


# 2022 INTEGRATED RESOURCE PLAN

San José City Council

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**SAN JOSE**   
**CLEAN ENERGY**  
A Program of the City of San José

# WHAT IS AN INTEGRATED RESOURCE PLAN (IRP)?

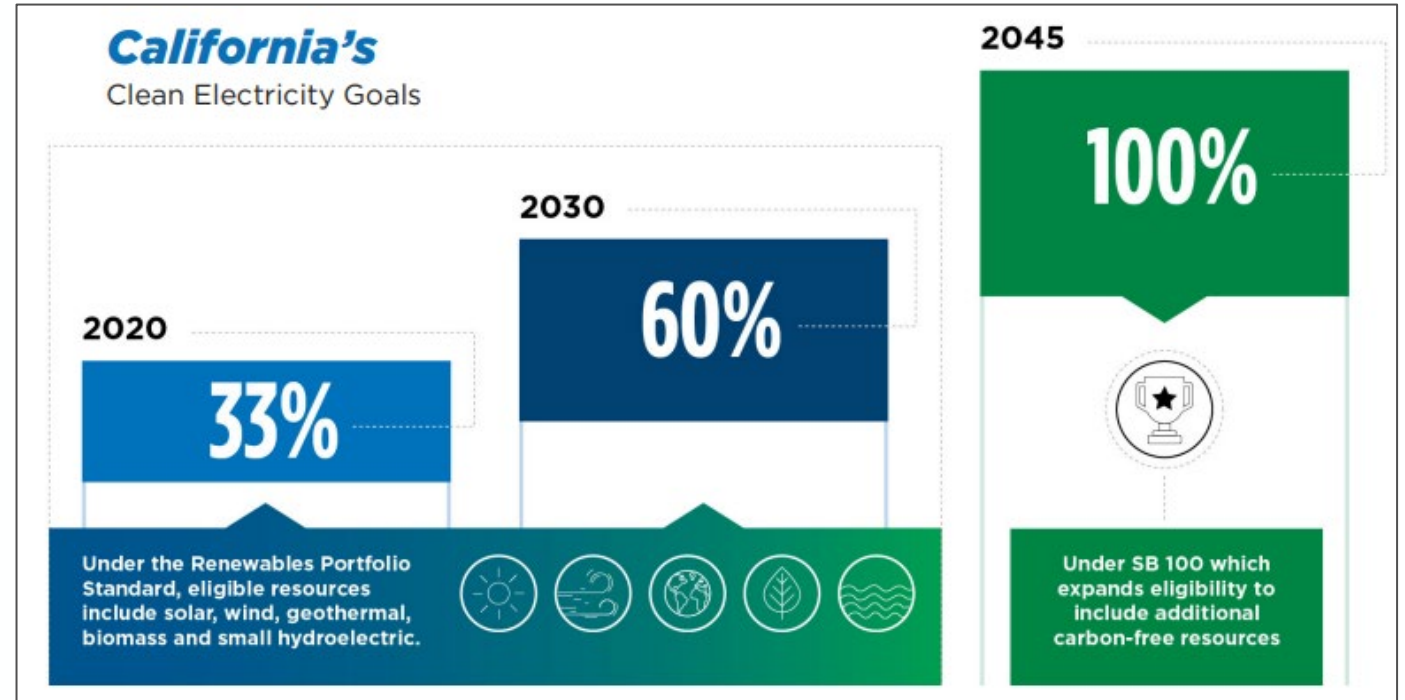
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- Long-term planning tool to meet regulatory requirements and local policy goals
- Evaluates electricity supply and demand then identifies resource options to deliver low carbon, reliable, and cost-effective energy to customers
- IRP must be filed every two years with CPUC
  - Requires City Council approval



