



San Francisco  
**Water Power Sewer**  
Services of the San Francisco Public Utilities Commission

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# **CleanPowerSF 2022 Integrated Resource Plan**

**July 15, 2022**



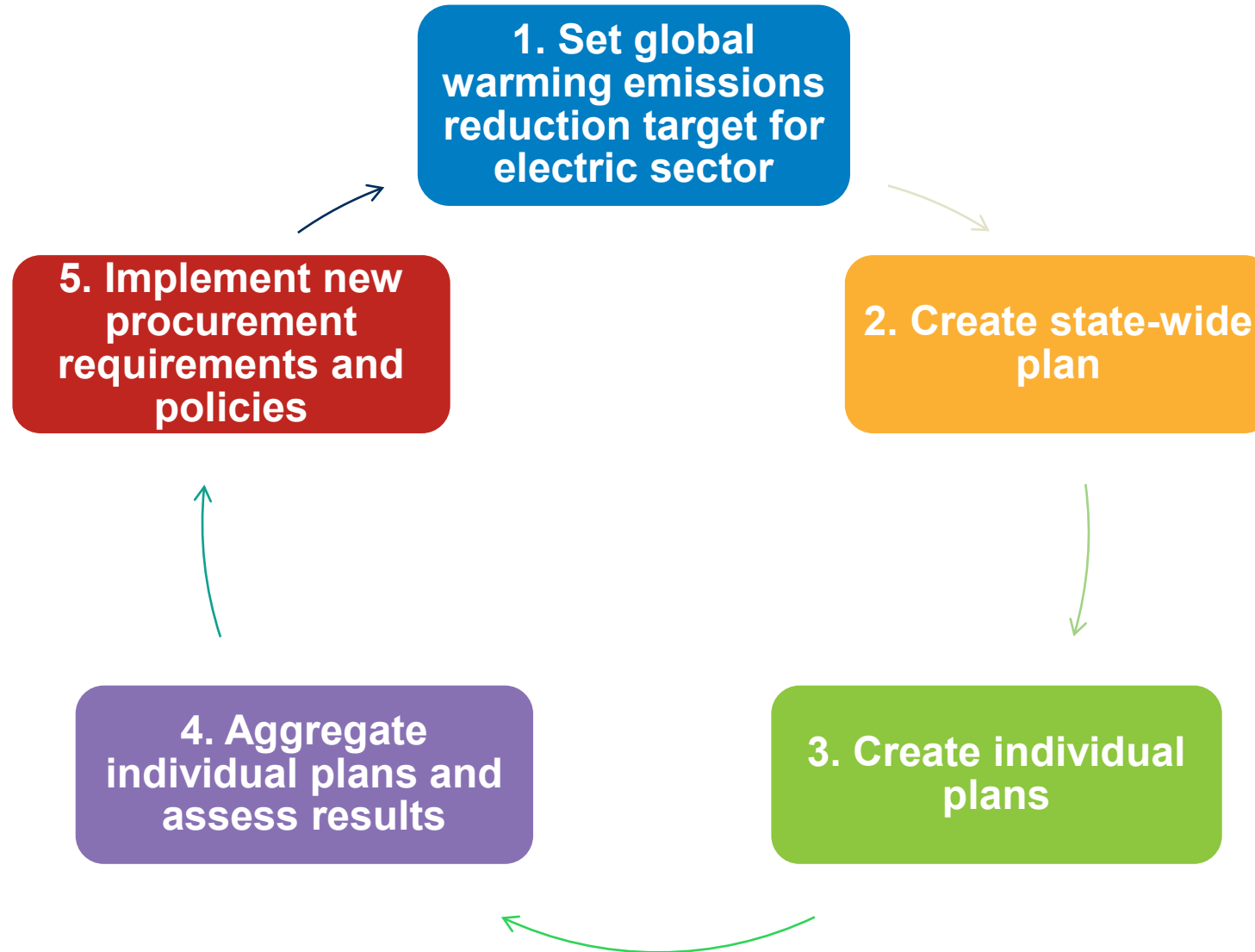
# Integrated Resource Planning



- CleanPowerSF is required under state law to develop an **Integrated Resource Plan (IRP)** every two years.
  - Evaluates **energy demand and supply scenarios** over 20 years.
  - Examines **portfolio options** to provide **reliable energy** at the **lowest cost** while meeting **policy objectives**.
- CleanPowerSF's next IRP is due November 1, 2022.



