Community Choice
Capturing Community Benefits

Local Clean Energy and Distributed Energy Resources

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July 2018

Ensuring CCE Success

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- California's CCE revolution – amazing progress!
- 2018-2020 – a pivotal time for CCAs

- Premise – Integrated Distributed Energy Resources (DER) will be a critical success factor for CCAs, and help bring the promised benefit their communities

- Modest investments can have outsized impact
  - Webinar Series, Online Clearinghouse of DER knowledge (CPX)

What is DER?

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- Distributed Energy Resources (DERs) are technologies and programs that displace the need to use energy generated from remote sources
  - Some DERs generate and store energy locally
  - Others reduce the demand for energy, or demand peaks
  - Others make the energy supply more resilient
- At the heart of our distributed energy transformation
- Planning a strategy or “roadmap” is important for success

DER Options - Examples

- Local Renewable Energy Generation
- Local Energy Storage
- Micro Grids
- Electric Vehicles and Charging Systems
- Electrification (switching buildings from gas to electric)
- Energy Efficiency & Demand-Response measures
- Data Analytics & Management
- Smart Control Technology for connecting all the parts

Why is early DER effort strategic?

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- Robust DER understanding enables CCEs to plan, hire, and position for future trends & capture community benefits:
  - Enables further reductions of GHG emissions & peak demand
  - Stimulates local economic development and jobs
  - Facilitates development of innovative pilot projects
  - Increases public visibility of and support for CCE
  - Helps to differentiate CCE programs from those of IOU
  - Promotes local energy resilience

How can CCAs invest in DER deployment?

- Hire experienced staff and consultants with DER knowledge
- Build understanding of the power of DER among key stakeholders
- Identify local priorities and criteria for future programs
- Develop pilot projects to test concepts
- Use DER to build brand within the community!

- Develop a three to five year DER rollout strategy
- Include DER in Integrated Resource Plan
- Engage member cities in the DER process (share management and resources, align with climate action plan)

Your Status & Plans?

- As of today:
  - Is there good support for DER in principle? Hiring factor?
  - How would you assess the current knowledge level about DER and its benefits for the CCA?
    - CCE staff, board members, advisory committee members?
  - Is a timeline defined for starting DER planning efforts?
  - Current approach for pursuing DER activities?
    - Roadmap? Pilots? Climate Action Plan Alignment?
  - Is there a budget defined?
- Best way to continue our dialogue?

Topics of Interest?

- Possible Webinar Topics:
  - CCAs + DER: The Case for Why **(Aug 22nd, 11-12, recorded)**
  - The How & Why of a Local Resources Dev Plan (EBCE roadmap)
  - Inspiration/Success Stories, Approaches Used, Lessons Learned
  - Tech topics: Grid assessment, and location value of resources
  - Specific programs of interest: EV programs, Solar+ Storage, Electrify Everything, etc.
  - The value of partnerships & regional collaboration
  - Engaging local cities Climate Action Planning in the DER process
- Online Resources:
  - DER options, Actual projects (CCA, Muni, IOUs), Case Studies, Lessons/Best Practices

CCP's Goals

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- Project Goal: To share DER expertise and resources to help accelerate the **impact** of our local CCAs by helping to:
  - Efficiently get information about Distributed Energy Resources
  - Build awareness of the importance and value-add of DER
  - Minimize risks to long-term viability in a dynamic environment
  - Identify the community's strategy & priorities
  - Plan, hire and budget accordingly
- Long Term Vision: CCE programs become real game changers!
  - Stimulating local economic development
  - Managing the grid more effectively
  - Creating a model for carbon reduction, emulated nationwide.