# REGULATORY REQUIREMENTS

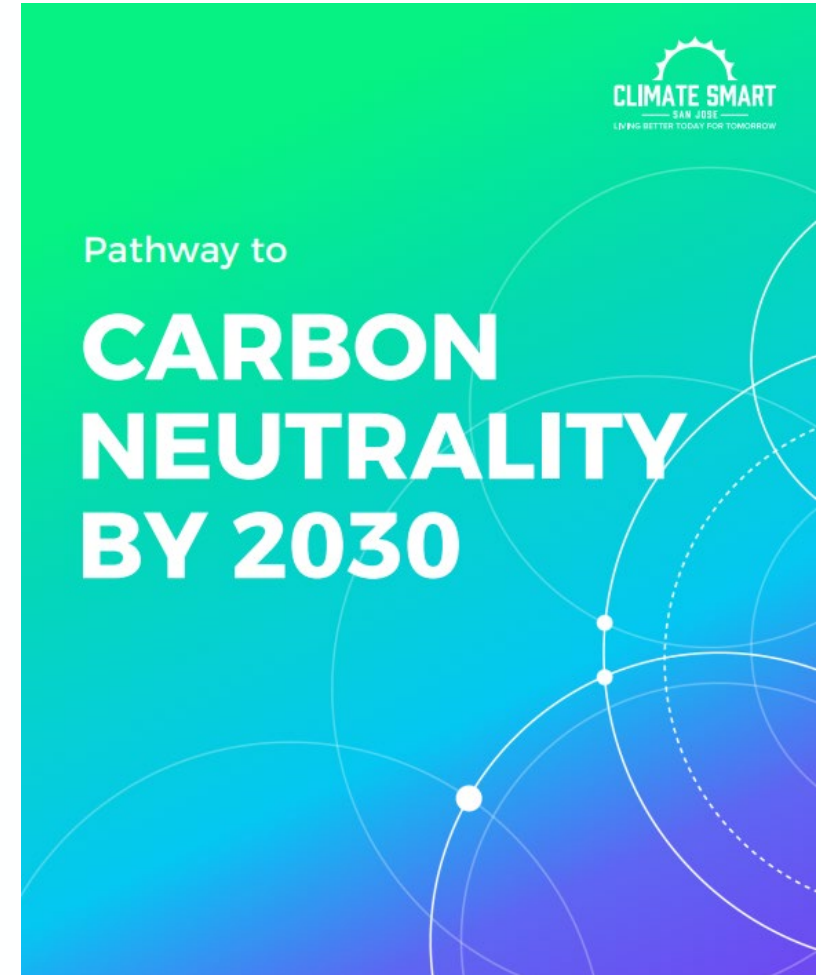
- IRPs outline how to meet
  - State emission reduction targets
  - State Renewable Portfolio Standards
  - System reliability
- IRPs also
  - Guide statewide procurement decisions, policy making, and transmission planning



Source: SB 100 Joint Agency Report, 2020

# LOCAL CLEAN ENERGY POLICIES

- IRP process helps SJCE achieve the City's clean energy goals
  - Carbon neutral by 2030
  - SJCE supplies the clean energy to support Climate Smart electrification efforts and pathway to carbon neutrality
- CCAs are locally-controlled
  - Decisions are made to benefit our community and advance access to clean energy



# SJCE RENEWABLE INVESTMENTS

Since 2019, SJCE has contracted for nearly 500 MW of new renewable energy and storage resources

- 62 MW solar + storage in Kern County; fixed delivery from 6 a.m.-10 p.m. every day (online)
- 225 MW wind in New Mexico (online)
- 200 MW of solar & 10MWs of battery storage (not yet online)

Up to 45 MW of long-duration storage and up to 34 MW of geothermal through joint projects with other CCAs



# 2022 IRP SCHEDULE



# 2022 CPUC IRP REQUIREMENTS

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- CPUC requires electricity suppliers to submit at least two portfolios to meet 2030 & 2035 statewide carbon emission targets:
  - 38 Million Metric Tons (MMT) by 2030 and 30 MMT by 2035
  - 30 MMT by 2030 and 25 MMT by 2035
  - A single portfolio can be submitted if emissions are below the 25 MMT target
- Forecast customer demand through 2035 including rooftop solar and EVs
- Develop portfolios to meet renewable energy and carbon emission targets considering costs, availability, timeframe, and needs
- Meet state requirements for capacity, renewable, and carbon-free attributes