# California's Integrated Resource Planning Process





# Key Terms

- **Portfolio**: collection of generation resources used to serve electricity demand.
- **Conforming Portfolio**: the specific mix of electric generation resources that meet CPUC requirements.
- **Scenario**: variations on a future state or objective that may influence the resources included in a portfolio.
- **Sensitivity Analysis**: an analysis that involves changing one assumption to understand its influence on the portfolio.



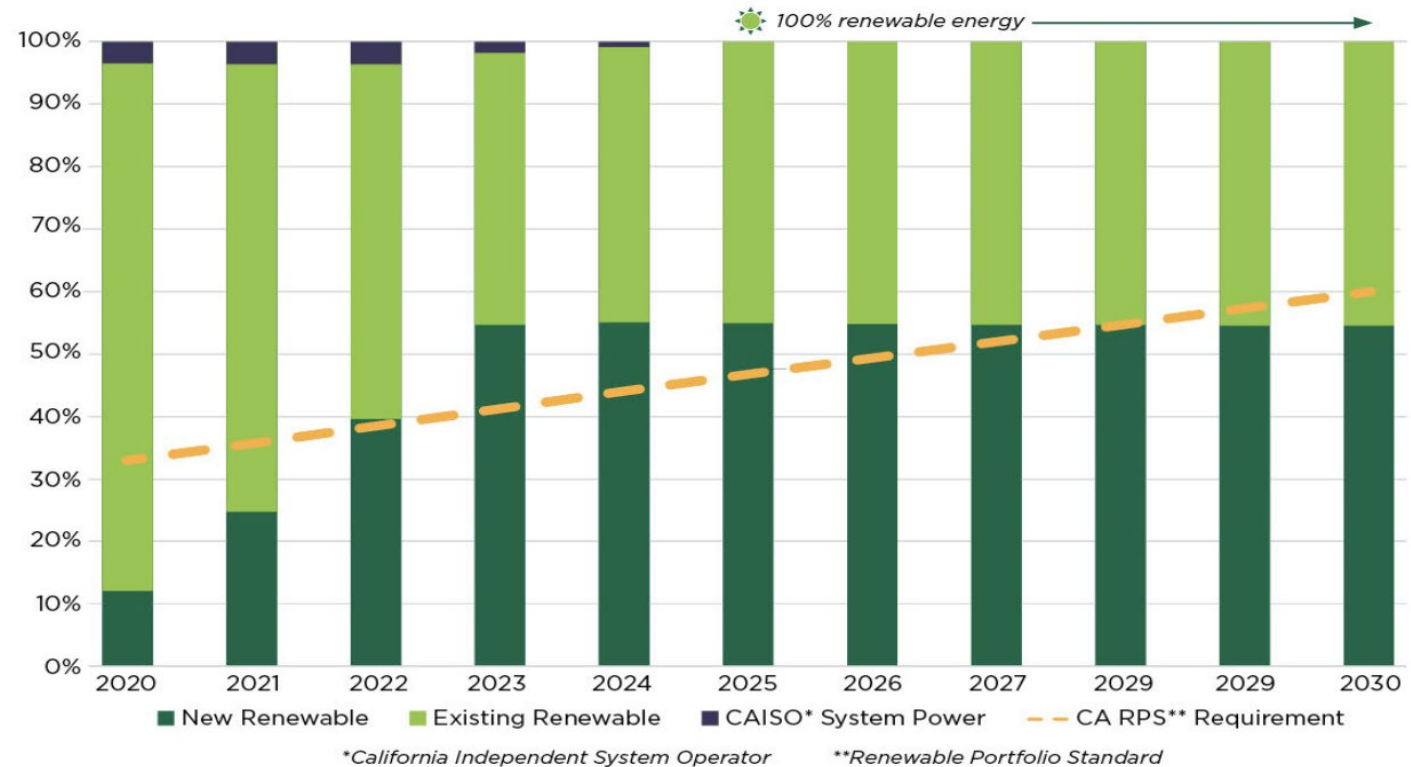
# 2020 Integrated Resource Plan Recap

## CleanPowerSF IRP

- Accelerated CleanPowerSF renewable energy goals by 5 years