Project Outputs

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- Our project's services will be offered to CCE Boards, Staff, and Advisory Committees, including:
  - A shared database of resources and best practices
  - Webinars on DER topics of most interest – **1st Webinar 8/22**
  - Individualized work sessions with CCAs & their advisors
- We will support planning and accelerate advancement of DER within Bay Area CCE programs
  - San Jose, Silicon Valley, Monterey, Peninsula, East Bay

Resources

- Business of Local Energy Symposium, June 4th – 5th .
  - Slides & Recordings available here: https://climateprotection.org/2018-symposium-presentations/

- Webinars/Events– ongoing, excellent resources we recommend:
  - Clean Coalition http://www.clean-coalition.org/newsroom/upcoming-events/
  - Center for Climate Protection http://cleanpowerexchange.org/webinars/
  - Municipal Sustainability & Energy Forum http://mseforum.com/free-webinar/
  - LEAN http://www.leanenergyus.org/news-events/
  - East Bay Local Dev Plan Webinars https://ebce.org/local-development-business-plan/

Range of CCA Customer Programs

	CleanPowerSF	Lancaster Choice Energy	Peninsula Clean Energy	MCE	Sonoma Clean Power	Apple Valley	East Bay Community Energy	Silicon Valley Clean Energy	Pioneer	PRIME	RCEA	Solana Energy Alliance	MBCP	Clean Power Alliance	San Jose Community Energy
Budget Billing	In dev.	✓			In dev.						In dev.				
Battery Storage Rate				✓											
Customer Load Shifting				✓	✓										
Demand Response			In dev.	In dev.			In dev.	✓			✓				
EV Rate	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓	2019
EV Bus Program		✓													
EV Incentives		In dev.	In dev.	✓	✓								In dev.		2019-20
EV Load Shifting				✓	✓										
Energy Efficiency		In dev.		✓	✓					In dev.	✓				
Low-Income & Multifamily EE				✓						✓	✓				
Feed-In Tariff	In dev.			✓	✓						In dev.		In dev.		
Fuel Switching				✓	✓			In dev.			✓		In dev.		2019-20
Low Income Solar Incentives	✓		In dev.	✓			2019			✓					
Net Energy Metering	✓	✓	✓	✓	✓	✓	2019	✓	✓	✓	✓	✓	✓	✓	2019
On Bill Repayment	In dev.			✓	In dev.						✓				
Community Outreach Grants			✓												
Community Energy Grants			In dev.												
PACE Program									✓						

Thank you!

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SAN JOSE IRP

July 16, 2018

Clean Energy Community Advisory Commission

General Requirements

Load Serving Entities (LSE) must file with the California Public Utilities Commission (CPUC) Integrated Resource Plans (IRP).

- Applicable state law: Public Utilities Code Sections 454.51 and 454.52.
- Applicable CPUC decisions: CPUC Decision 18-02-018 (Feb 2018) and subsequent rulings in docket R.16-02-007.
- LSEs include Investor Owned Utilities or IOUs (PG&E, SCE and SDG&E), Community Choice Aggregators (CCAs), and Energy Service Providers (ESPs).)

What is an IRP?

An IRP is a plan to meet an LSEs' electricity needs. It includes:

- a forecast of the LSE's load; and
- a forecast of the resources that the LSE already has or intends to procure to meet that load including LSE owned generating plants, contracts with third party generating plants, storage, energy efficiency, distributed generation, etc.

CPUC IRP Process

- The IRP process will allow the CPUC to ensure:
  - that bulk power system has sufficient resources to operate reliably, and
  - that the electric sector that is subject to the CPUC's jurisdiction will meet its share of the greenhouse gas emission (GHG) reductions that the California Air Resource Board (CARB) has assigned to it.
- If the CPUC finds, after aggregating all plans submitted by LSEs, that these goals will not be achieved it may direct the IOUs to buy additional resources or change their procurement as necessary to do so and could impose the costs of this procurement on all LSEs.
- The IOUs must show they will meet the needs of their customers in a least-cost best-fit manner.
- CCAs need not disclose the costs but must provide a narrative that indicates that the IRP will result in reasonable rates for CCA customers.

The Mechanics

- D.18-02-018 requires that LSEs file IRPs in even years, by August 1 in 2018 and by May 1 thereafter.
- During odd years the CPUC will develop key assumptions that LSEs must use to prepare their IRPs. This includes developing a Reference Case that identifies projected resources, loads, transmission capacity etc.
- LSEs must develop at least one conforming plan. This conforming plan must use the load forecast developed by the California Energy Commission (CEC) for that LSE and must incorporate the assumptions from the CPUC Reference Case.
- LSEs may develop alternative plans that deviate from CEC load projections and Reference Case assumptions but if they do so, they must explain and justify the deviations.

