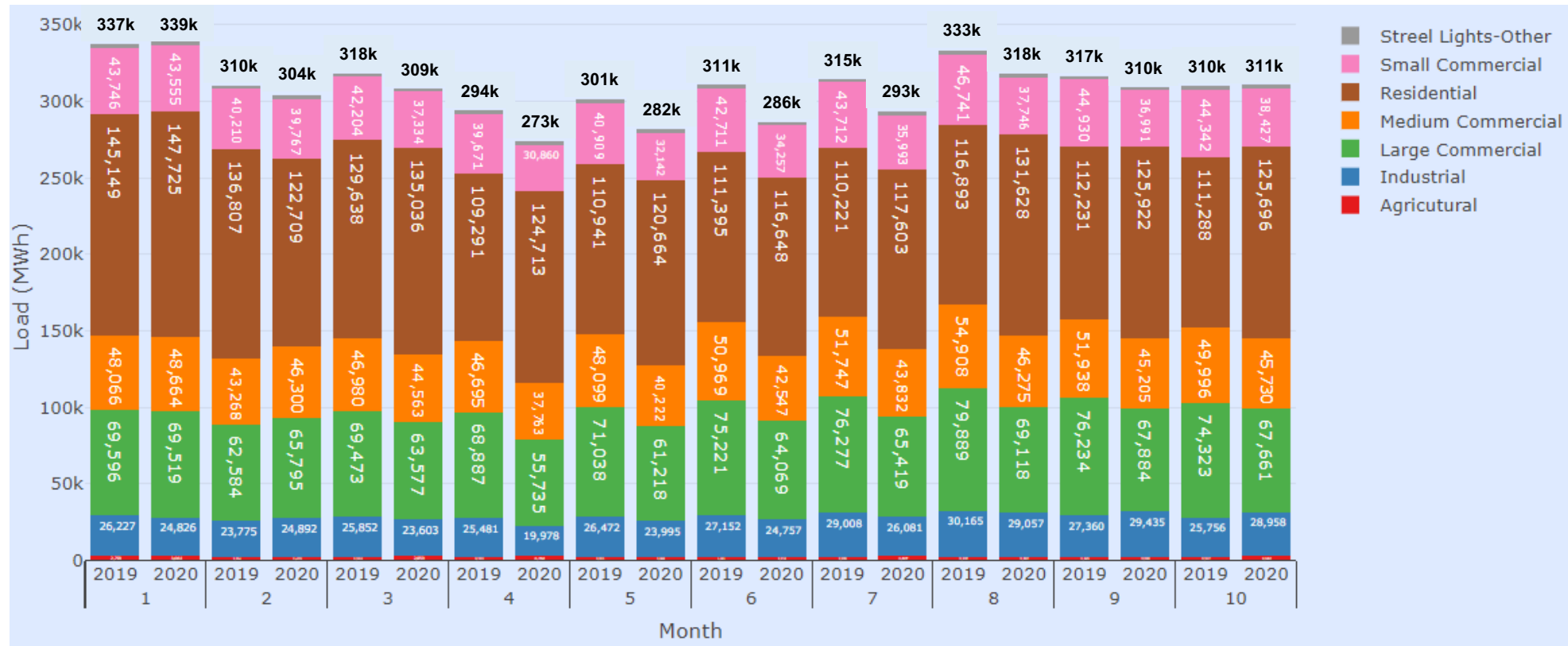
# PCE Load after Shelter-in-place order

- April-October 2020 compared to April-October 2019:
  - 5% decrease in Total PCE load compared to same period in 2019.
  - Around 14% decrease in C&I load
  - Around 10% increase in residential load



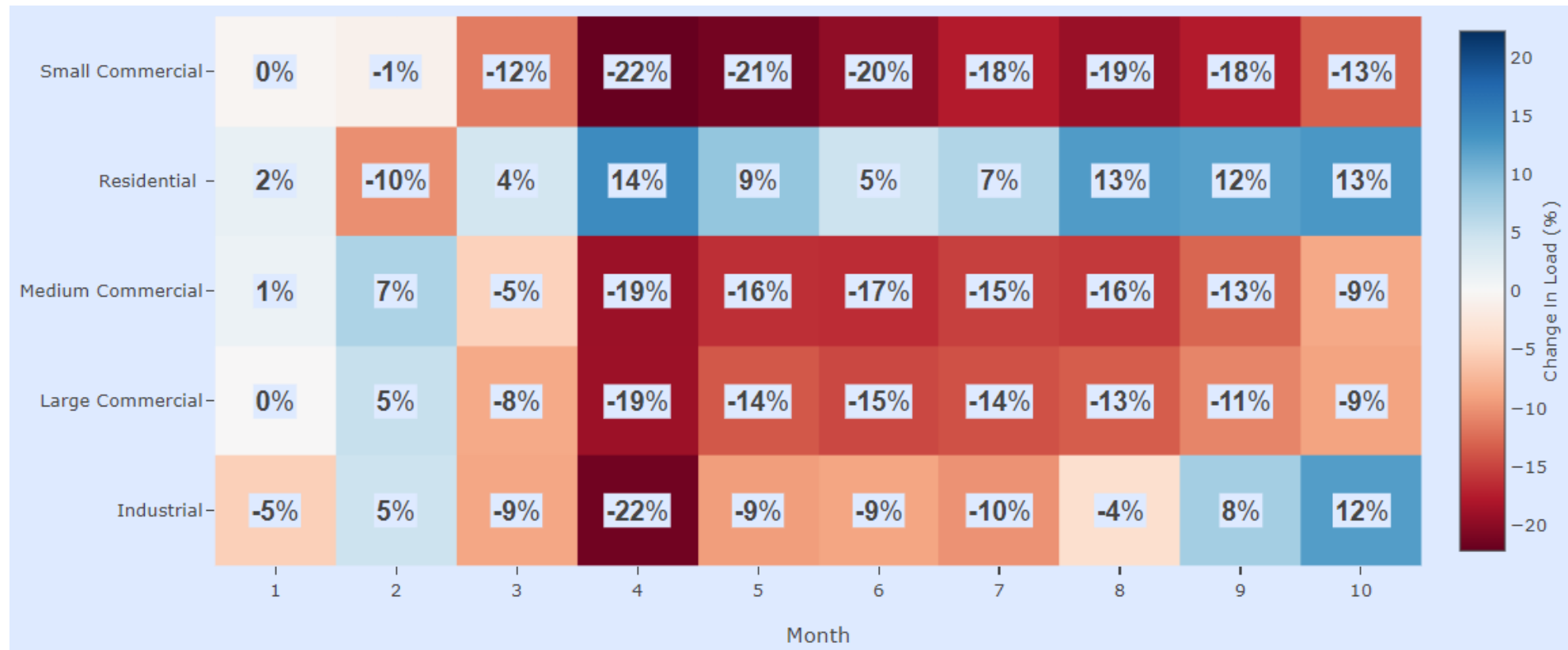
# Monthly Load

- Significant decrease in PCE's monthly load starting March 2020:
  - 4%, 7%, 6%, 8%, 7%, and 4% decrease in March, April, May, June, July, and August of 2020 compared to same months in 2019
  - Only 2% decrease in September of 2020 and 0.3% increase in October of 2020 (compared to same months in 2019)



# Monthly Load Changes by Customer Class

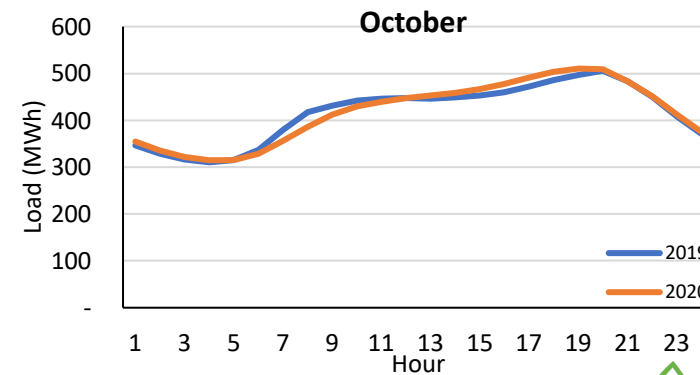
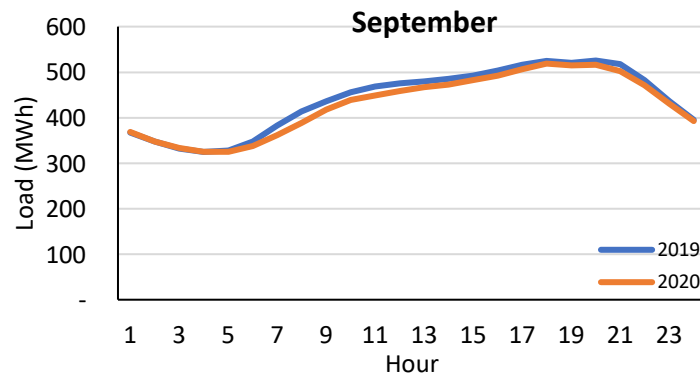
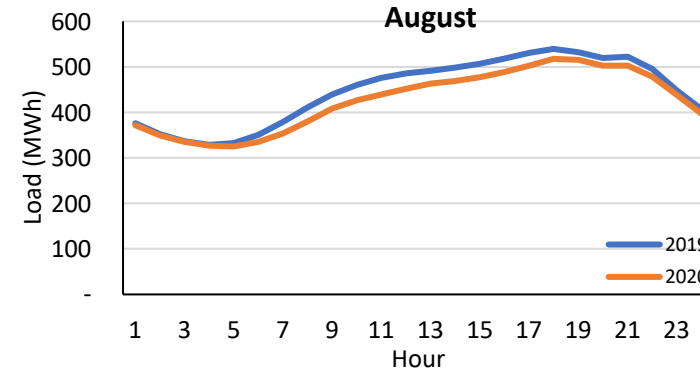
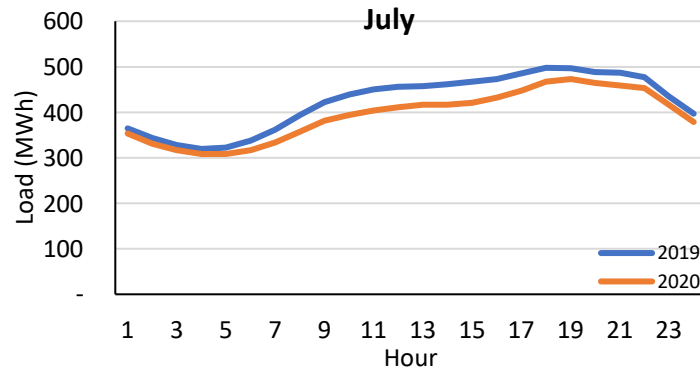
- Significant decrease in C&I load, increases in residential load in each month compared to same month in 2019.