  - 100% renewable by 2025
- Identified solar + paired storage as most cost-effective investments to meet energy and reliability goals
- Portfolios with ~80 MW of local solar still affordable

## CPUC IRP Proceeding

- Systemwide reliability concerns resulted in significant procurement orders
- Increased interest in resource diversity (Long-duration storage, Geothermal, Offshore Wind)



## 1. Identify a Realistic Path to Achieving 100% Renewable Energy Goal

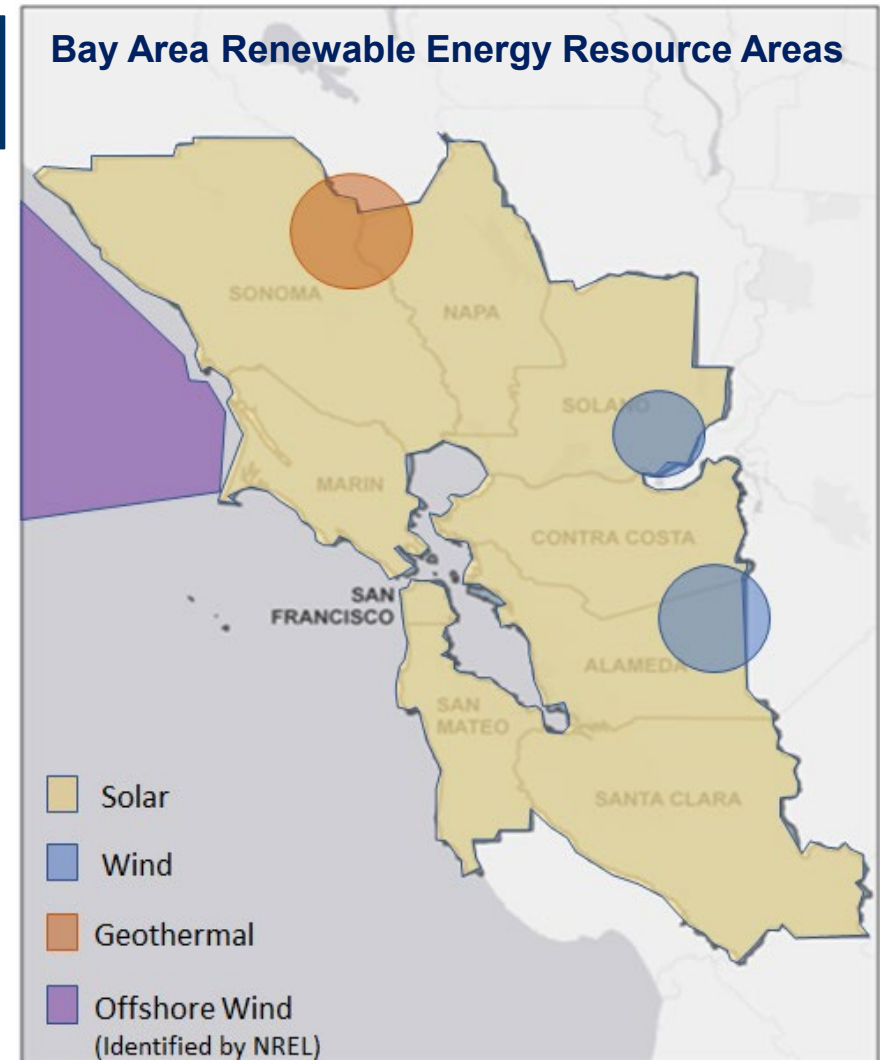
2020 IRP identified an aggressive plan for new resource development. What has changed in market and new “on-the-ground” realities that the 2022 Plan must reflect?



