

# Peninsula Clean Energy: 100% Renewable on a 24/7 Basis

ASES 2023

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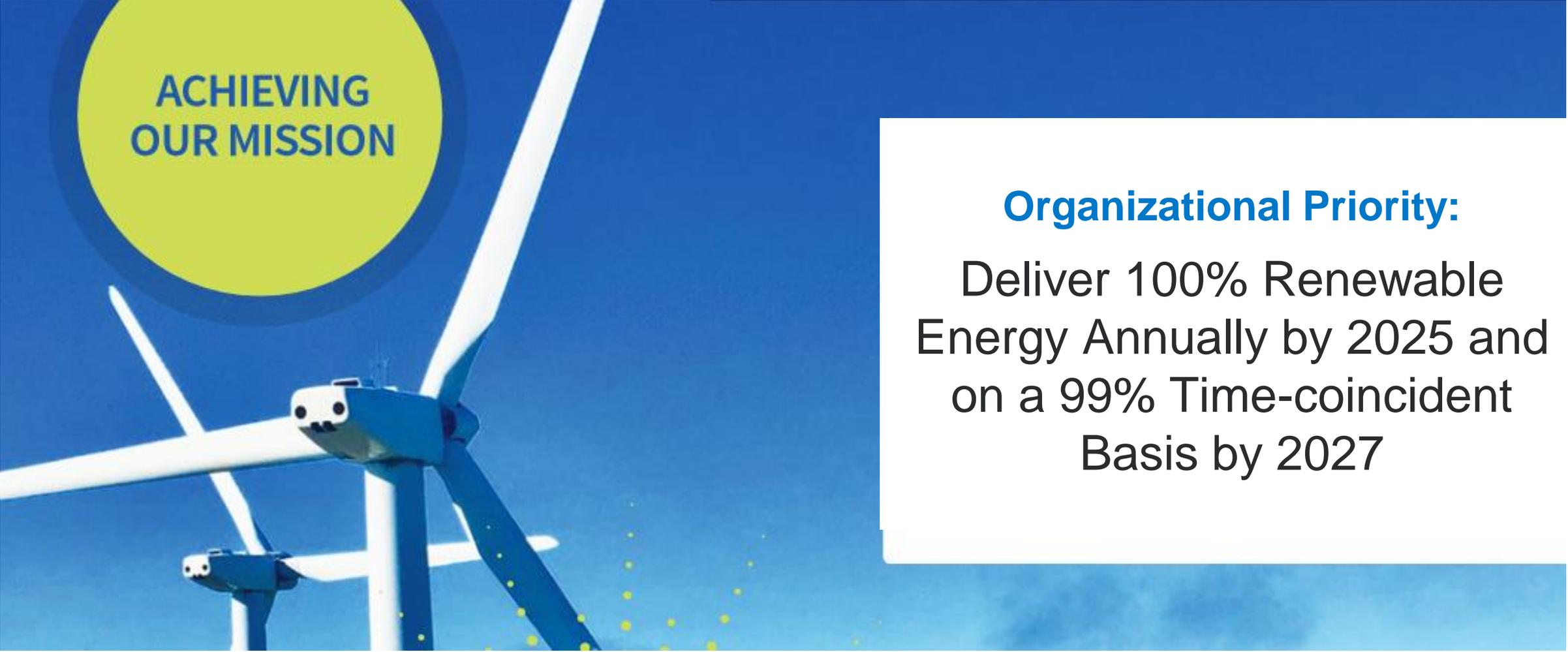
# Introduction

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- Peninsula Clean Energy is a Community Choice Aggregator that provides electricity to customers in County of San Mateo and City of Los Banos.
- In November 2022, Peninsula Clean Energy adopted the goal to deliver 100% renewable energy annually on a 99% time-coincident basis by 2025. This was based on mid-2022 market conditions.
- Peninsula Clean Energy has been updating its model with the most up-to-date information and has focused on studying the possibility of achieving the 24/7 goal by 2027.
- Shifting the 24/7 goal target year from 2025 to 2027 has the following benefits:
  - Opportunity to contract a more diverse set of resources
  - Opportunity to avoid excessive over-procurement
  - Opportunity to reduce long-term cost and risk exposure
  - Opportunity to build a more optimal resource portfolio