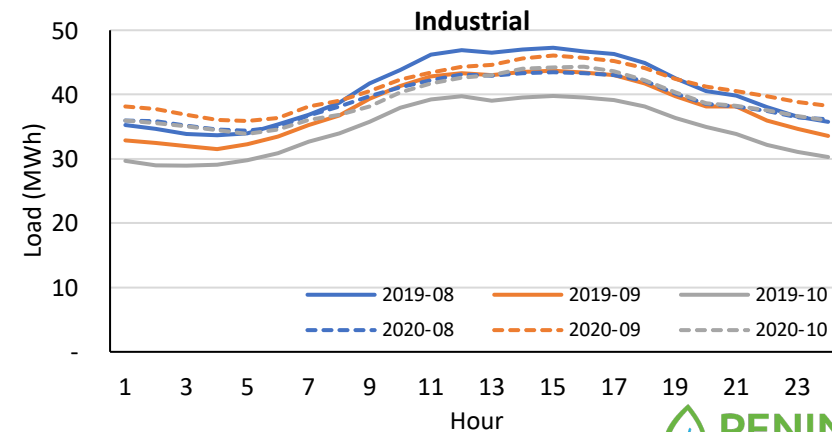
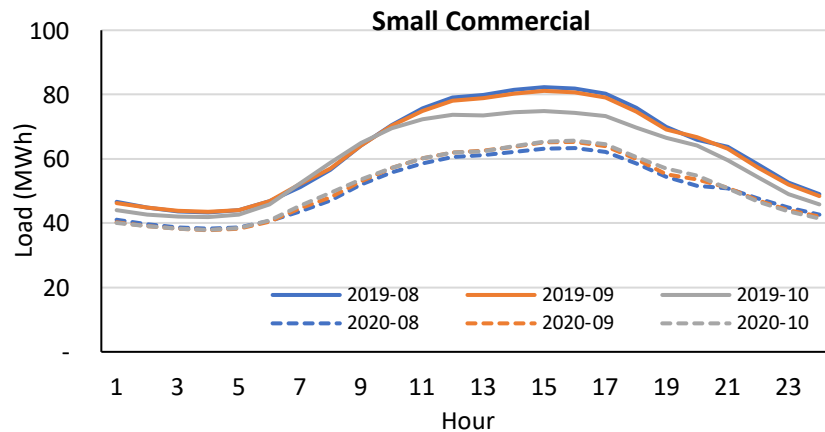
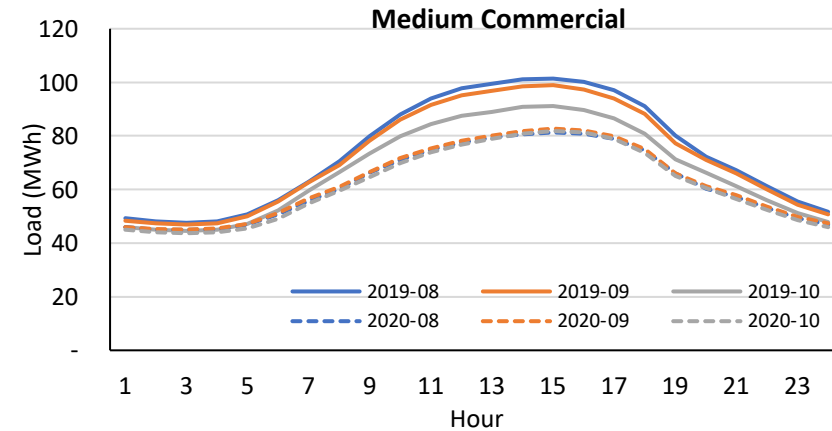
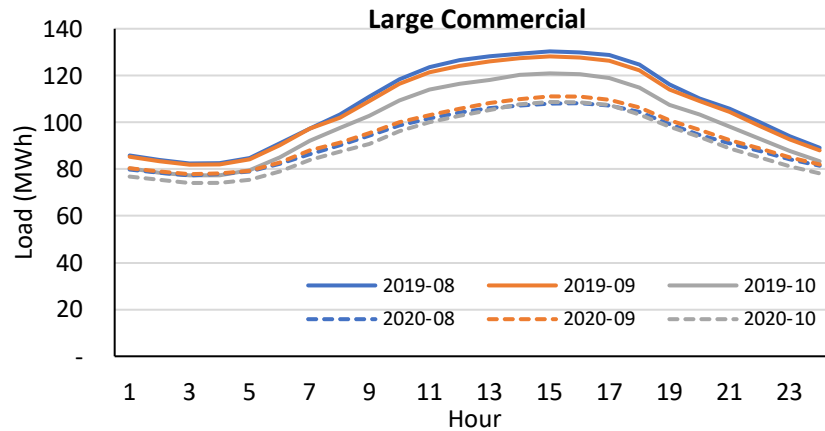
# PCE Load Shapes

- July-September: 2020 PCE load shapes (orange lines) have scaled down compared to 2019 shapes (blue lines)
  - Smaller difference in August/September due to heatwaves and smoke
- October: 2020 load marginally higher than 2019 load



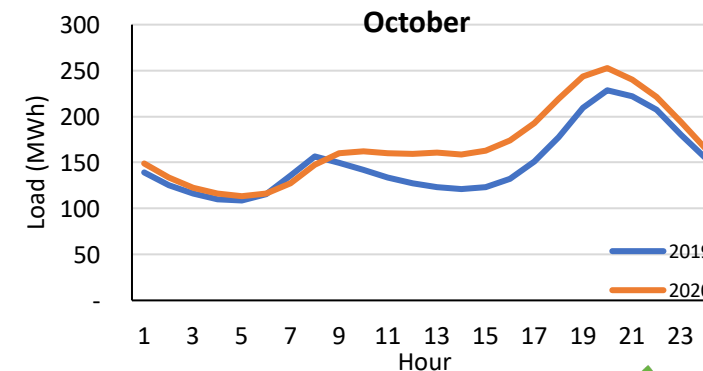
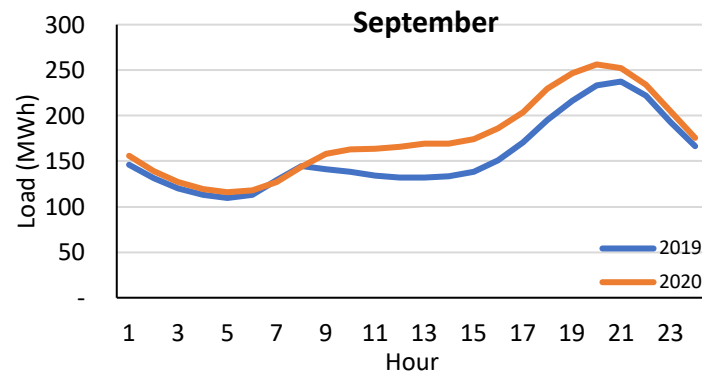
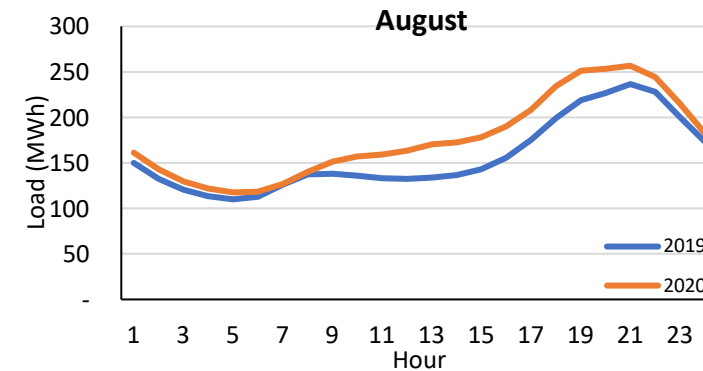
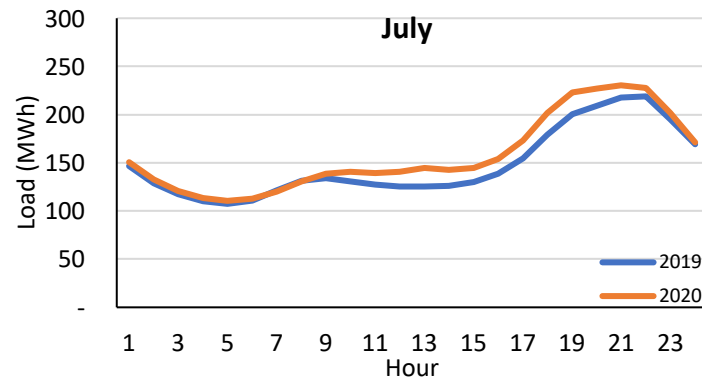
# Load Shapes (C&I)

- 2020 commercial load shapes (dashed lines) are scaled down compared to 2019.
- Industrial load higher in September and October of 2020 compared to 2019.



# Load Shapes (Residential)

- 2020 residential load shapes (orange lines) have changed compared to 2019 shapes (blue lines):
  - No drop-off during mid-day
  - Bigger increase in August-October due to heatwaves and smoke



# PCIA Update

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- Settlement between PG&E, CalCCA, Joint CCAs
  - 3-year amortization of 2020 PUBA
  - Removal of “cap” effective 1/1/21
  - Joint “Petition for Modification” to CPUC on “cap and trigger” decision
- Requires CPUC approval by Dec 17

# Power On Peninsula Medical: Update

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- Offering **clean** backup power through **solar+battery storage** or **portable backup batteries**
- **Priority customers:** High Fire Threat Districts, affected by previous PSPS events, low income/disadvantaged communities, CARE/FERA, Medical Baseline
- Close collaboration with partners allowed us to provide batteries to all customers with medical devices impacted by last week's PSPS event who requested one

## Update as of today:

- GoalZero has delivered 150 batteries and 100 foldable solar panels to Hassett
- Hassett has delivered 116 batteries and 26 solar panels
- PCE has qualified 114 customers to receive 124 batteries and 30 foldable solar panels

PLUS \$5000 donated to Puente de la Costa Sur for hotel vouchers for those displaced by wildfire evacuations.

# San Mateo County Status – Reach Codes

New

Member Agency	Reach Code Status	Building (proposed)	EV
Brisbane	Adopted	All-electric w/ exceptions	MUD 1xL2/ unit
Burlingame	Adopted	All-electric w/ exceptions	PCE model code (variant)
East Palo Alto	Adopted	All-electric w/ exceptions	PCE model code (variant)
Millbrae	Adopted	All-electric w/ exceptions	PCE model code (variant)
Menlo Park	Adopted	All-electric w/ exceptions	(existing EV code)
Pacifica	Adopted	All-electric w/ exceptions	(existing EV code)
County of San Mateo	Adopted	All-electric w/ exceptions	PCE model code
Redwood City	Adopted	All-electric w/ exceptions	PCE model code
San Mateo	Adopted	All-electric w/ exceptions (updated)	Increase EV capable
San Carlos	Adopted	Pre-wiring on single-family homes (considering all-electric)	
Portola Valley	1 <sup>st</sup> reading TBD	(All-electric w/ exceptions)	(existing EV code)
Belmont, Colma, Daly City, Foster City, Half Moon Bay, Hillsborough, San Bruno, South SF	Letter of Intent, Staff discussions or Council briefing done		
Atherton, Woodside	Declined		

Santa Clara County  
Adopted: 12  
In-Progress: 3

# Upcoming Meetings

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These meetings will continue to be held by video/teleconference

- Citizens Advisory Committee:
  - December 3 at 6:30 p.m.
- Executive Committee:
  - December 7 at 8:00 a.m.
- Board of Directors:
  - December 17 at 6:30 p.m.



# Regular Agenda

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## 3. Citizens Advisory Committee Report (Discussion)



# Regular Agenda

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## 4. Audit and Finance Committee Report (Discussion)

# Regular Agenda

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5. Approve Resolution Delegating Authority to the Chief Executive Officer to Execute a Power Purchase Confirmation Agreement (PPA) for Renewable Supply with Shell Energy North America (US), L.P. a Delaware limited partnership, and any necessary ancillary documents. Power Delivery Term: January 1, 2021 through December 31, 2027, in an amount not to exceed \$125,000,000 (Action)

# Regular Agenda

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6. Approve Resolution Delegating Authority to Chief Executive Officer to Execute a Power Purchase Agreement (PPA) for Renewable Supply with Sky River Wind, LLC, a Delaware limited liability company, and any necessary ancillary documents with a power delivery term of 20 years starting at Commercial Operation on or around September 1, 2021 not to exceed \$150 million (Action)



# **Sky River Wind PPA**

Siobhan Doherty, Director of Power Resources  
November 19, 2020

# AGENDA

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- Project Overview
- Generation Profile
- Fit with Portfolio
- Board Working Group Review

# Recommendation

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Approve Resolution Delegating Authority to Chief Executive Officer to Execute a Power Purchase Agreement (PPA) for Renewable Supply with Sky River Wind, LLC, a Delaware limited liability company, and any necessary ancillary documents with a power delivery term of 20 years starting at Commercial Operation on or around September 1, 2021 not to exceed \$150 million.