Fundamental 2018 IRP requirements

- The IRPs must demonstrate how the LSE will meet its electric needs and its GHG reduction obligations.
- LSEs must project their Load and Resources on an annual basis from 2018 through 2030.
- Load Includes projected electricity usage by customers including MWh (energy) and MW (peak demand or maximum usage at any time during a defined time period), modified to reflect energy efficiency (measures to reduce energy usage), demand-side management (measures to change the timing of energy usage), and customer installed-behind-the-meter distributed generation (e.g. customer owned photovoltaic panels).
- Resources include LSE-owned generation, contracts with third party generators, imports, storage.

Reliability

- Using the assumptions in the Reference Case, LSEs must determine whether their selected resource portfolio can be delivered reliably to their load, taking into account the characteristics and location of generating resources, loads and transmission capacity.
- The CPUC will aggregate all plans and determine whether the system can accommodate the combined plans of all LSEs and may require modifications as necessary to maintain reliability.

GHG

- CARB has identified the GHG reductions required of LSEs subject to the CPUC's jurisdiction and the CPUC has allocated these reductions proportionally to these LSEs, and developed a GHG benchmark for each LSE.
- Based on CARB work, the CPUC adopted a combined goal of 42 million metric tons (MMT) by 2030 for its LSEs.
- The CPUC has developed a GHG price that is meant to represent the cost of GHG emissions.
- The CPUC has developed a GHG calculator that calculates the GHG emissions of the portfolio selected by each LSE.
- The CPUC calculator only credits LSEs for GHG free energy that matches the load of the LSE and GHG free energy that displaces fossil fuel. This means that an LSE will not get credit for all the GHG free power.

Disadvantaged Communities

- LSEs must assess and report on how their IRPs will affect disadvantaged communities. This includes
  - identifying the disadvantaged communities within their service areas,
  - assessing the impacts of their chosen plan on these communities, and
  - describing what steps the LSE will take to reduce or eliminate those impacts.
- LSEs must list as disadvantaged communities all communities that have a 75% or more rating using the California Office of Environmental Health Hazard Assessment (OEHHA) CalEnviroScreen 3.0 tool. LSEs may list additional communities.
- LSEs must report on GHG emissions and criteria air pollutant impacts on disadvantaged communities.

Disadvantaged Communities

- The following zip codes represent the disadvantaged communities in San José as determined by CalEnviroScreen 3.0: 95110, 95111, 95112, 95116, 95122, 95131, 95133.
- There is citywide concern that the CalEnviroScreen tool does not account for certain areas of San José that are known to be low-income, such as areas in the east side of San José.
- SJCE is assessing various data sets to determine which additional communities should be designated as disadvantaged.

San José's 2018 IRP

- SJCE is working with consultants to develop a plan. Because SJCE has not yet procured resources, the plan is primarily prospective.
- On 6/26, the City Council:
  - Adopts 2018 SJCE Criteria;
  - Authorizes the City Manager to file SJCE's 2018 IRP with the CPUC on August 1;
  - Provides that SJCE will submit an updated IRP for approval to City Council no later than March of all even numbered years.
- 2018 SJCE Criteria are based on 2017 SJCE Implementation Plan and 2018 Climate Smart San Jose.
- On 7/16 SJCE updates Clean Energy Community Advisory Committee (CECAC).
- On 8/1 SJCE files the IRP with the California Public Utilities Commission.
- Subsequent processes will be more extensive and provide for more public participation.

San Jose IRP Criteria

- The 2018 SJCE IRP criteria are based on SJCE's previously approved implementation plan and Climate Smart San Jose. These plans detailed the policies and goals for SJCE.
- SJCE will phase in service to San Jose residents and businesses as follows:
  - September 2018 municipal load;
  - March 2019 remaining load.
- SJCE will offer at least one power mix option with a rate equal to or less than PG&E's rates.
- SJCE will offer at least one power mix option at 10 percent or more renewables than PG&E.
- SJCE will offer at least one power mix option that is 100 percent renewable.
- SJCE will offer at least one power mix option with a rate equal to or less than PG&E's rates.
- SJCE will offer at least one power mix option at 10 percent or more renewables than PG&E.