# 2022 IRP PORTFOLIOS

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**CED developed two portfolios:**



1. CPUC Compliant Portfolio: Emits SJCE's proportional share of 30 MMT of carbon emissions by 2030 and 25 MMT by 2035
2. City Carbon Neutral Portfolio: Achieve City goal to be carbon neutral by 2030

Portfolio sensitivity analysis:

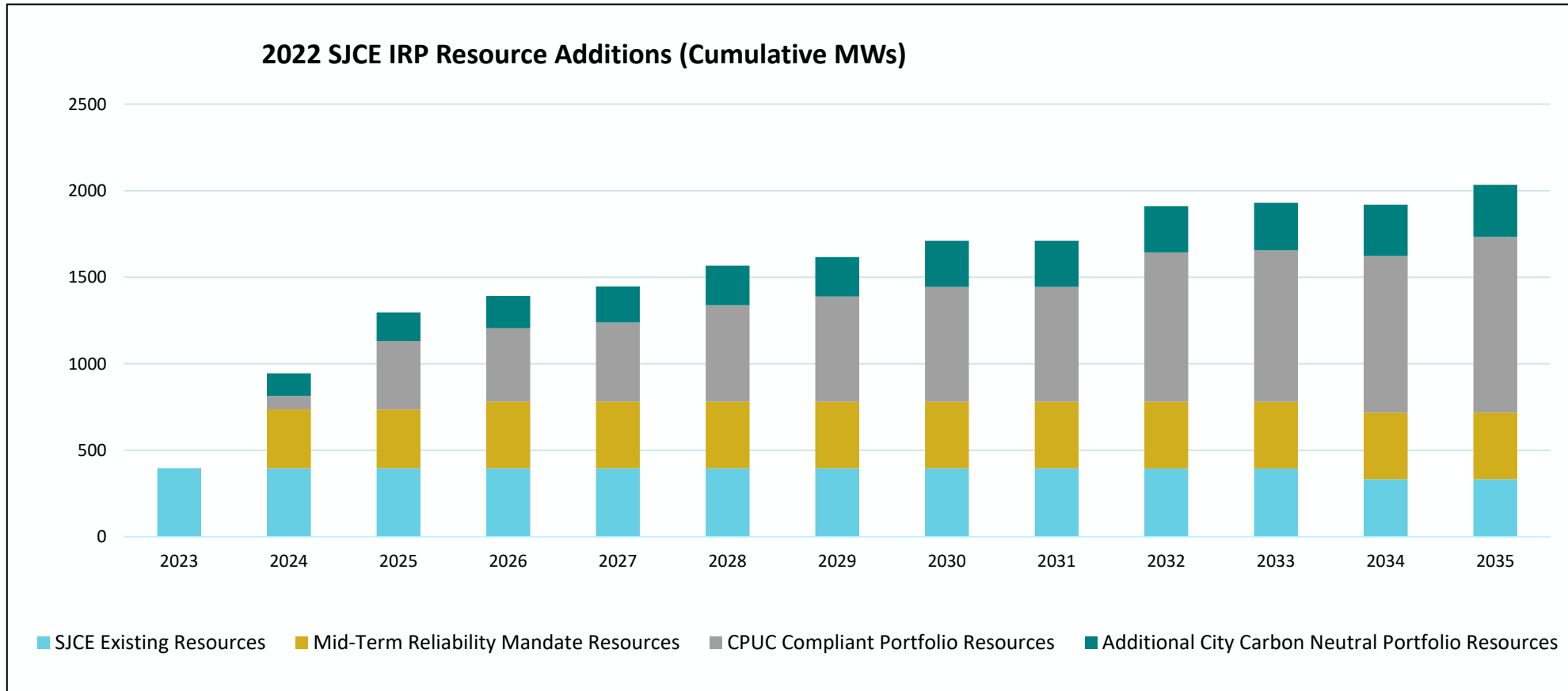
Impact of varying amount of solar and storage vs wind