# Competition for Wind Resources

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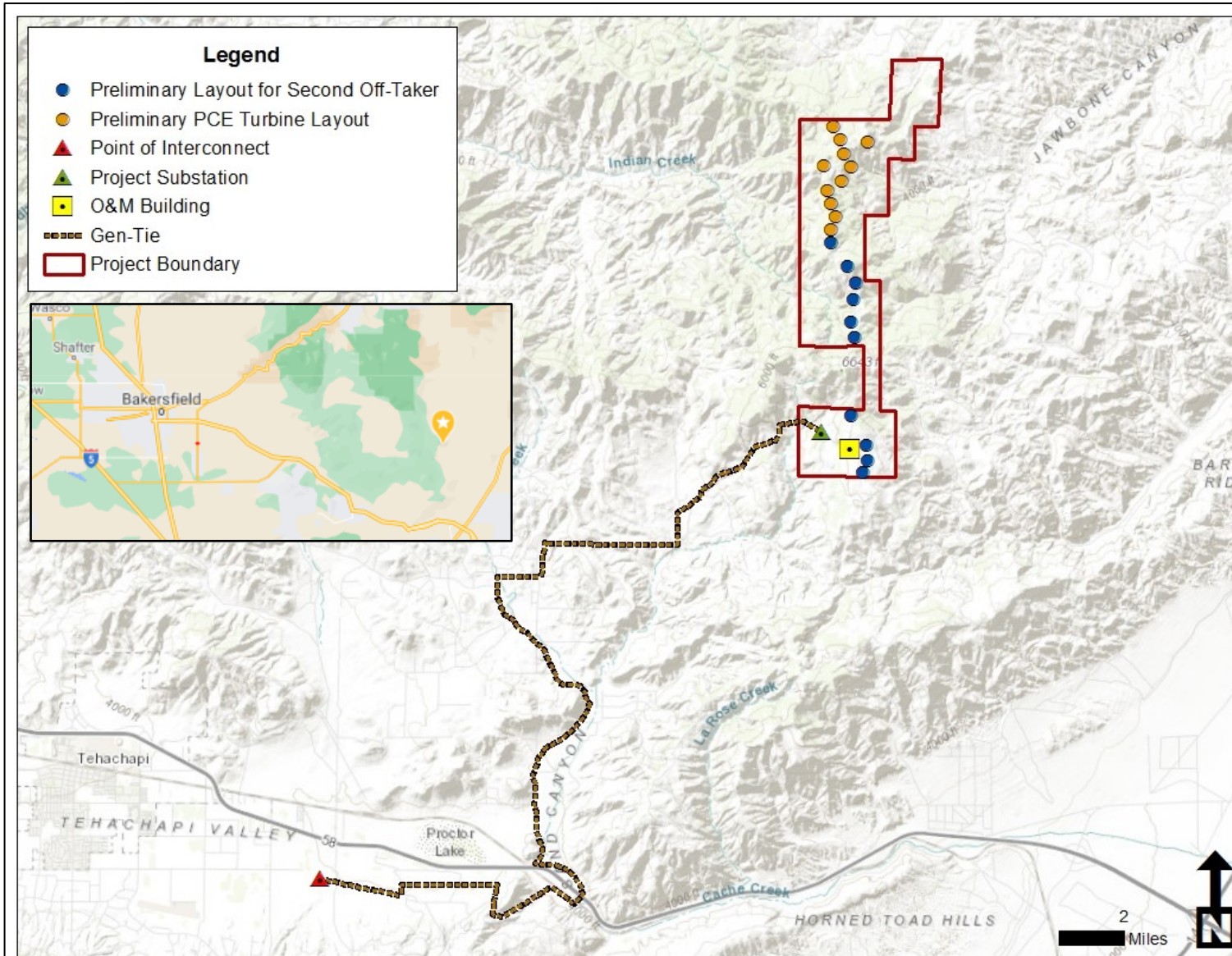
- PCE will need significant wind resources to meet 2025 100% 24x7 renewable goal
- Of the 40 projects bid into 2020 RFO, only 6 were wind projects
- Majority of existing projects are under contract and contracts don't expire until after 2025
- Most wind areas in CA are already fully developed
- Limited repower opportunities
- Out of state options are risky due to necessary transmission and do not provide RA benefits

# Sky River – Project Summary

Location	Tehachapi, CA
Capacity	PCE Portion: ~30 MW Total: 60 MW
Capacity Factor	44%
Annual Generation	115 GWh
COD	September 1, 2021
PPA Term	20 years



# Site Layout



- Sky River is a repower of an existing wind facility.
- Original facility has been operational for 27 years.
- Repowering leverages existing infrastructure and avoids disturbing undeveloped areas.
- Replaces 157 existing turbines with 11 new turbines.

# Other Off-taker - BART

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- BART is procuring half of the project
- BART's Board initially approved a PPA for the full off-take in December 2017
- The project started construction in 2019, but determined they needed to change some of the wind turbines selected
- Projects will be electrically separate except for specified shared facilities (i.e. step up transformer and gen-tie)
- PCE will have full control over its portion

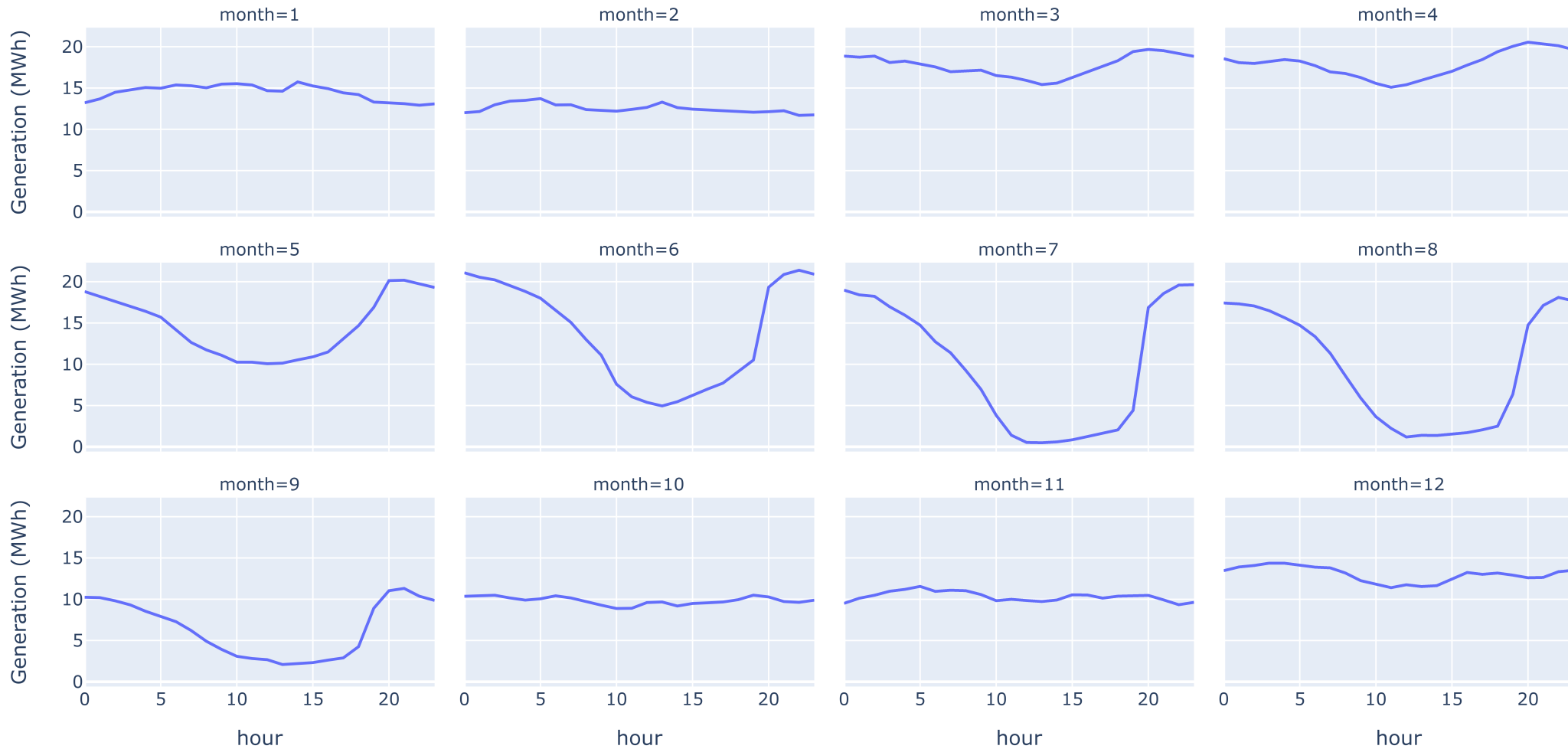
# Owner: NextEra Energy Resources, LLC

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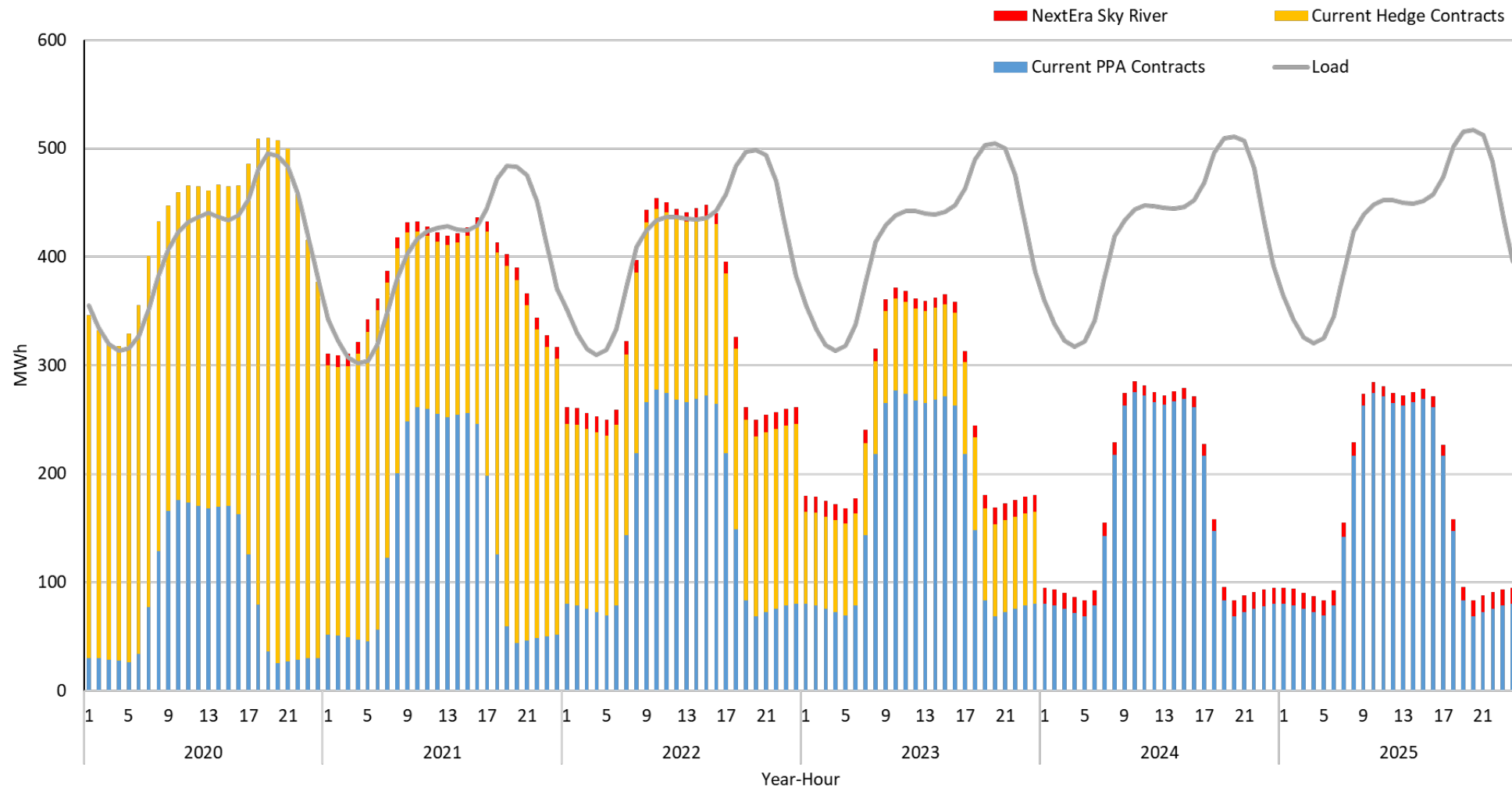


