INTEGRATED RESOURCES PLAN

CECAC

October 2021

SAN JOSE CLEAN ENERGY

A Program of the City of San José

INTEGRATED RESOURCES PLAN (IRP)

- Long-term utility plan to:
  - Forecast load and energy needs
  - Achieve state and local climate goals
  - Model renewable energy integration
  - Show resources needed to maintain reliability
- Load Serving Entities (LSEs) must develop and submit these plans to California Public Utilities Commission (CPUC) every other year
  - Due July 1, 2022
- Modeling shows the most cost-effective way to meet load, reliability and climate goals

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2020 IRP PROCESS

CPUC determined the electric system currently emits 60 million metric tons (MMT) of carbon

cleaner

CPUC required plans:

1. 46 MMT of carbon emissions from the electric system by 2030
2. 38 MMT of carbon emissions from the electric system by 2030

Environmental advocates preferred:

3. 30 MMT of carbon emissions from the electric system by 2030

ClimateSmart SJ:

4. Carbon neutral by 2021

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SJCE LONG TERM RENEWABLE AGREEMENTS

Developer / Project	Term	Technology	MW	Date Signed	Online Date	Location
EDPR Sonrisa	20 years	Solar + Storage	100 + 10	8/6/19	12/31/2022	Fresno, CA
Terra-Gen Edwards V	15 years	Solar	100	12/16/19	12/31/2022	Kern, CA
Terra-Gen Edwards IV (7x16)	12 years	Solar	62	4/22/20	12/31/2021	Kern, CA
Pattern Clines Corner	15 years	Wind	225	8/31/20	12/31/2021	New Mexico

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MODELING RESULTS

Portfolios resulting in…	New solar by 2030 (Megawatts, MW)	New wind by 2030 (MW)	New battery storage by 2030 (MW)	SJCE's Carbon Emissions in 2030 (Metric tons)
46 MMT	100	90	150	640,000
38 MMT	320	100	200	435,000
30 MMT	475	100	350	327,000
Annual carbon neutrality	700	100	400	238,000

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IRP KEY FINDINGS

- Lowest cost approach to meeting aggressive emissions targets:
  - Significantly overbuild renewables (primarily solar)
  - Add adequate battery storage
- Considerations for next 2-3 years:
  - SJCE has bought significant renewables already
    - 262 MW of Solar
    - 225 MW of Out of State Wind
    - SJCE should continue to procure at a more moderate pace to balance risks and benefit from technological advancements

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IRP PROCUREMENT CONSIDERATIONS

- Investment in new renewable and battery storage projects lowers statewide carbon emissions
- Early aggressive carbon-free portfolios results in:
  - Buying attributes from existing plants because new renewable resources cannot be built fast enough
  - Redundancy & higher costs – customers pay for some of these resources through Power Charge Indifference Adjustment (PCIA) fee, but CCAs don't get credit on power content label
  - No additional statewide carbon reductions as it doesn't support new renewable projects

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DEVELOPMENTS SINCE 2020 IRP

- New rates adopted in 2021:
  - GreenSource: 55% renewable, 8% above PG&E rates
  - GreenValue: 36% renewable, parity with PG&E
  - TotalGreen: 100% renewable .5 to 1 cents above GreenSource
- CPUC requires additional procurement:

MW		2022	2023	2024	2025	2026	2027	2028	2029	2030
Mid-term Reliability Procurement Mandate	Renewables plus storage (MW is RA value)		43	129	32					
	^of which must be available from 5-10p			*22*	*32*					
	Geothermal or biomass (80% cap fac)					21.5				
	Long-dur. storage					21.5				

- SJCE RPS Procurement Plan:
  - 2021-2023: 55% renewable; 2024-2026: 60% renewable; 2027-2029: 65% renewable; 2030: 70% renewable (10% above State RPS)

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APPROACH

Hiring Ascend to undertake analysis (consultant knowledgeable about CPUC process)

- CPUC required case – likely 38MMT case
- 1-2 optional cases - possibilities:
  - RPS plan
  - 30MMT assuming 30MMT system

Contract with NREL if appropriate

- High level advisor
- Help with demand-side issues:
  - SJCE load shape
  - SJCE vulnerability to weather driven high-cost load
  - Impact on SJCE from warming climate

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COMMUNITY INPUT

CECAC:

- October 7
- Mid-stream
- Before finalizing recommendation

Environmental Groups

- Cooperate with Peninsula Clean Power

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SCHEDULE

- Initial runs in October – December
- CPUC inputs expected Q1
- Final runs Q1
- Present to ROC in May
- Present to Council in June
- Plan filed on July 1, 2022
- Contingent on CPUC timely providing assumptions and system reference plan

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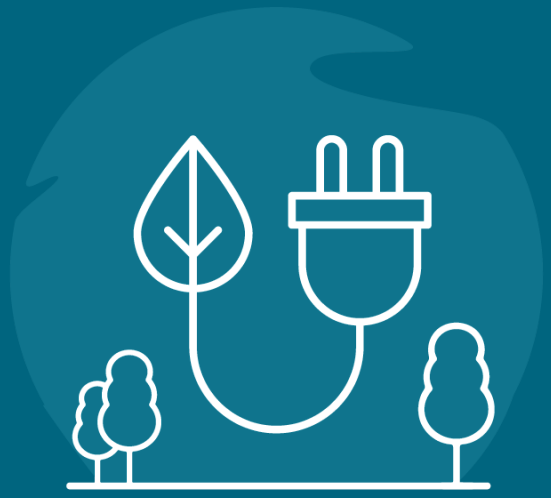

QUESTIONS?