## 2. Update Local Supply-Side Investment

2020 IRP identified supply-side **local investments**.

What additional demand-side opportunities exist?





## 3. Plan for Electrification

How will **building** and **transportation decarbonization** goals affect CleanPowerSF demand and what programs and investments can be made to support Citywide decarbonization goals?





## 4. Delivering Affordable Service

Costs are increasing across our economy putting pressure on lower income members of our community. How can we ensure that these customers are not disproportionately burdened by our energy transformation?





# Priorities for the 2022 IRP



## 5. Ensuring Reliability

What resources will most effectively reduce reliance on grid-supplied natural gas generation between 5-10pm and which resource portfolio will be the most resilient under extreme weather scenarios?

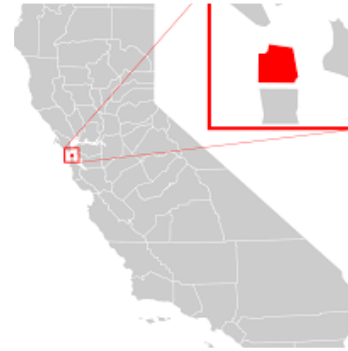


# IRP Portfolios



## Conforming Portfolio

- ✓ Uses inputs and assumptions provided by the CPUC
- ✓ Accounts for statewide goals and targets
- ✓ Minimal flexibility to incorporate local goals and targets



## Alternate Portfolio

- ✓ Uses inputs and assumptions determined by CleanPowerSF
- ✓ Accounts for local goals and targets:
  - Transportation electrification
  - Building decarbonization
- ✓ Provides flexibility to incorporate community preferences

# CleanPowerSF IRP Modeling Portfolios

Portfolio Name	Criteria
1. Current CleanPowerSF Supply Portfolio Goals ("CleanPowerSF Goals")	<ul style="list-style-type: none"> <li>✓ 100% renewable by 2025</li> <li>✓ Local resource prioritization</li> </ul>
2. CleanPowerSF Goals & No Unspecified Grid Purchases Between 5-10 pm	<ul style="list-style-type: none"> <li>✓ 100% renewable by 2025</li> <li>✓ Local resource prioritization</li> <li>✓ Resource generation meets customer usage during peak periods</li> </ul>
3. CleanPowerSF Goals & 100% Time Coincidence by 2035	<ul style="list-style-type: none"> <li>✓ 100% renewable by 2025</li> <li>✓ Local resource prioritization</li> <li>✓ Resource generation meets customer usage in real time</li> </ul>

Portfolio Name	Criteria
4. CleanPowerSF Goals & Mayor's EV and Building Electrification Targets Met	<ul style="list-style-type: none"> <li>✓ 100% renewable by 2025</li> <li>✓ Local resource prioritization</li> <li>✓ Emission-free trips originating in, ending in, or passing through San Francisco by 2040</li> <li>✓ Decarbonization of existing buildings by 2040</li> </ul>
5. CleanPowerSF Goals & 50% of Mayor's EV and Building Electrification Targets	<ul style="list-style-type: none"> <li>✓ Same as above, but slower pace of electrification</li> </ul>
6. CPUC's 30 million metric tons (MMT) of Carbon Dioxide Equivalent (CO <sub>2</sub> e) Case	<ul style="list-style-type: none"> <li>✓ Portfolio that meets the CPUC's assigned emissions benchmark (Required)</li> </ul>



# CleanPowerSF IRP Modeling: Sensitivities



## Electric Vehicle Adoption

- ✓ Accelerated electric vehicle purchases
- ✓ Increased share of electricity-supplied travel in San Francisco



## Building Decarbonization

- ✓ Electrification growth
- ✓ Adoption rates



## Future Climate Scenarios

- ✓ Extreme weather
- ✓ Resiliency





# CleanPowerSF's Preferred Portfolio



# Preferred Portfolio Considerations

The Preferred Portfolio should best balance CleanPowerSF's Program Goals, incorporating community priorities where possible