- Long-term owner of solar and wind generation
  - ~16,000 MW of wind generation in operation in North America
  - ~2,684 MW of solar generation in operation
- California investment:
  - 10 wind projects
  - 10 utility-scale solar projects
  - 30 battery energy storage projects
  - 123 distributed solar projects
  - \$7.1B invested in CA
  - \$45MM annual payroll
  - \$14.4MM in annual land payments
  - \$17.8MM in property taxes in 2019

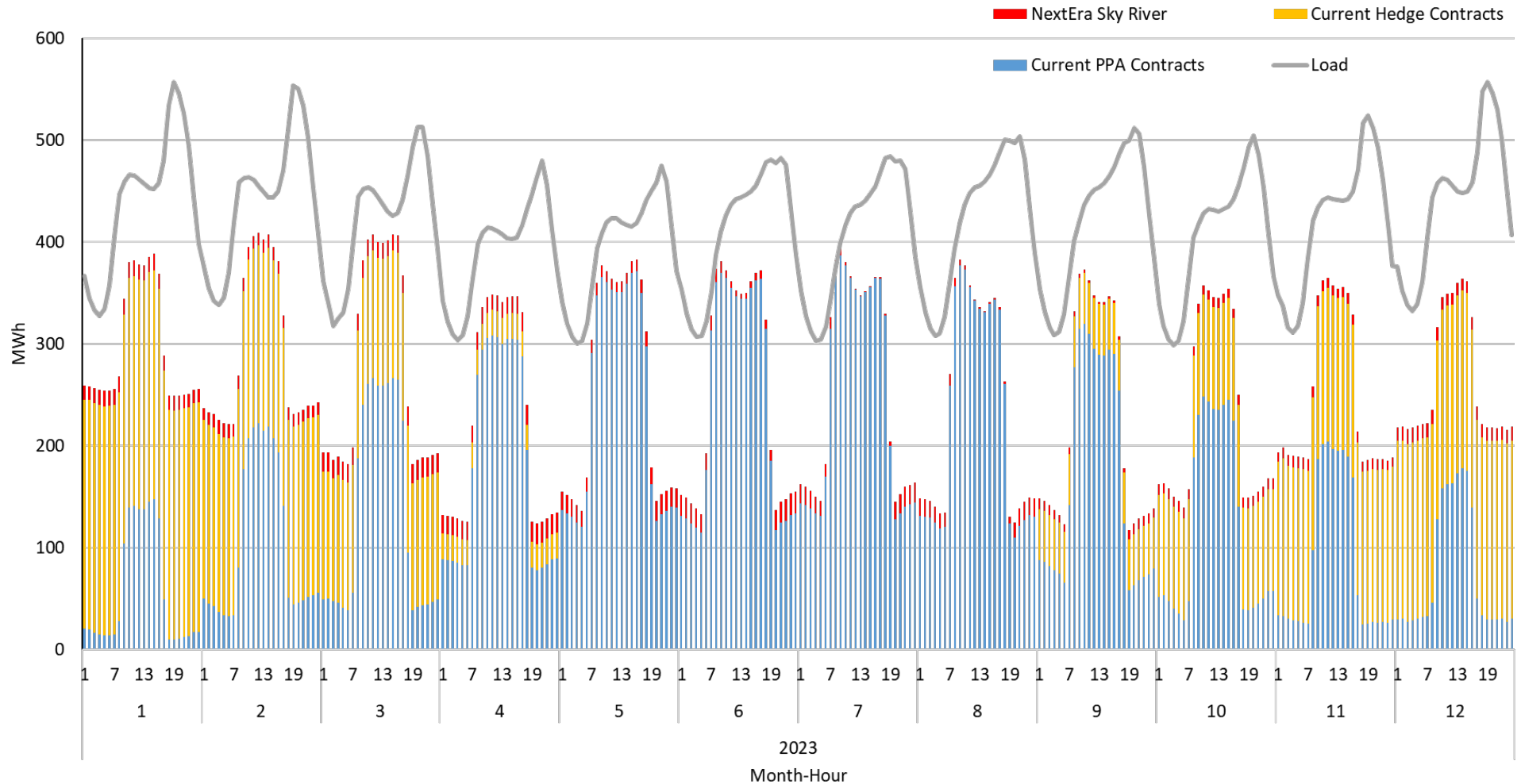
# Generation Profile



# Year-Hour Shape



# Month-Hour Shape



# Board Working Group Review

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- In October 2020, staff met with a subset of Board members twice to discuss the project.
- The owner could not commit to executing a project labor agreement or commit to using union labor to construct the project. This was based on the advanced development status of the project, the advanced status of the construction contract and the required timeline for the project to start operations with BART.
- The majority of Board members recommended moving forward with this PPA given the small size of the project, the competitive pricing, the competitive nature of wind projects, and the advanced development stage of the project.



# Fit with Strategic Plan

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- Priority 1: Design a power portfolio that is sourced by 100% carbon free energy by 2025 that aligns supply and consumer demand on a 24x7 basis
- Power Resources Goal 1: Secure sufficient, low-cost, clean sources of electricity that achieve Peninsula Clean Energy's priorities while ensuring reliability and meeting regulatory mandates
  - Objective A Low Cost and Stable Power: Develop and implement power supply strategies to procure low-cost, reliable power.
    - Key Tactic 4: Secure sufficient, low-cost, clean sources of electricity that achieve Peninsula Clean Energy's priorities while ensuring reliability and meeting regulatory mandates
  - Objective B Clean Power: Design a diverse power portfolio that is 100% carbon-free by 2021; and is 100% carbon-free by 2025 that aligns supply and consumer demand on a 24 x 7 basis.
    - Key Tactic 2: Secure additional contracts for renewable energy procurement in alignment with strategies and portfolio identified through IRP process and in compliance with risk management strategy



# Recommendation

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Approve Resolution Delegating Authority to Chief Executive Officer to Execute a Power Purchase Agreement (PPA) for Renewable Supply with Sky River Wind, LLC, a Delaware limited liability company, and any necessary ancillary documents with a power delivery term of 20 years starting at Commercial Operation on or around September 1, 2021 not to exceed \$150 million.

# Regular Agenda

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7. Interim Allocation of Large Hydro and/or Nuclear from PG&E to Peninsula Clean Energy for 2021 – 2023 (Action)



# 2021 – 2023 PG&E Allocation of GHG Free

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November 19, 2020

# Agenda

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- Executive Summary
- Background
- GHG-Free Targets and Status
- Three Options
- Cost Impact
- Power Content Label Impact
- Other CCAs Approach
- CAC Discussion
- Pros / Cons

# Action

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Offer Peninsula Clean Energy staff direction on whether to accept or reject hydro and/or nuclear carbon-free allocations

# Executive Summary

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- The allocation is a short-term solution for 2021, and possibly 2022 and 2023 only
- Accepting or rejecting does not impact PCE's long-term goal to be 100% renewable by 2025 on a time coincident basis nor the trajectory to get there
- The primary question is the trade-off between cost savings and reputational risk by showing higher levels of nuclear on the power content label
- Accepting or rejecting the allocation will not impact PCE rates
- Any cost savings associated with accepting the nuclear allocation would be due to not needing to purchase additional carbon free energy and the possibility of resale of carbon-free allocations in excess of PCE's requirements
- Any cost savings could be used for other purposes
- Peninsula Clean Energy would only receive the carbon-free attribute and not actual power
- Accepting or rejecting the allocation does not impact operations of power plants, PCE's delivery of energy to its customers, or the overall California energy mix

# Background

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- PG&E owns or contracts for GHG free energy including large hydro and nuclear resources
- In 2018, 13% of PG&E's supply was from large hydro and 34% from nuclear
- PG&E counts these resources to meet or exceed their GHG-free targets
- CCA customers pay for these resources through the PCIA
- CCAs are not currently able to claim and count the benefit of these resources for their customers on Power Content Labels or in connection with other GHG reporting
- Over the longer term, this will be addressed through the PCIA proceeding – expected in 2021

# Background

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- In 2019, PG&E filed an Advice Letter proposing to allocate large hydro and nuclear to all load serving entities (LSEs) in PG&E's territory based on a load ratio share
- This applied for 2020 only
- Each LSE had the option to accept each resource allocation separately
  - i.e. can accept allocation of large hydro but not nuclear, or can accept nuclear but not large hydro, or can accept both
- Volume of resource allocation is established based on actual generation
  - Rejecting a resource allocation does not impact the volumes you receive for the resource you accept



# Background

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- The Advice Letter was ultimately approved by the CPUC
- Based on PCE board direction, in June 2020, Peninsula Clean Energy signed an agreement with PG&E to accept hydro allocations only for June 15, 2020 through December 31, 2020
- Expect allocations of 90,000 – 105,000 MWh based on historical generation from the facilities allocated
- Actual allocations will depend on actual generation

# 2021 – 2023 Allocations

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- In August 2020, PG&E filed an Advice Letter to extend this allocation process through 2021 and potentially for 2022 – 2023 at PG&E's discretion
  - For 2022 and 2023, PG&E would need to submit, by Dec 31 of the preceding year, a Tier 1 advice letter, which is the lowest tier and advice letters are considered “effective pending disposition”
  - Longer term allocation has not yet been provided through the PCIA proceeding

# 2021 – 2023 Product Targets

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	2021	2022	2023
Renewable	60%	70%	80%
GHG-Free	40%	30%	20%

# Expected Allocation Volumes

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	MWh / Year
Large Hydroelectric	240,677
Nuclear	867,437

## Assumptions

- Full allocations for January – December; actual availability depends on CPUC Advice Letter approval timeline
- Historic generation data for each of PG&E's facilities is available from the EIA
- Hydro
  - Large Hydro Forecast: Assuming similar generation to 2014, and PCE's load share per the 2020 allocation. 2014 was a dry year, so this is a conservative estimate.
- Nuclear
  - Assuming generation similar to the average of 2015-2018, and PCE's load share load share per the 2020 allocation

# Evaluated Three Options

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## Option 1:

### Accept Hydro but Not Nuclear

- Accept PG&E Hydro allocations only
- Procure additional hydro to meet GHG-free targets

## Option 2:

### Accept Hydro and Nuclear; Prioritize Hydro on PCL

- Accept both hydro and nuclear allocations
- Use current hydro contracts + PG&E hydro allocations to meet GHG target first
- Only use nuclear as necessary to fill in open position
- Minimizes Nuclear percentage on Product Content Label

## Option 3:

### Accept Hydro and Nuclear; Sell Excess Hydro

- Accept both hydro and nuclear allocations
- Use nuclear first to fill in GHG target
- Sell excess hydro from current contracts and PG&E allocations

# Cost Scenarios – Notes and Assumptions

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- Allocations are received for January 1 – December 31
- We can sell excess hydro in the Option 3 Scenario
  - Actual revenue will be based on market price (Range represents market prices between \$2/MWh - \$4.25/MWh)
  - Likely scenario for resale of excess Hydro is at \$2/MWh
- Mid-Case load scenario; does not incorporate Los Banos load, but this is relatively small
- No ability / value to sell excess nuclear