# Strategic Plan

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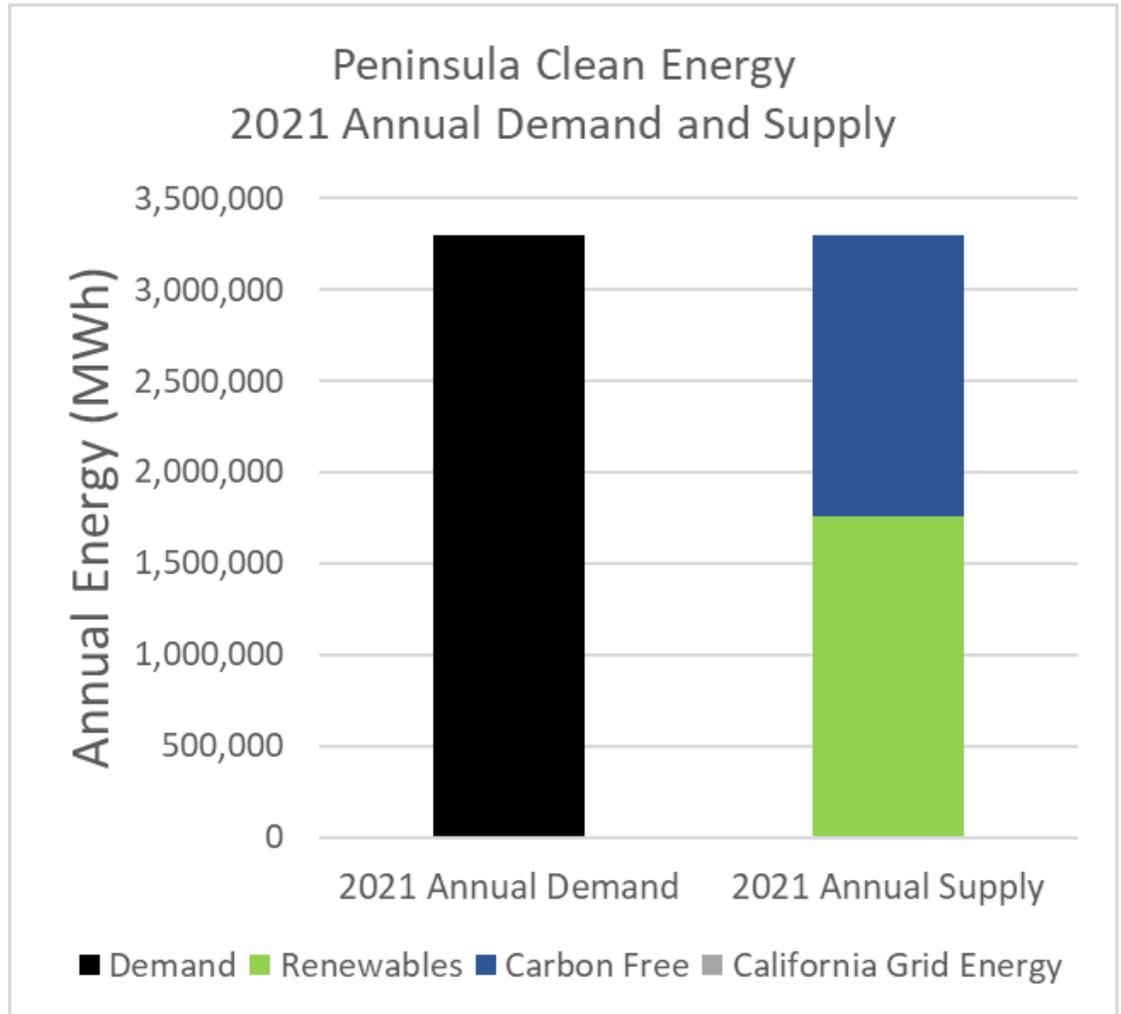
ACHIEVING  
OUR MISSION

## **Organizational Priority:**

Deliver 100% Renewable Energy Annually by 2025 and on a 99% Time-coincident Basis by 2027