# Community Engagement: Phase 1 Recap

## Overall Outreach Goals

- Inform the public about CleanPowerSF's roadmap to 100% renewable electricity
- Create space(s) and opportunities for direct community feedback, input, and ideas
- Increase transparency about the Integrated Resource Plan development process and timeline
- Expand engagement efforts and tactics to ensure greater diversity and inclusion of input

## Phase 1 Outreach Overview (June-July)

- Digital Survey
  - Launched June 5<sup>th</sup>; open until July 21<sup>st</sup>
  - 67 responses received
  - 92.1% identified as a CleanPowerSF customer
- Virtual Community Workshops
  - Two workshops hosted (6/21, 6/23)
  - 24 attendees from more than 15 different community based organizations, including: 350 San Francisco, Democratic Socialists of America, Haight Ashbury Neighborhood Council, SF Climate Emergency Coalition, San Francisco Tomorrow, Sierra Club, Tenderloin Neighborhood Development Corporation (TNDC), and the Greenlining Institute.



## Survey Findings

- **86%** of respondents “Agree” or “Strongly Agree” that 100% of clean electricity supply by 2025 should be the focus of CleanPowerSF’s resource planning process
- **73.1%** of respondents “Agree” or “Strongly Agree” that developing renewable energy projects in the Bay Area is worth a potential increase in rates.
- **71.4%** of respondents “Agree” or “Strongly Agree” that CleanPowerSF’s long term rates should remain competitive with PG&E’s.
- **55.5%** of respondents said they plan to provide feedback on CleanPowerSF’s draft 2022 IRP

## What we heard as priorities

Modeling additional scenarios, especially resiliency in natural disasters and extreme weather

More local renewable sources

Affordability

Emissions reduction/Environmental sustainability

Reliability of sources

Electrification and decarbonization

Rooftop solar

## Virtual Community Workshop Feedback

### Affordability/Equity

- Prioritize projects that will yield the fastest benefits/savings to customers and community members
- Help organize and fund decarbonization by implementing pilot programs in affordable housing to use as a success model for other neighborhoods
- Create more sliding-scale rates for all income levels, not just programs for low-income families

### Reliability

- Ensure that electrification programs contribute to grid resiliency
- Consider how to improve local resiliency to potential risks like blackouts
- Ensure that energy remains reliable in the event of a natural disaster that impacts the grid, despite being produced hundreds of miles away

### Sustainability

- Consider battery storage components for 100% renewable transition
- Ensure that lifecycle impacts of battery technologies are incorporated when considering energy storage projects
- Consider launching an educational campaign to encourage landlords to switch to all-electric appliances

# Community Engagement: What's Next?

## Phase 2 Outreach (September-October)

- Focus on soliciting direct feedback about the draft Integrated Resource Plan through a written public comment period and virtual stakeholder listening sessions.
- Interested parties, including community organizations, survey respondents, workshop attendees, and customers will be notified of the four (4) week written public comment period in late August/early September.

## Stay updated!

- Visit: [www.cleanpowersf.org/resourceplan](http://www.cleanpowersf.org/resourceplan)
- Email: [cleanpowersf@sfgwater.org](mailto:cleanpowersf@sfgwater.org)

- Upcoming engagement opportunities:

### Sept-Oct IRP Scenario Feedback

- Public Comment Period
- Virtual Feedback Sessions
- Presentations



### November Final 2022 IRP

- Approved by SFPUC Commission
- Submitted to the CPUC

# Preferred Portfolio Considerations

The Preferred Portfolio should best balance CleanPowerSF's Program Goals, incorporating community priorities where possible





# Schedule

## September 2022

- ✓ Solicit comments from public on results and recommendations
- ✓ Prepare report with staff recommendation identifying preferred portfolio



## Future Work

- ✓ Continued analysis of Local Renewables potential beyond the November 1 IRP submission to CPUC



## June 2022 – August 2022

- ✓ Modeling of CleanPowerSF's IRP portfolios

## October 2022 – November 2022

- ✓ Commission approval of a preferred portfolio and plan on October 25
- ✓ Submission to CPUC by November 1



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**Thank you!**