# Allocations for Calendar Year 2021

		Calendar Year 2021		
		Option 1	Option 2	Option 3
		Accept Hydro Only	Accept Hydro and Nuclear, Prioritize Hydro on PCL	Accept Both, Prioritize Nuclear on PCL & Resell Excess Hydro
<u>Range of Financial Impact</u>				
<b>Low</b>	\$2/MWh			
Cost to fill Open Position - Low		1,171,046	-	-
Resale of Excess Hydro - Low				(481,354)
Net Cost - Low		\$ 1,171,046	\$ -	\$ (481,354)
Difference			<b>\$ 1,171,046</b>	<b>\$ 1,652,400</b>
<b>High</b>	\$4.25/MWh			
Cost to fill Open Position - High		2,488,472	-	-
Resale of Excess Hydro - High				(1,198,135)
Net Cost - High		\$ 2,488,472	\$ -	\$ (1,198,135)
Difference			<b>\$ 2,488,472</b>	<b>\$ 3,686,608</b>
<b>Buy Hydro at High, Sell Excess Hydro at Low</b>				
Cost to fill Open Position - High		2,488,472	-	-
Resale of Excess Hydro - Low				(563,828)
Net Cost		\$ 2,488,472	\$ -	\$ (563,828)
Difference			<b>\$ 2,488,472</b>	<b>\$ 3,052,301</b>

# Allocations for Calendar Year 2022

		Calendar Year 2022		
		Option 1	Option 2	Option 3
		Accept Hydro Only	Accept Hydro and Nuclear, Prioritize Hydro on PCL	Accept Both, Prioritize Nuclear on PCL & Resell Excess Hydro
<u>Range of Financial Impact</u>				
<b>Low</b>	\$2/MWh			
Cost to fill Open Position - Low		505,818	-	-
Resale of Excess Hydro - Low				(481,354)
Net Cost - Low		\$ 505,818	\$ -	\$ (481,354)
Difference			<b>\$ 505,818</b>	<b>\$ 987,172</b>
<b>High</b>	\$4.25/MWh			
Cost to fill Open Position - High		1,074,862	-	-
Resale of Excess Hydro - High				(2,611,745)
Net Cost - High		\$ 1,074,862	\$ -	\$ (2,611,745)
Difference			<b>\$ 1,074,862</b>	<b>\$ 3,686,608</b>
<b>Buy Hydro at High, Sell Excess Hydro at Low</b>				
Cost to fill Open Position - High		1,074,862	-	-
Resale of Excess Hydro - Low				(1,229,057)
Net Cost		\$ 1,074,862	\$ -	\$ (1,229,057)
Difference			<b>\$ 1,074,862</b>	<b>\$ 2,303,919</b>



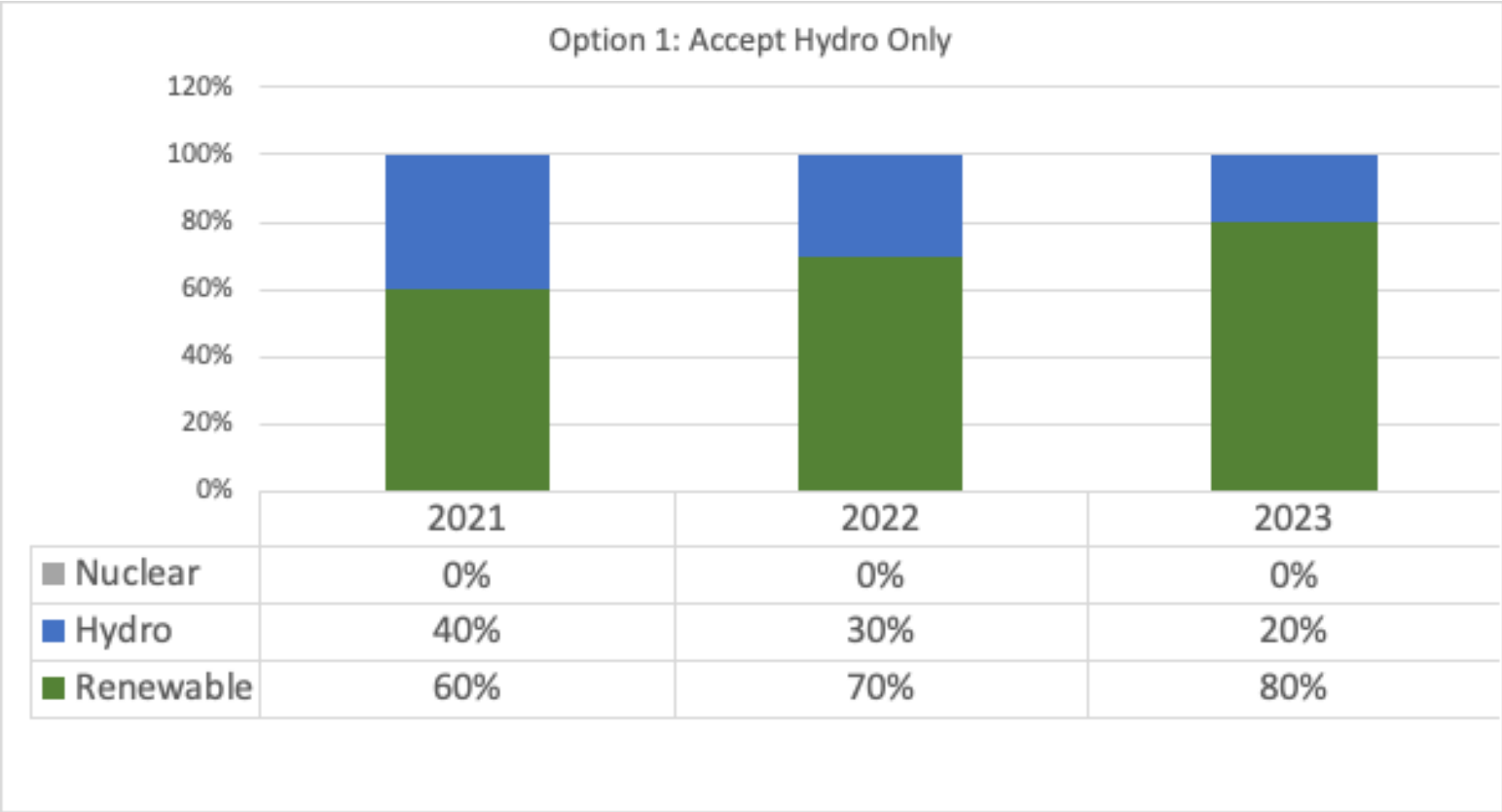
# Allocations for Calendar Year 2023

		Calendar Year 2023		
		Option 1	Option 2	Option 3
		Accept Hydro Only	Accept Hydro and Nuclear, Prioritize Hydro on PCL	Accept Both, Prioritize Nuclear on PCL & Resell Excess Hydro
<b>Range of Financial Impact</b>				
<b>Low</b>	\$2/MWh			
Cost to fill Open Position - Low		179,124	-	-
Resale of Excess Hydro - Low				(481,354)
Net Cost - Low		\$ 179,124	\$ -	\$ (481,354)
Difference			<b>\$ 179,124</b>	<b>\$ 660,478</b>
<b>High</b>	\$4.25/MWh			
Cost to fill Open Position - High		380,638	-	-
Resale of Excess Hydro - High				(2,297,877)
Net Cost - High		\$ 380,638	\$ -	\$ (2,297,877)
Difference			<b>\$ 380,638</b>	<b>\$ 2,678,515</b>
<b>Buy Hydro at High, Sell Excess Hydro at Low</b>				
Cost to fill Open Position - High		380,638	-	-
Resale of Excess Hydro - Low				(1,081,354)
Net Cost		\$ 380,638	\$ -	\$ (1,081,354)
Difference			<b>\$ 380,638</b>	<b>\$ 1,461,992</b>

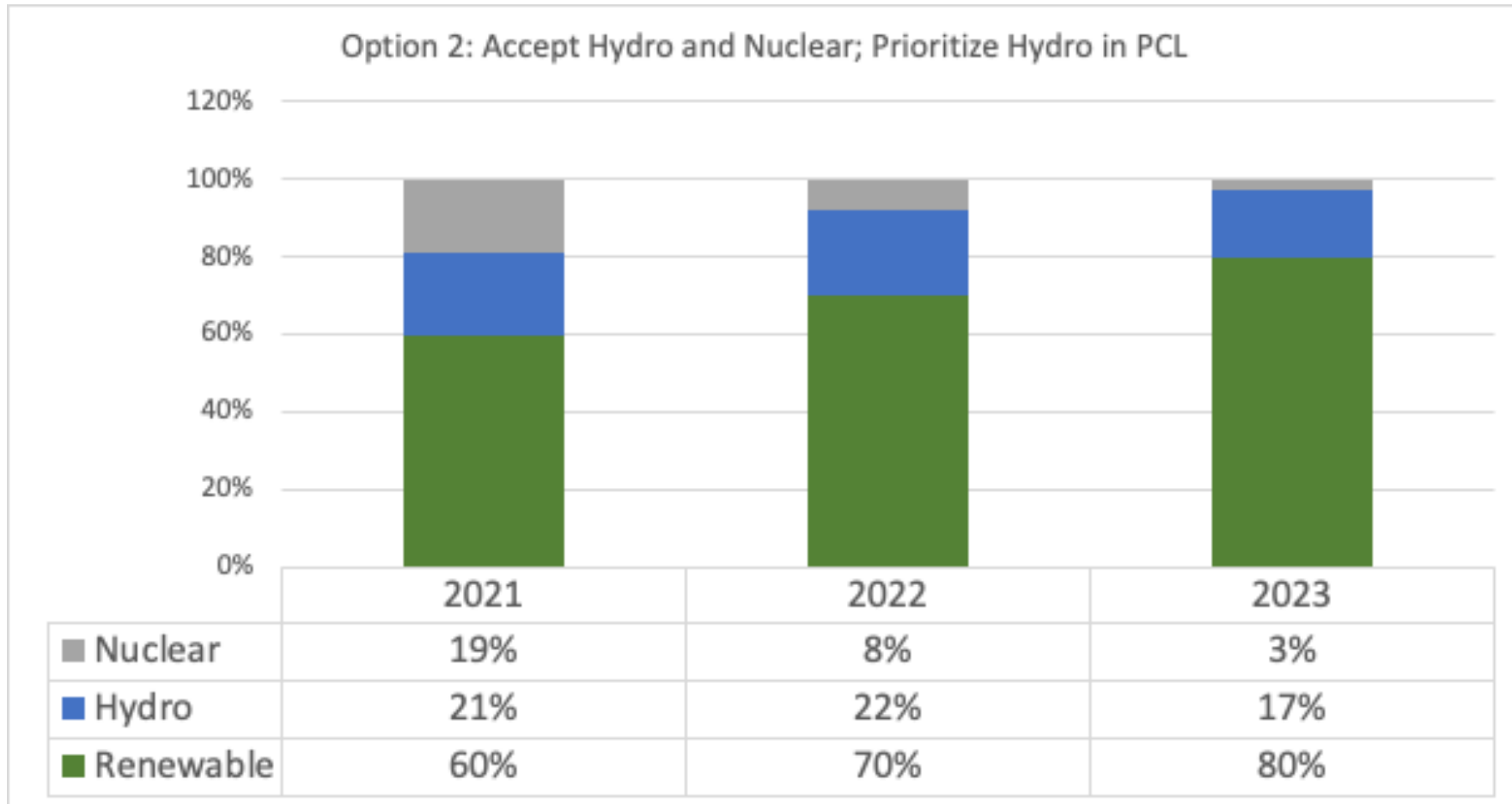
# Allocations for 3-Year Period – 2021-2023