# Current Status

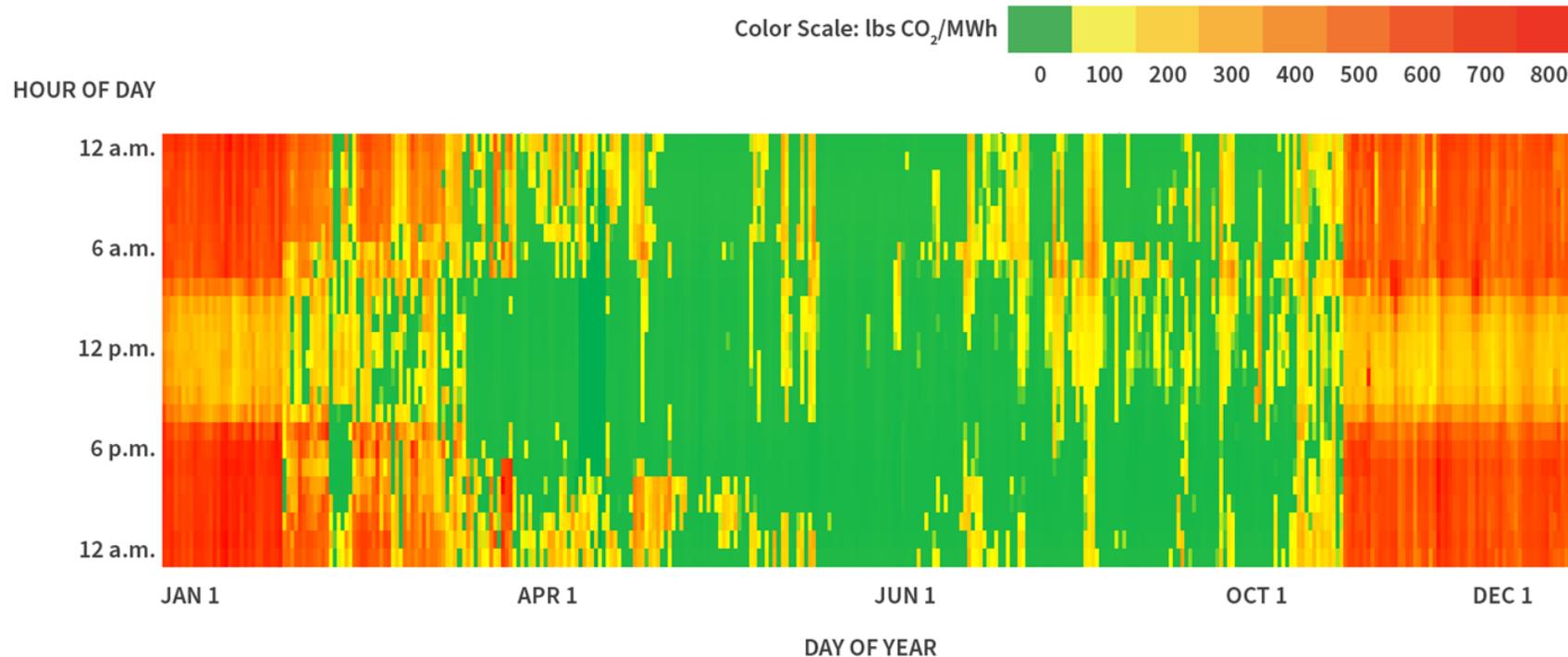
- We currently purchase enough renewable and carbon-free supplies to meet 100% of our customers' demand *in the same year*
- This annual framework:
  - Is the current industry standard
  - Does not show whether supply and demand matched on an hourly basis



# Annual v. Hourly Matching

- Our goal is to match our electricity supply to customer load on an hourly basis
  - We will not be relying on system power (gas plants) and can efficiently reduce GHG emissions from our electricity supply
  - We will not credit ourselves for oversupply in some hours

2021 Peninsula Clean Energy 24/7 Emissions Footprint



# Renewable Goal Scenarios

## ANNUAL RENEWABLE



## 24/7 RENEWABLE

All of these hourly scenarios satisfy the 100% renewable annual goal.