Wind reduces exposure to price risks mid-day and in evening

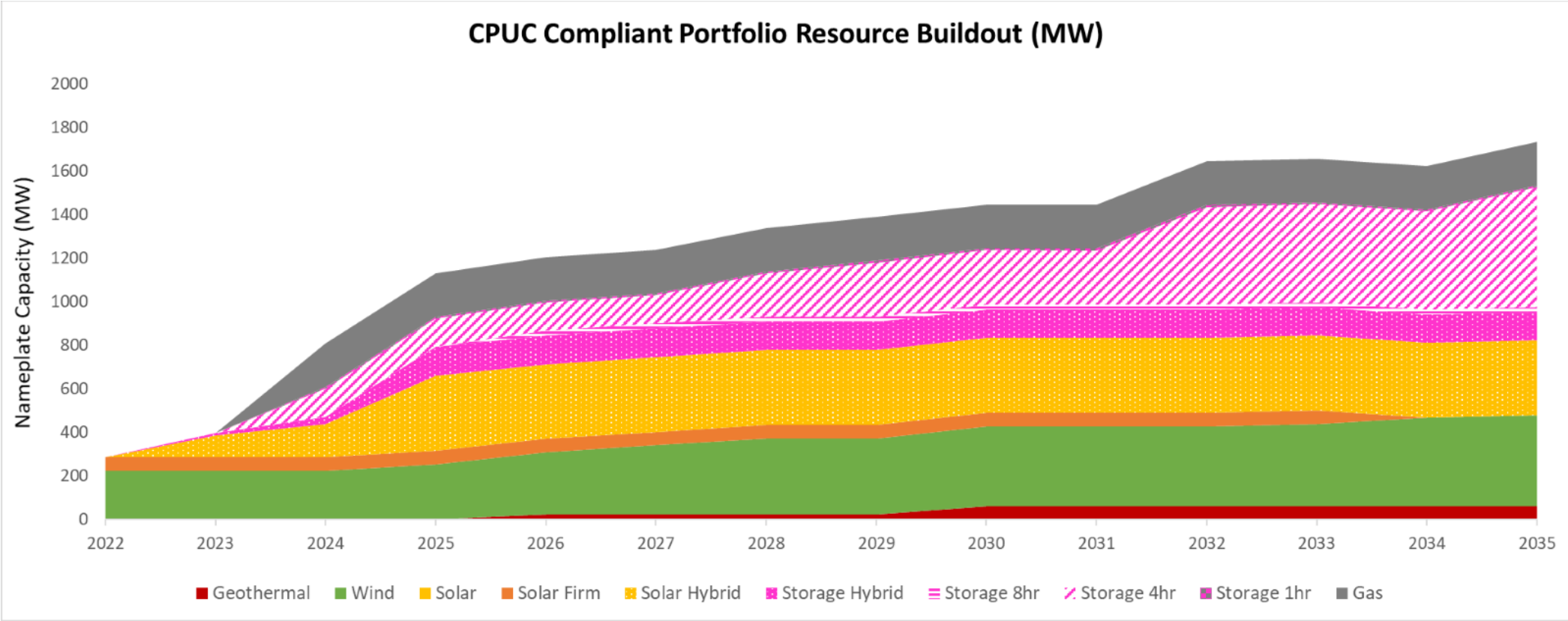


# MODELING FINDINGS

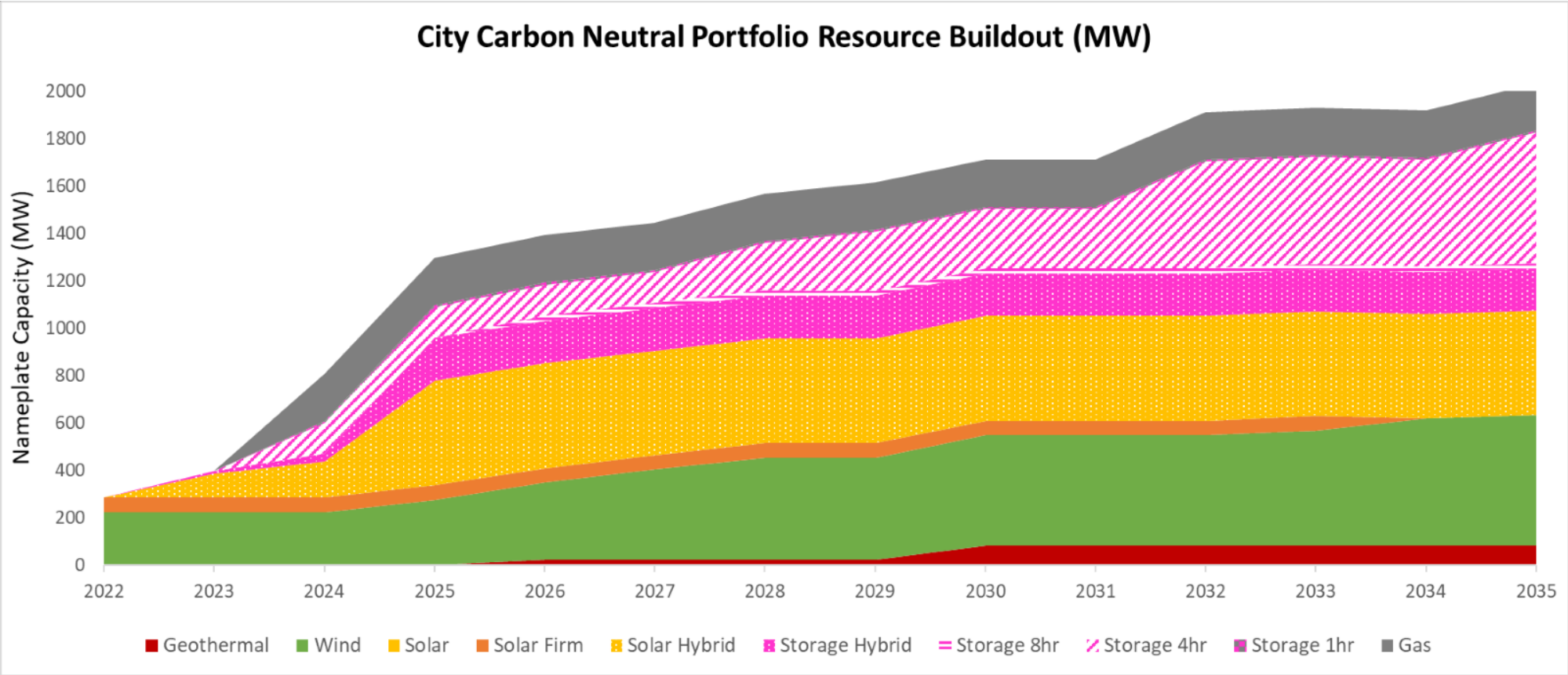
Both portfolios require significant additional resources



# SJCE RESOURCE BUILDOUT (CUMULATIVE)



# SJCE RESOURCE BUILDOUT (CUMULATIVE)



# IMPORTANT OBSERVATIONS

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- Both portfolios require CED to significantly increase its pace of new renewable resource procurement
- Both portfolios require CED to buy substantially more renewable capacity than its peak load
  - Will require some sales in particular hours to balance resources with load

# RELIABILITY CONSIDERATIONS

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- Modeling identifies 200 MW of existing natural gas + 8 MW of storage to meet reliability requirements through 2035
  - Gas plants can meet SJCE's reliability needs with limited operation
  - Complement large volume of intermittent renewables
- Opportunities to reduce portfolio emissions from natural gas
  - Pair with storage to reduce operation of plants
  - Retrofit to burn green hydrogen
  - Use carbon offsets
  - Monitor emerging technologies

# RECOMMENDATION

## Recommendation to Council:

- Submit the ***CPUC Compliant Portfolio*** to the CPUC
- Use the ***City Carbon Neutral Portfolio*** as a guide to meet City's goal to be carbon neutral by 2030
- Continue to work with other City departments to achieve Climate Smart goals and pathway to carbon neutrality by 2030



## Staff:

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