		3-Year Summary		
		Option 1	Option 2	Option 3
		Accept Hydro Only	Accept Hydro and Nuclear, Prioritize Hydro on PCL	Accept Both, Prioritize Nuclear on PCL & Resell Excess Hydro
<b>Range of Financial Impact</b>				
<b>Low</b>	\$2/MWh			
Cost to fill Open Position - Low		1,855,987	-	-
Resale of Excess Hydro - Low		0	0	(1,444,062)
Net Cost - Low		\$ 1,855,987	\$ -	\$ (1,444,062)
Difference			<b>\$ 1,855,987</b>	<b>\$ 3,300,049</b>
<b>High</b>	\$4.25/MWh			
Cost to fill Open Position - High		3,943,973	-	-
Resale of Excess Hydro - High		0	-	(6,107,758)
Net Cost - High		\$ 3,943,973	\$ -	\$ (6,107,758)
Difference			<b>\$ 3,943,973</b>	<b>\$ 10,051,731</b>
<b>Buy Hydro at High, Sell Excess Hydro at Low</b>				
Cost to fill Open Position - High		3,943,973	-	-
Resale of Excess Hydro - Low		0	0	(2,874,239)
Net Cost		\$ 3,943,973	\$ -	\$ (2,874,239)
Difference			<b>\$ 3,943,973</b>	<b>\$ 6,818,212</b>

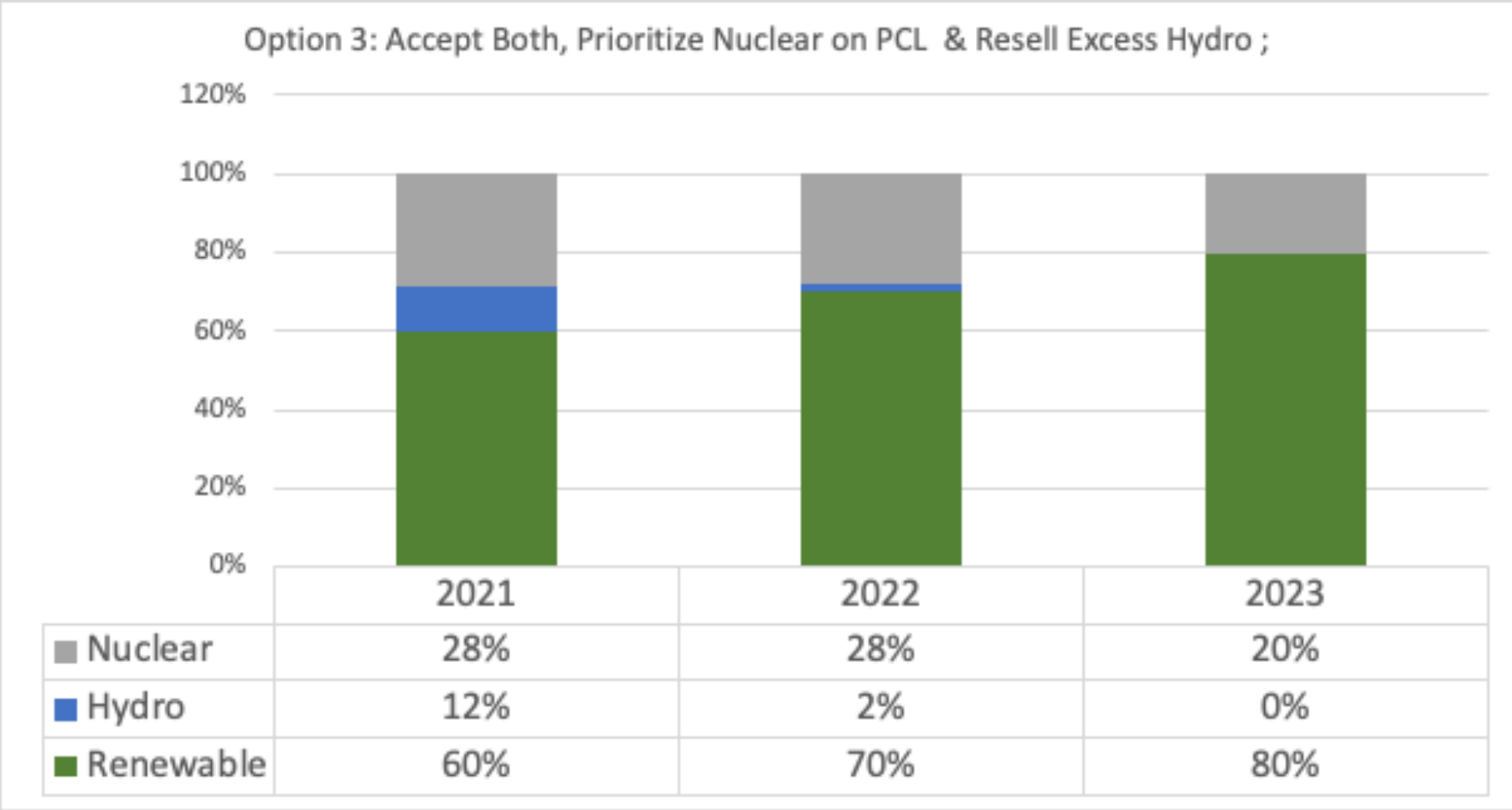
# Expected Power Content Label: Option 1



# Expected Power Content Label: Option 2



# Expected Power Content Label: Option 3



# Power Content Label: Summary

	2021	2022	2023
Option 1:			
Nuclear	0%	0%	0%
Large Hydro	40%	30%	20%
Option 2:			
Nuclear	19%	8%	3%
Large Hydro	21%	22%	17%
Option 3:			
Nuclear	28%	28%	20%
Large Hydro	12%	2%	0%
All Options:			
Renewables	60%	70%	80%

# Risks

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- For Option 3, our savings are based on the ability to sell excess hydro at the assumed price, if there is no demand, or if prices are lower, the savings will be lowered
- Actual generation volume from PG&E may differ from our projection
- Actual load may differ from our projection
- PG&E doesn't make allocations for 2022 or 2023
- Allocations are not effective until later in the year – we don't receive full allocations

# Other CCAs Approach

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- CCA's who plan to accept PG&E Nuclear Allocation
  - Silicon Valley Clean Energy (SVCE)
  - San Jose Clean Energy (SJCE)
- CCA's who plan to reject PG&E Nuclear Allocation
  - Central Coast Community Power (Monterey Bay Comm Power - MBCP)
  - Sonoma Clean Power (SCP)
  - Clean Power San Francisco (CPSF)
  - Marin Clean Energy (MCE)
  - East Bay Community Energy (EBCE) \*\*
- All CCA's indicated that they were not changing their decision from the 2020 allocations



# Citizens Advisory Committee

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- Discussed with CAC on Thursday 11/5
- Voted 7 to 3 to reject nuclear allocation and accept hydro allocation – follow same path as 2020, there was also one abstention
- Concerns included perceptions related to showing nuclear on the power content label versus the potential cost savings from accepting the nuclear.
- Some members felt that accepting the nuclear was not in keeping with PCE's organizational values.
- Some members also pointed out that large hydro power also has negative environmental impacts.
- There were also questions about whether this decision would impact our goal to move to 100% renewable (it won't) and what was our most recent power mix (available here: <https://www.peninsulacleanenergy.com/power-mix/>).

# Pros / Cons

	Option 1	Option 2	Option 3
Pros	<ul style="list-style-type: none"> <li>Will not show nuclear on power content label</li> </ul>	<ul style="list-style-type: none"> <li>Cost savings, save money on attributes, can be used for other purposes</li> </ul>	<ul style="list-style-type: none"> <li>Highest cost savings, save money on attributes, excess hydro attributes can be re-sold</li> </ul>
Cons	<ul style="list-style-type: none"> <li>Higher cost because will have to procure carbon-free attributes in the market</li> <li>Waive right to make petitions in PCIA proceeding regarding PG&amp;E allocation of carbon-free energy</li> </ul>	<ul style="list-style-type: none"> <li>Accepting nuclear allocation may be viewed negatively on power content label</li> <li>Waive right to make petitions in PCIA proceeding regarding PG&amp;E allocation of carbon-free energy</li> </ul>	<ul style="list-style-type: none"> <li>Highest % of nuclear on PCL</li> <li>Accepting nuclear allocation may be viewed negatively on power content label</li> <li>Waive right to make petitions in PCIA proceeding regarding PG&amp;E allocation of carbon-free energy</li> </ul>

# Questions / Discussion

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Requested Action: Offer Peninsula Clean Energy staff direction on whether to accept or reject hydro and / nuclear carbon-free allocations

# Regular Agenda

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## 8. Approve Local Government Fleets Program (Action)

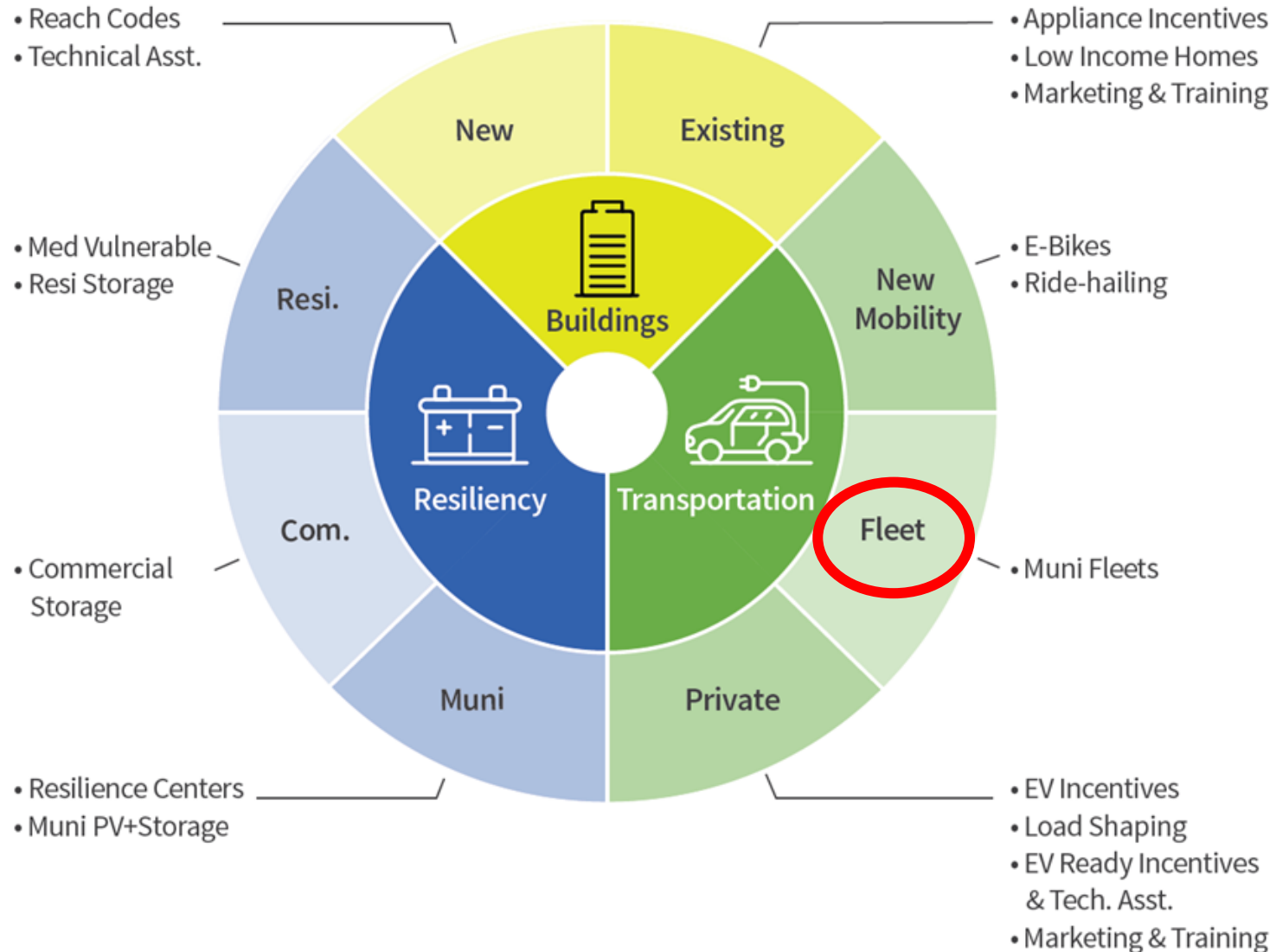


# Fleets Programs Proposal

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November 19, 2020

# Programs Portfolio



# Fleets Program: Request

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**Program:** Fleet program, including Technical Assistance, Funding, and Vehicle to Building Resiliency Demonstration