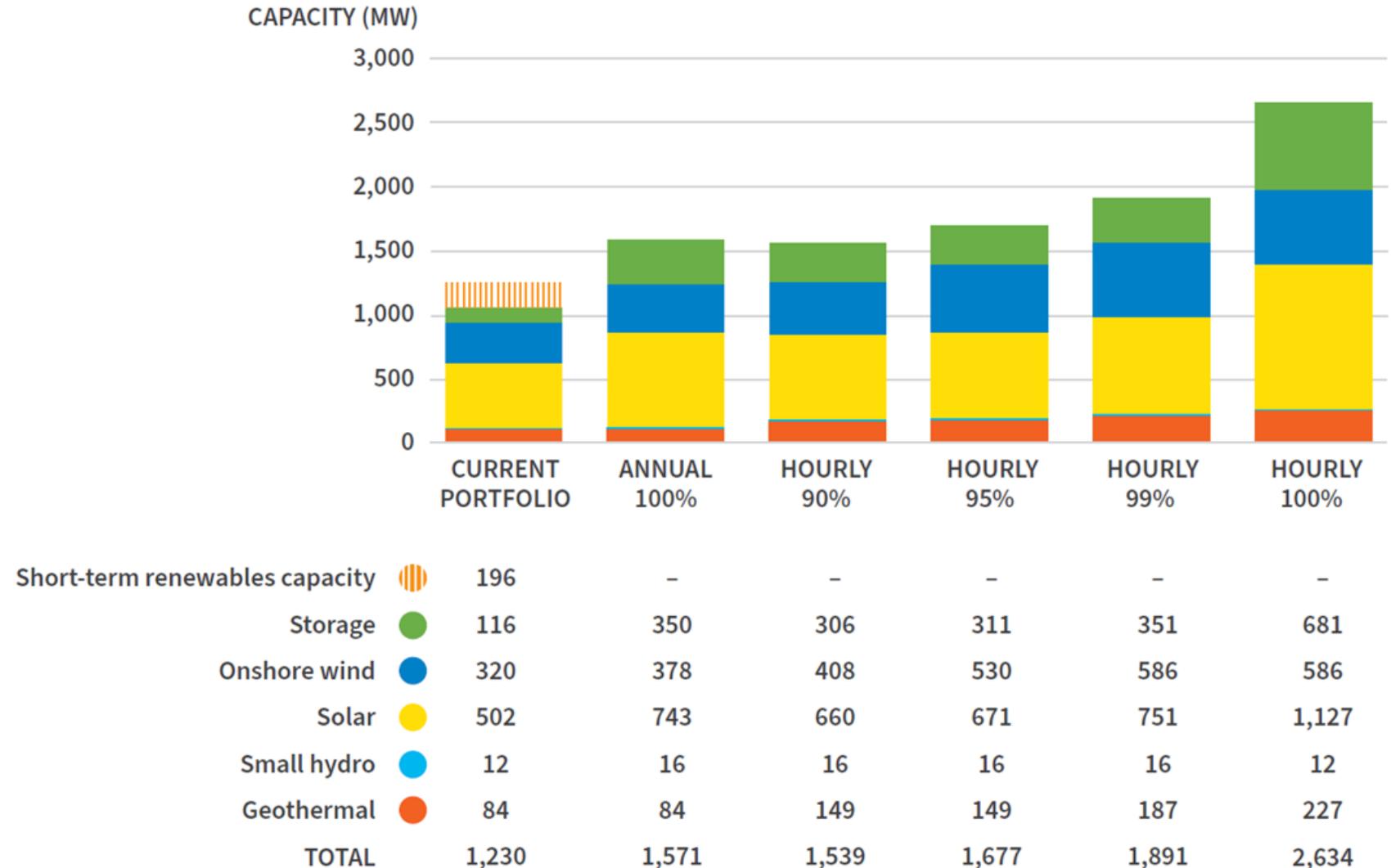


Less perfect matching  
Less expensive \$

More perfect matching  
More expensive \$\$\$\$

# New Capacity Required to Add to our Portfolio

- New capacity required to be added to our portfolio generally increases as time-coincident target increases.
- More firm and flexible resources are needed at higher time-coincident targets.