San Jose IRP Criteria

- SJCE will offer at least one power mix option that is 100 percent renewable.
- S JCE's initial resource mix will include a proportion of renewable energy exceeding California's prevailing Renewable Portfolio Standard (RPS) procurement mandate.
- By 2021, SJCE’s residents will have a base power mix that is 100% Greenhouse Gas emissions (GHG) free.
- SJCE will maintain, at minimum, low income programs at the same level as PG&E.
- After becoming established, SJCE will develop local programs including energy efficiency, demand response, distributed generation and renewable energy.
- SJCE will encourage distributed renewable generation in the local area through the offering of a net energy metering tariff; a standardized power purchase agreement or "Feed-In Tariff”; and other creative, customer-focused programs targeting increased access to local renewable energy sources.

San Jose IRP Criteria

- By 2030, SJCE's base offering will be at least 60% renewable.
- By 2030, San Jose will have 668MW of local renewables and by 2040, San Jose will be the
- world's first one GW solar city.
- By 2030, 60% of all passenger vehicles in the City will be electric.
- By 2020, 100 percent of new homes will be ZNE, and by 2030, 25 percent of existing homes
- will be energy efficient and all-electric.
- SJCE will comply with all applicable State Law including the Renewable Portfolio Standard,
- Resource Adequacy requirements, and GHG reduction requirements.
- SJCE's IRP shall comply with the CPUC's requirements with respect to
- disadvantaged communities including identifying the disadvantage communities SJCE will serve, describing the impacts of such service on the disadvantaged communities, and setting forth SJCE's plans to benefit these communities.

Questions?

SJCE IRP
July 16, 2018
Clean Energy Community Advisory Committee

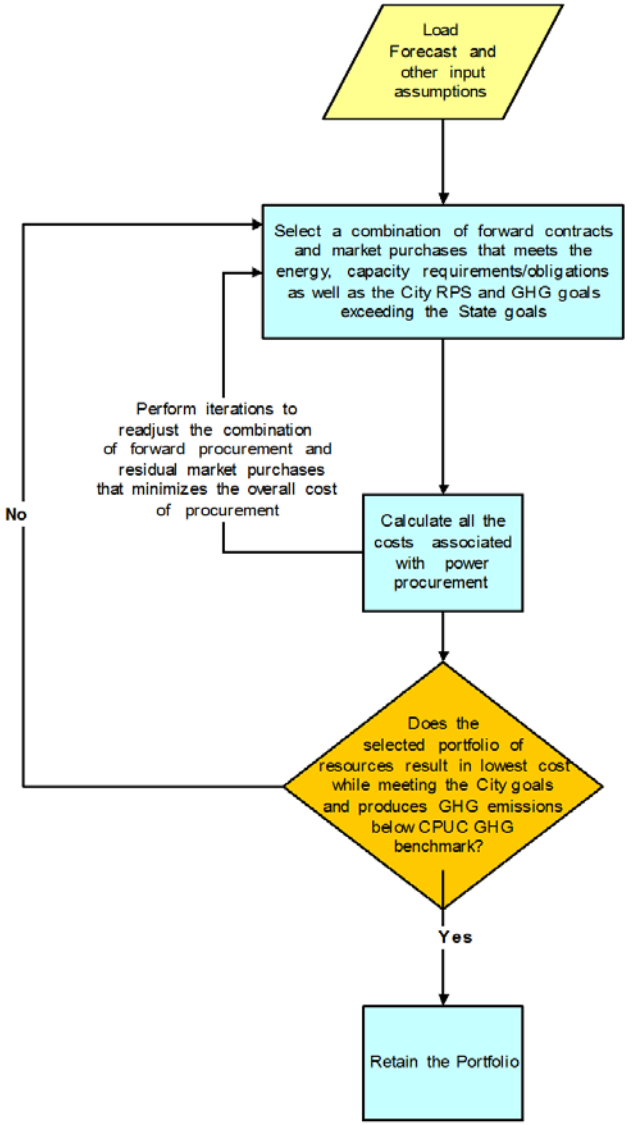
SJCE IRP Objectives and Metrics

- SJCE IRP model includes metrics to ensure that the selected resource mix satisfies the City's short and long-term renewable and other goals, and complies with the GHG benchmark. SJCE's objectives include,
  - 10% more renewables than the state RPS requirements in each year of the planning horizon.
    - For example, by 2030, SJCE will have 60% RPS.
  - By 2021 all SJCE customers will have a base power mix that is 100% carbon free.