**Request:** Approval of the proposed Fleets Program

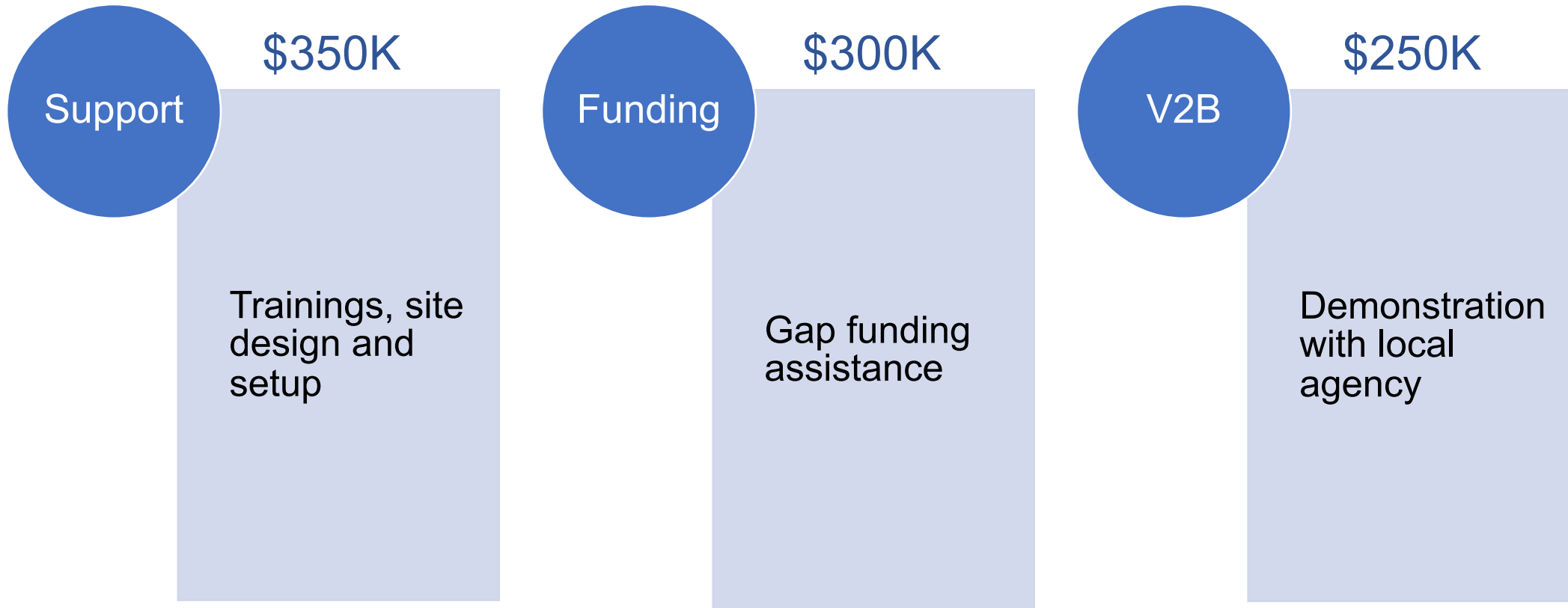
**Amount & Term:**

Up to \$900,000 over 3 years, consisting of:

- \$350,000 – technical assistance
- \$300,000 – gap funding for fleet replacement projects
- \$250,000 – Vehicle to Building Resiliency Demonstration Project

# Proposed PCE Fleets Program

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# Eligibility Requirements

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- Open to public agencies and public-school districts
- All on-road vehicle classes eligible
- Partners must commit to replacing 5 vehicles minimum per project site (schools exempted)
- Low Carbon Fuel Standard (LCFS) credits must be delegated to PCE

# Fleet Support Structure

Support

General: Total cost of ownership calculator (with PCE rates), workshops, events, grant education, contract resources, advising

Custom assistance

# Custom Fleet Support Structure

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Support

1. Project planning, cost estimates, design
2. Grant application assistance
3. Bid development or piggybacking assistance
4. Construction management and closeout (if necessary)
5. EV charging station setup and energy management

~2 projects per year, \$40K - \$80K per project

# Fleet Funding (\$300K)

## Funding

- Targeted gap-funding assistance
- Additional incentive to schools
- Can be used for EV chargers, EV incremental cost, installation, energy management subscriptions, etc.
- Light-duty vehicle demonstrations (e.g. electric class 1 truck)

Incentive structure, based on scale of unfunded project component\*:

Unfunded Project Scope	Local Agencies	Schools
<\$100K	Up to 25% or \$25K per project (whichever is less)	Up to 50% or \$50K per project (whichever is less)
>\$100K		Up to 50% or \$100K per project (whichever is less)

\* Net all other incentives and replacement depreciation

# Vehicle to Building Resiliency Pilot (\$250K)

V2B

Demo at 1 local agency critical facility

**Goal:** Understand cost/benefit of fleet vehicle to building (V2B) as a resiliency measure

**Scope:**

- Design and install support
- Trial demonstrations
- Evaluation

**Components:**

- Vehicles (1-2 Leafs)
- 1-2 EV charging stations
- Installation



# Vehicle to Building Resiliency Pilot (\$250K)

V2B

Estimated Budget	
Vehicles (2 used Leafs)	\$40,000
EV charging stations	\$15,000
Design and Engineering	\$60,000
Installation	\$35,000
Project support and evaluation	\$100,000
<b>Total</b>	<b>\$250,000</b>

# Fleets Budget

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	FY21	FY22	FY23	Total
Technical Assistance	\$30K	\$160K	\$160K	\$350K
Fleet Fund		\$150K	\$150K	\$300K
V2B Demo	\$25K	\$225K		\$250K
Total	\$55K	\$535K	\$310K	\$900K

# Fleets Program: Request

---

**Program:** Fleet program, including Technical Assistance, Funding, and Vehicle to Building Resiliency Demonstration

**Request:** Approval of the proposed Fleets Program

**Amount & Term:**

Up to \$900,000 over 3 years, consisting of:

- \$350,000 – technical assistance
- \$300,000 – gap funding for fleet replacement projects
- \$250,000 – Vehicle to Building Resiliency Demonstration Project



# Backup Slides

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# Fleet Funding Example

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Waste Agency. 5 refuse trucks and 5 DCFC

- Installation: \$100,000
- EV chargers: \$300,000
- Trucks: \$1,750,000

Total project cost = \$2,150,000

Pre-PCE Incentives and Depreciation

- PG&E: \$95,000
- HVIP: \$750,000
- Depreciation: \$1,250,000

Unfunded project cost = \$55,000

PCE Incentive (25% up to \$25,000): \$13,750

Remaining agency cost: \$41,250



**A Public Agency**

# Fleet Funding Example

Example – Waste Agency: 5 refuse trucks and 5 DC Fast Chargers

	PG&E Incentive	PCE Incentive	Other Funds	Waste Agency Funds	Total Costs
To the meter installation	\$50K (est.) 100% covered				\$50K
Behind the meter installation				\$50K	\$50K
EV charging stations (\$60K each)		\$14K		\$286K	\$300K
Trucks (\$350K each)	\$45K		\$750K (HVIP)	\$955K	\$1.75M
Depreciation				(\$1.25M)	
<b>Total</b>	<b>\$95K</b>	<b>\$14K</b>	<b>\$750K</b>	<b>\$41K</b>	<b>\$2.15M</b>

## PCE Costs:

Incentives: \$14K

Planning: \$40K

# Fleet Funding Example: School

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School District: 5 school buses and 5 DC Fast Chargers

- Installation: \$100,000
- EV chargers: \$300,000
- Buses: \$2,000,000

Total project cost = \$2,400,000

Pre-PCE Incentives and Depreciation

- PG&E: \$215,000
- CA Air Resources Board\*: \$1,100,000
- Depreciation: \$800,000

Unfunded project cost = \$285,000

PCE Incentive (50% up to \$100,000): \$100,000

Remaining school district cost: \$185,000

\* Through the Hybrid and Zero-Emissions Truck and Bus Voucher Incentive Project (HVIP)

# Proposed PCE Program

Example – school project with 5 electric buses and 5 DCFC:

	PG&E Incentive	PCE Incentive	Other Funds	School District Funds	Total Costs
To the meter installation	\$50K (est.) 100% covered				\$50K
Behind the meter installation	\$20K			\$30K	\$50K
EV charging stations (\$60K each)	\$125K	\$100K		\$75K	\$300K
Buses (\$400K each)	\$20K		\$1.1M (HVIP)	\$880K	\$2M
Depreciation				(\$800K)	
<b>Total</b>	<b>\$215K</b>	<b>\$100K</b>	<b>\$1.1M</b>	<b>185K</b>	<b>\$2.4M</b>

**PCE Costs**

Incentives: \$100K  
Planning: \$80K

# Regular Agenda

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9. Approve Harvest Thermal Contract for Harvest Thermal Pilot in an amount not to exceed \$250,000 (Action)

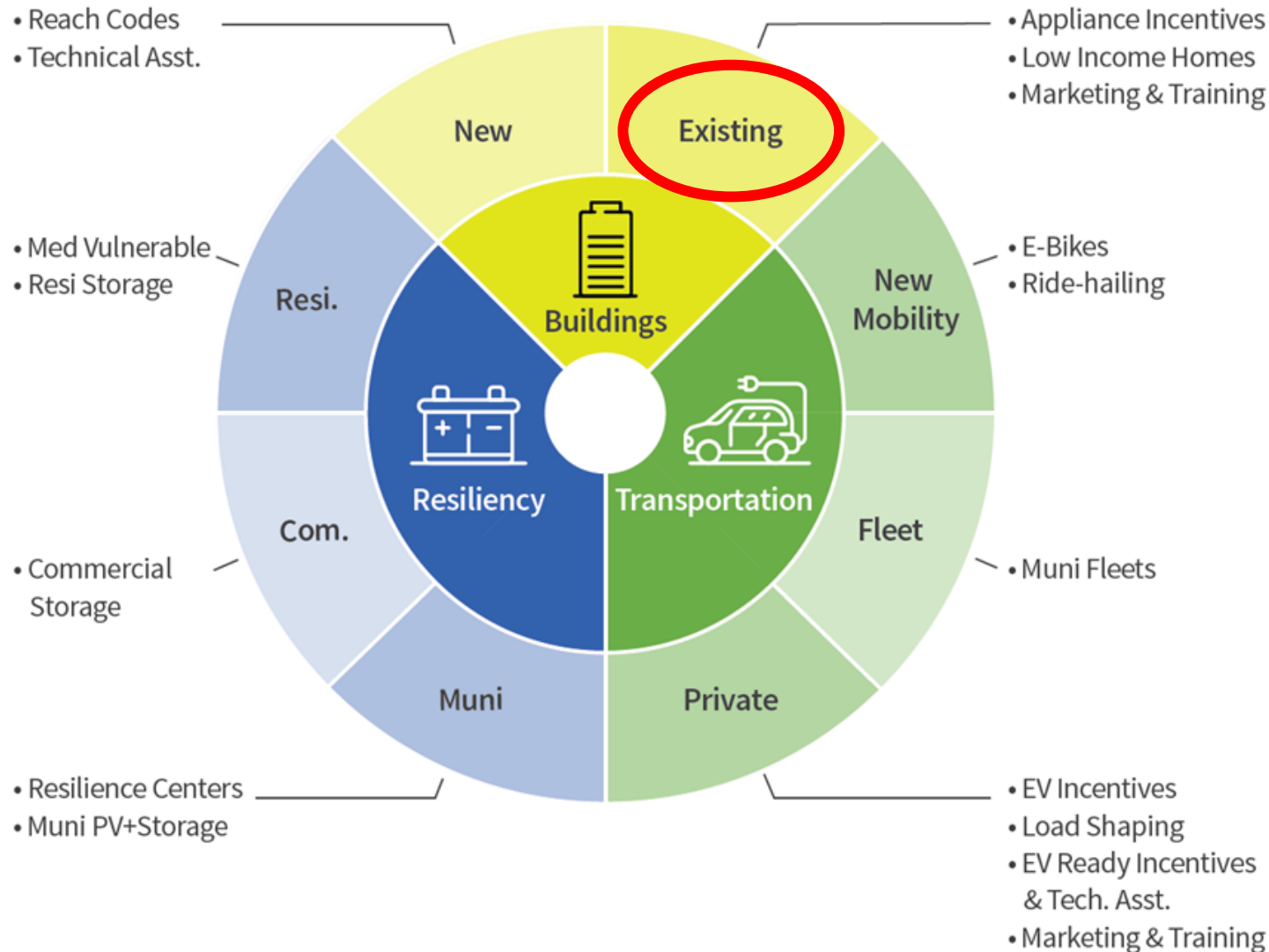


# Harvest Thermal Contract

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Board of Directors, November 19, 2020

# Programs Portfolio





# Existing Buildings Electrification Plan Summary

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In May 2020, the Board approved a four-year \$6.1 million Existing Building Electrification plan. Initial programs outlined were:

## 1. Heat Pump Water Heater (HPWH) Program

- HPWH incentives. Combine with BayREN incentives.