# Cost of Time-Coincident Procurement

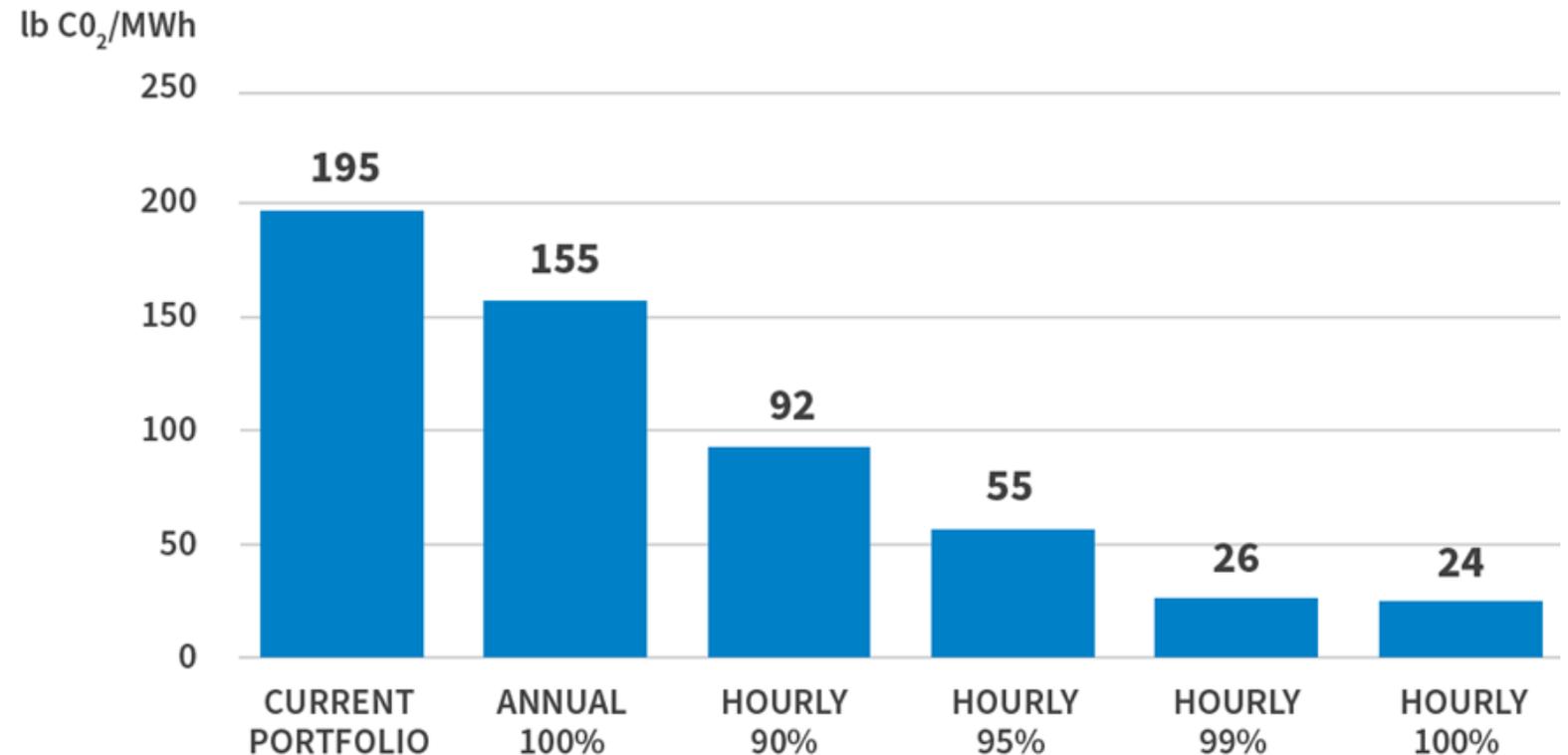
- Time-coincident renewable energy procurement up to 99% can be achieved with only 2% cost increase (based on mid 2022 market conditions)

Scenario	Difference in Expected Cost of Energy* relative to Current Portfolio (%)
Current Portfolio	0%
Annual 100%	-1%
Hourly 90%	0%
Hourly 95%	1%
Hourly 99%	2%
Hourly 100%	12%

# Emissions Reductions: Hourly Carbon Footprint

- Increasing our time-coincident target will reduce PCE's hourly carbon footprint

\* The hourly carbon footprint accounts for our use of grid energy in some hours, and does not give us "credit" for supplying excess energy in other hours



Results are specific to Peninsula Clean Energy

# Major Findings

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- Time-coincident renewable procurement strategy could be cost-effective and reduce market risk under certain market conditions
- Procuring time-coincident renewable energy reduces PCE's hourly carbon footprint

**Organizational Priority:**  
*Deliver 100% Renewable Energy Annually by 2025  
and on a 99% Time-coincident Basis by 2027*

# Thank you!

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A sustainable world with clean energy  
for everyone.