- SJCE's metrics include:
  - Percentage of retail load served by RPS-eligible resources
  - Percentage of retail load served by GHG-free resources
  - Annual and Net Present Value (NPV) of portfolio costs
- SJCE's IRP is primarily prospective until SJCE's completes its' RFP process and additional procurement is authorized by City Council.

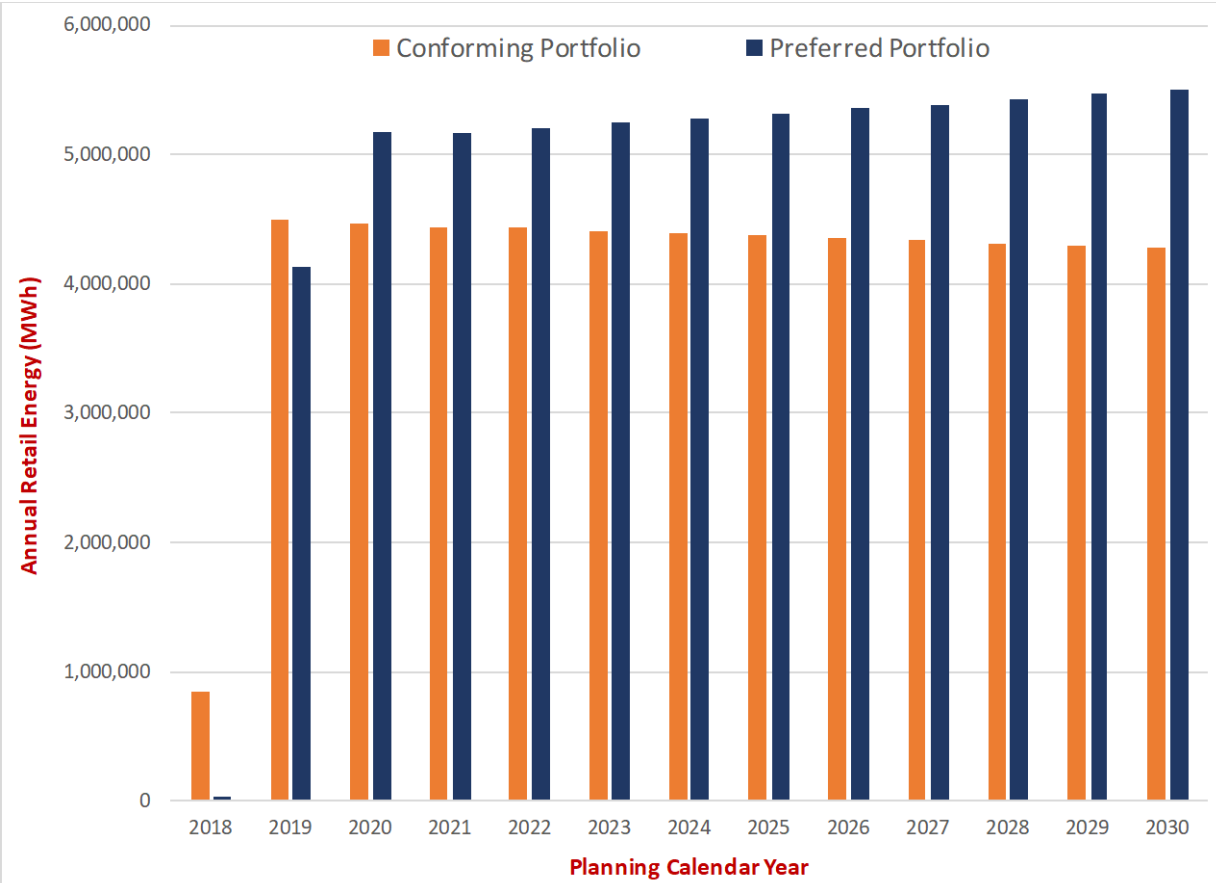
SJCE IRP Modeling Approach

- SJCE IRP model allows user to select a combination of forward contracts and market purchases to meet the projected SJCE energy over the planning horizon.
- A number of iterations ensure that the selected resource mix results in the lowest overall cost of procurement including the energy, resource adequacy capacity, renewable energy credits and CAISO-related costs.