## 2. Low Income Healthy Home & Electrification Program

- Turnkey no-cost home upgrades, energy efficiency, and electrification for low-income residents.

## 3. Harvest Thermal Technology Pilot

- Pilot combined space and water heating system with load shifting thermal storage and potentially lower cost than separate retrofits.

# Harvest Thermal Contract: Request

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**Program:** Harvest Thermal Technology Pilot

**Request:** Recommend Board approval of contract with Harvest Thermal to execute technology pilot

**Amount:** Up to \$250,000

# Technology Overview & Objectives

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## Technology

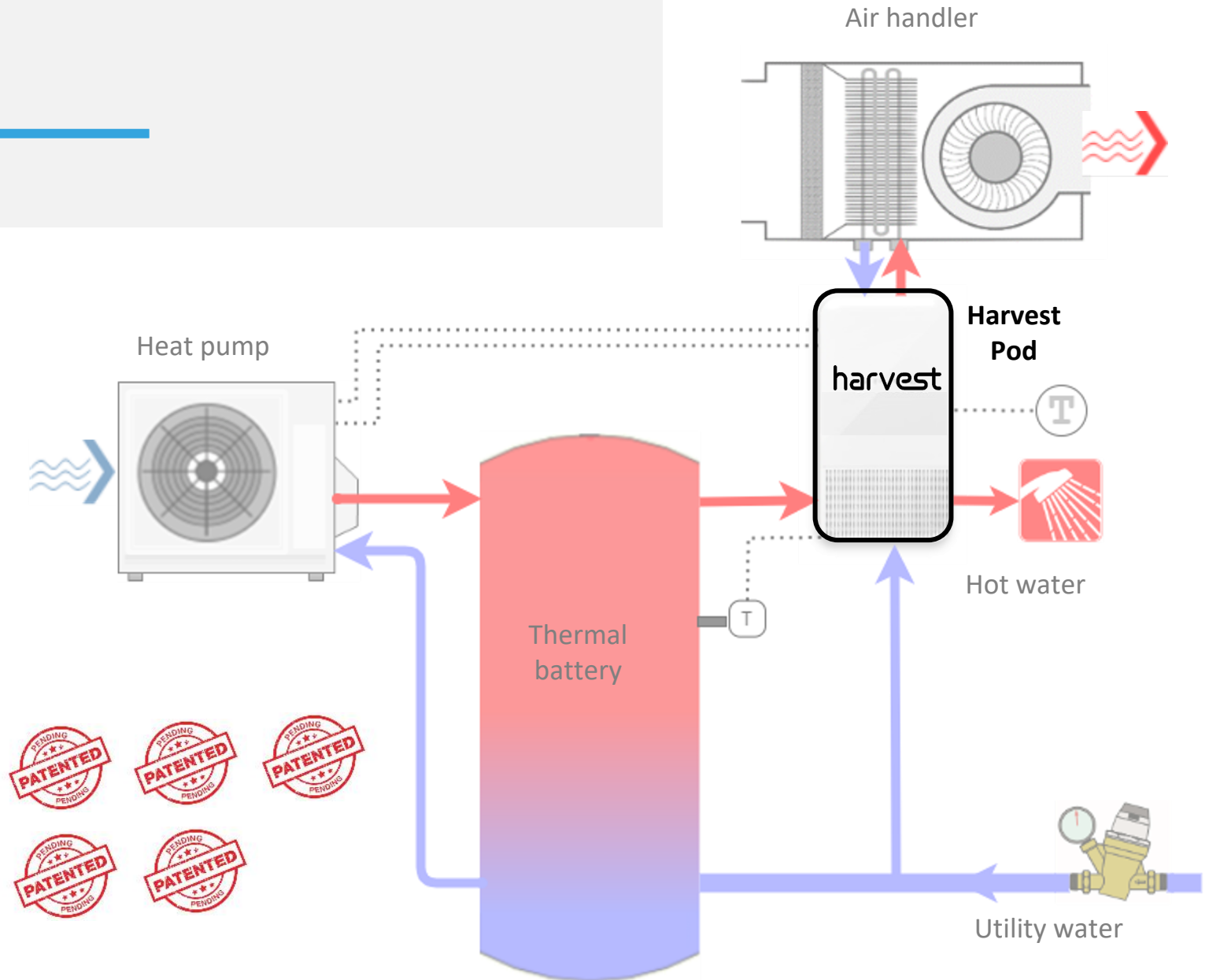
- Provides water and space heating with one heat pump and storage
- Lower install cost and allows load shift of water and space heating

## Pilot Objectives

- Pilot technology in up to 5 homes to assess viability
- Support further development of the technology

# THE HARVEST SYSTEM

- ✓ Combined space conditioning and hot water
- ✓ Single high-efficiency heat pump
- ✓ Inexpensive energy storage using hot water tank
- ✓ Uses standard HVAC delivery systems
- ✓ Patented methods to know energy state of tank using sensors in Harvest pod
- ✓ Plan to include air conditioning



*Example shown for forced air system – can also be implemented for radiant floors and radiators*

# Company Overview & Identification

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## Company Profile

- Bay Area-based startup with prototypes in several homes in the area
- Experienced senior leadership team
- Secured early-stage funding
- Recently won National Science Foundation and California Energy Commission grants

## Company Identification & Assessment

- Harvest CEO and senior staff approached PCE
- PCE informally assessed opportunity:
  - High potential impact towards PCE roadmap
  - No known similar technologies
  - Highly experienced staff & vetted by reputable entities noted above

# Pilot Implementation Detail

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## 1. Technology development

- Support further development of technology

## 2. Home recruitment

- Targeted outreach to prospective homes with optimal conditions
- Pilot site selection criteria: home characteristics (size, age) and energy efficiency, energy use patterns, homeowner commitment and readiness

## 3. Installation

- Up to 5 single family homes at no cost to homeowner
- Harvest to manage installation process, provide homeowner support

## 4. Monitoring & assessment

- Independent measurement & verification: up to \$50,000 (separate contract by PCE)
- Harvest to monitor system performance & provide data to third-party
- Third-party assessment of technology: install costs, energy, bill savings, customer satisfaction

# Harvest Thermal Contract: Request

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**Program:** Harvest Thermal Technology Pilot

**Request:** Recommend Board approval of contract with Harvest Thermal to execute technology pilot

**Amount:** Up to \$250,000

# Regular Agenda

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10. Review/Approve Board of Directors Meeting Schedule for 2021 (Action)



# 2021 Meeting Schedule

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January 28, 2021	6:30 pm
February 25, 2021	6:30 pm
March 25, 2021	6:30 pm
April 22, 2021	6:30 pm
May 27, 2021	6:30 pm
June 24, 2021	6:30 pm
July 22, 2021	6:30 pm
August 26, 2021	6:30 pm
September 25, 2021 (Saturday)	8:00 am – 1:00 pm
October 28, 2021	6:30 pm
November 18, 2021	6:30 pm
December 16, 2021	6:30 pm

# Regular Agenda

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11. Review Disadvantaged Communities Green Tariff and Community Solar Green Tariff Program (Discussion)



# **Disadvantaged Communities Green Tariff (DAC-GT) & Community Solar Green Tariff (CS-GT)**

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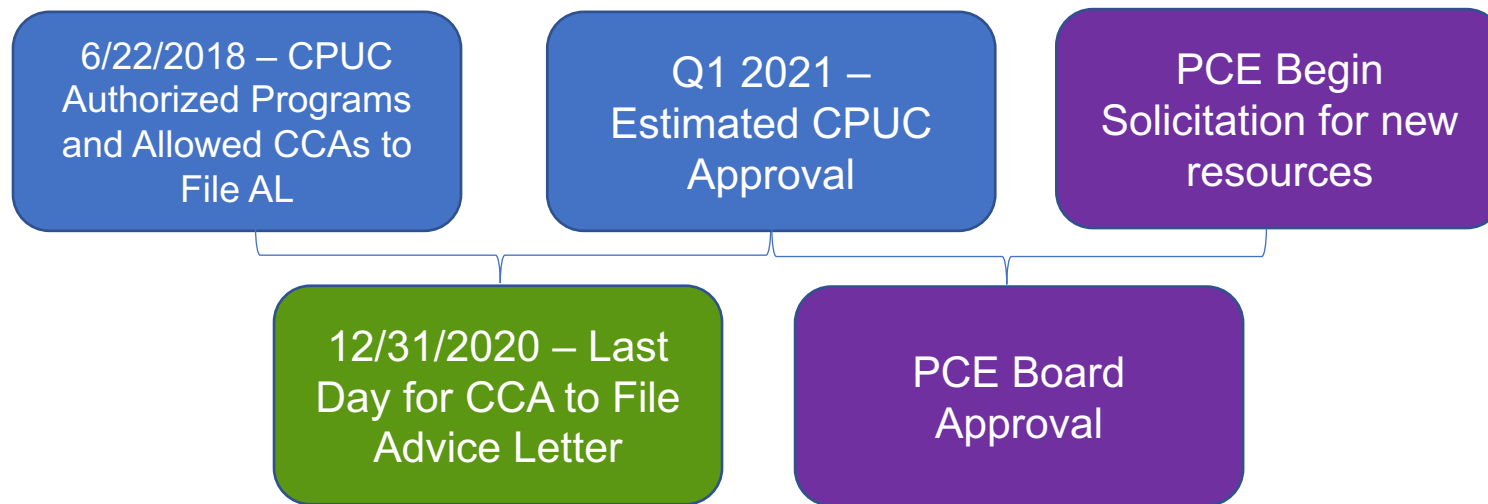
Board of Directors

November 19, 2020

# Agenda

1. History and Process Timeline
2. Program Specifics
3. Customer Benefits and Eligibility
4. Next Steps

# History and Process Timeline



# PCE Program Specifics

Based on number of residential customers in DACs:

- DAC-GT – 0.90 MW allocation
- CS-GT – 0.230 MW allocation

Impact of Los Banos expansion is being assessed

# Customer Benefits and Eligibility

- Demonstrate the value of solar within our local communities
- Receive Solar Energy and 20% bill credit from otherwise applicable rate

PCE's DAC Census Tracts – East Palo Alto, San Bruno, South San Francisco, Redwood City (possibly Los Banos)

# Next Steps

- Submit Tier 3 Advice Letter for Implementation by Q4 2020
- Current estimated budget of \$0.9 million for 2021 and 2022



# Regular Agenda

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## 12. Board Members' Reports (Discussion)

# Regular Agenda

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Adjourn