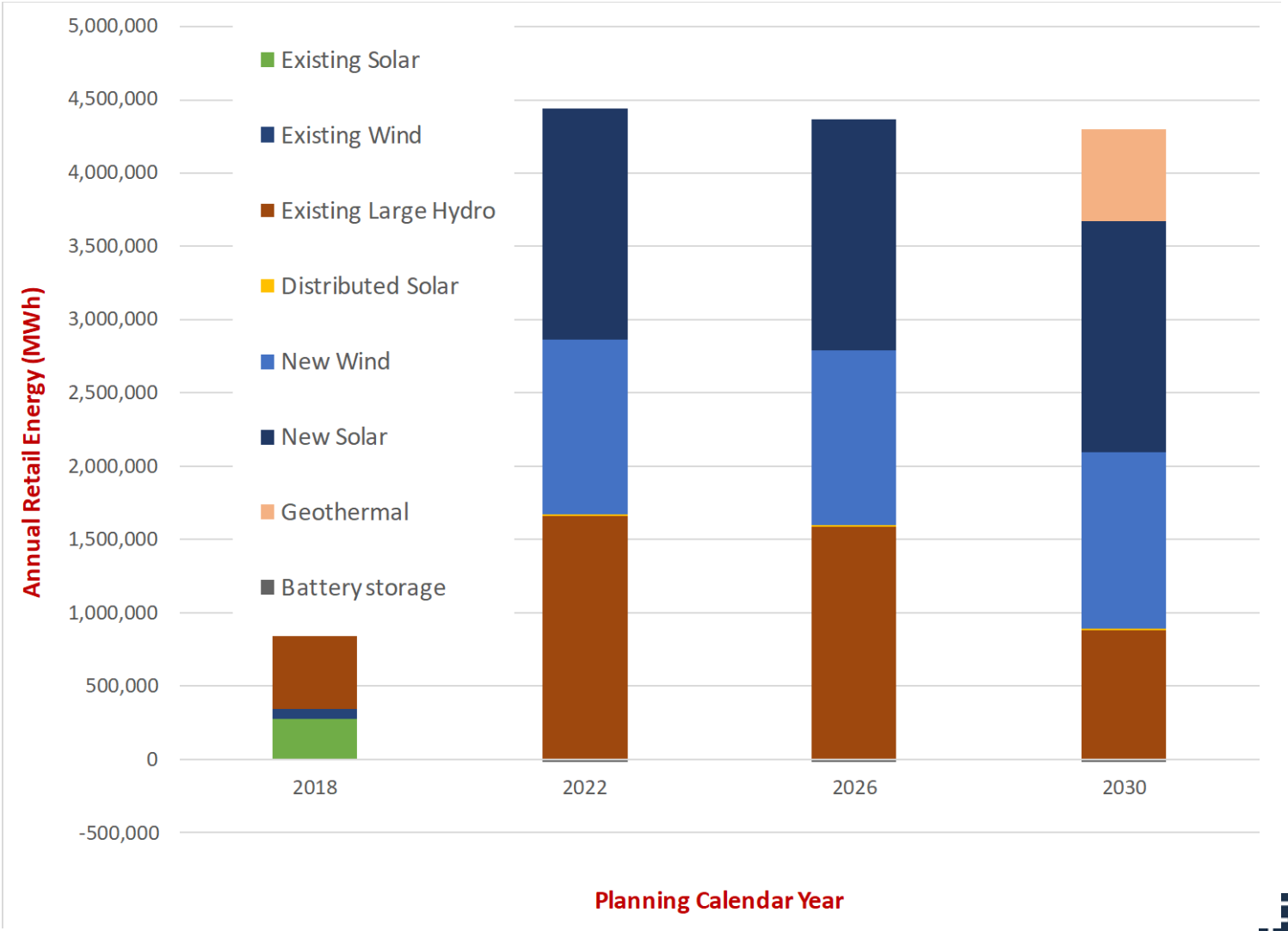
Two SJCE IRP Portfolios

- **"Conforming" IRP Portfolio":** Based on the load forecast used in the California Energy Commission's (CEC) adopted 2017 Integrated Energy Policy Report (IEPR).
- **Alternative "Preferred" IRP Portfolio:** Based on SJCE's Updated load acquisition, with higher load beginning 2021.

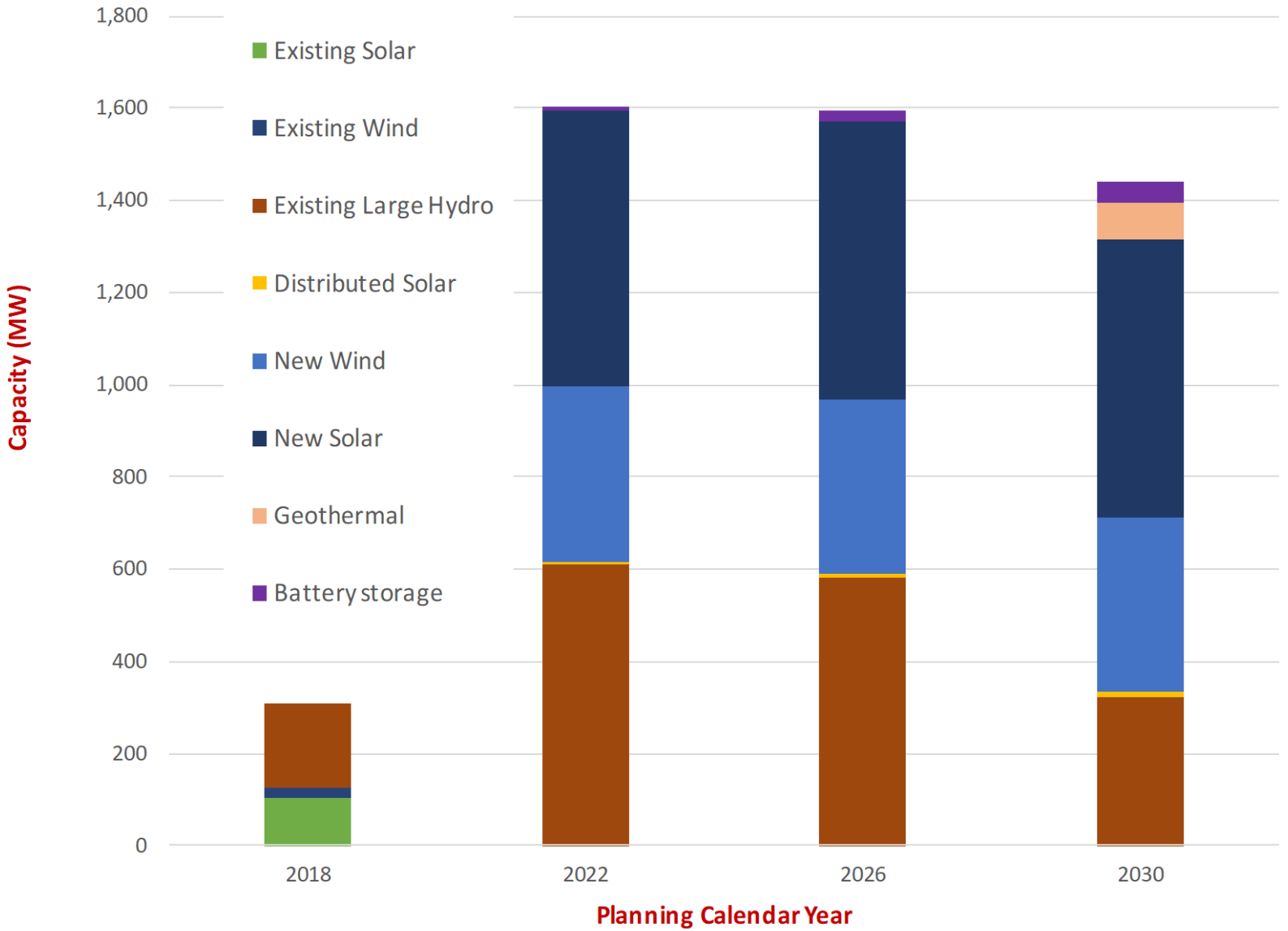


FLYNN RCI
Flynn Resource Consultants Inc.

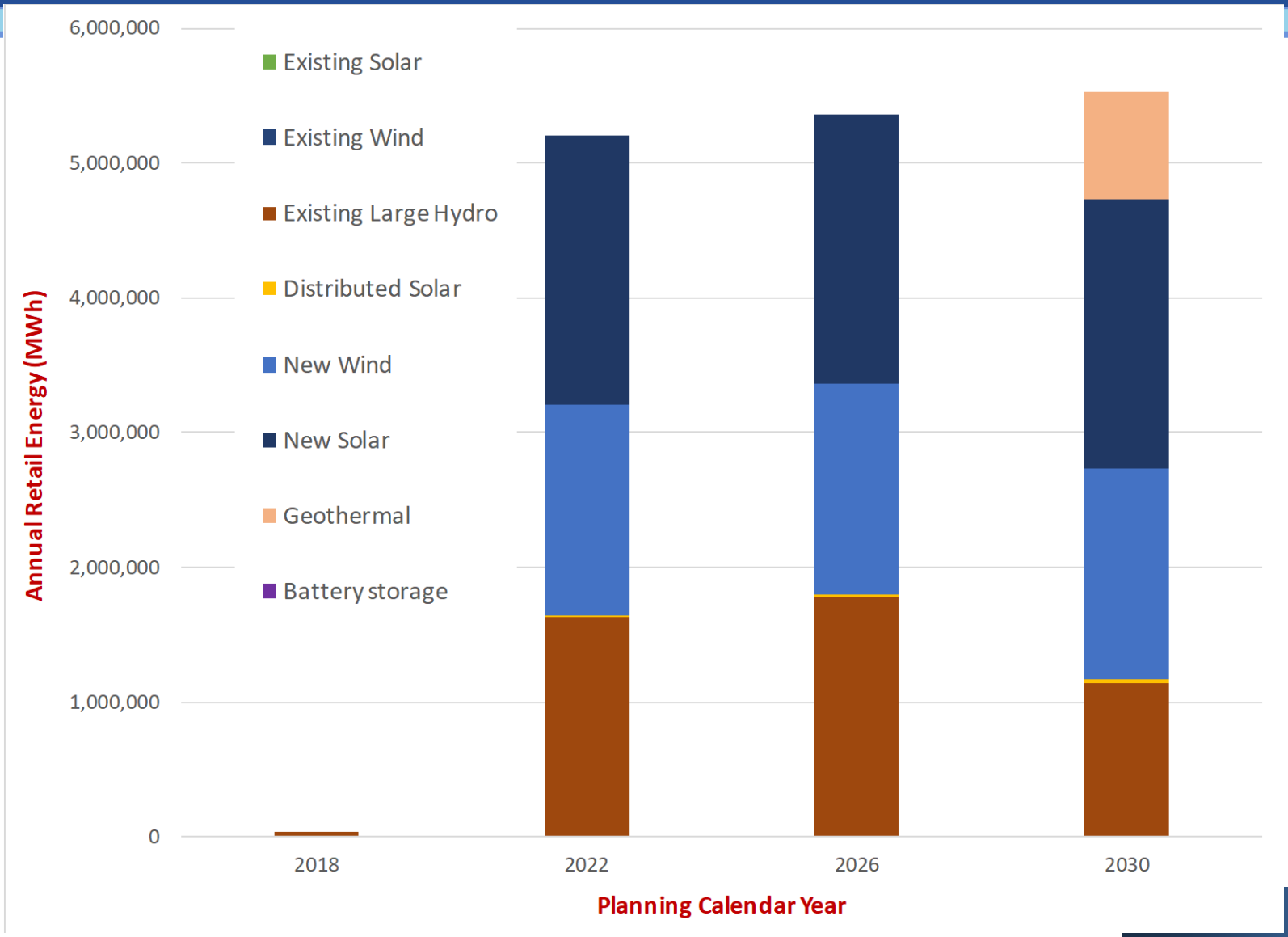
Resource Types Selected in Conforming IRP Portfolio: Energy (MWh)



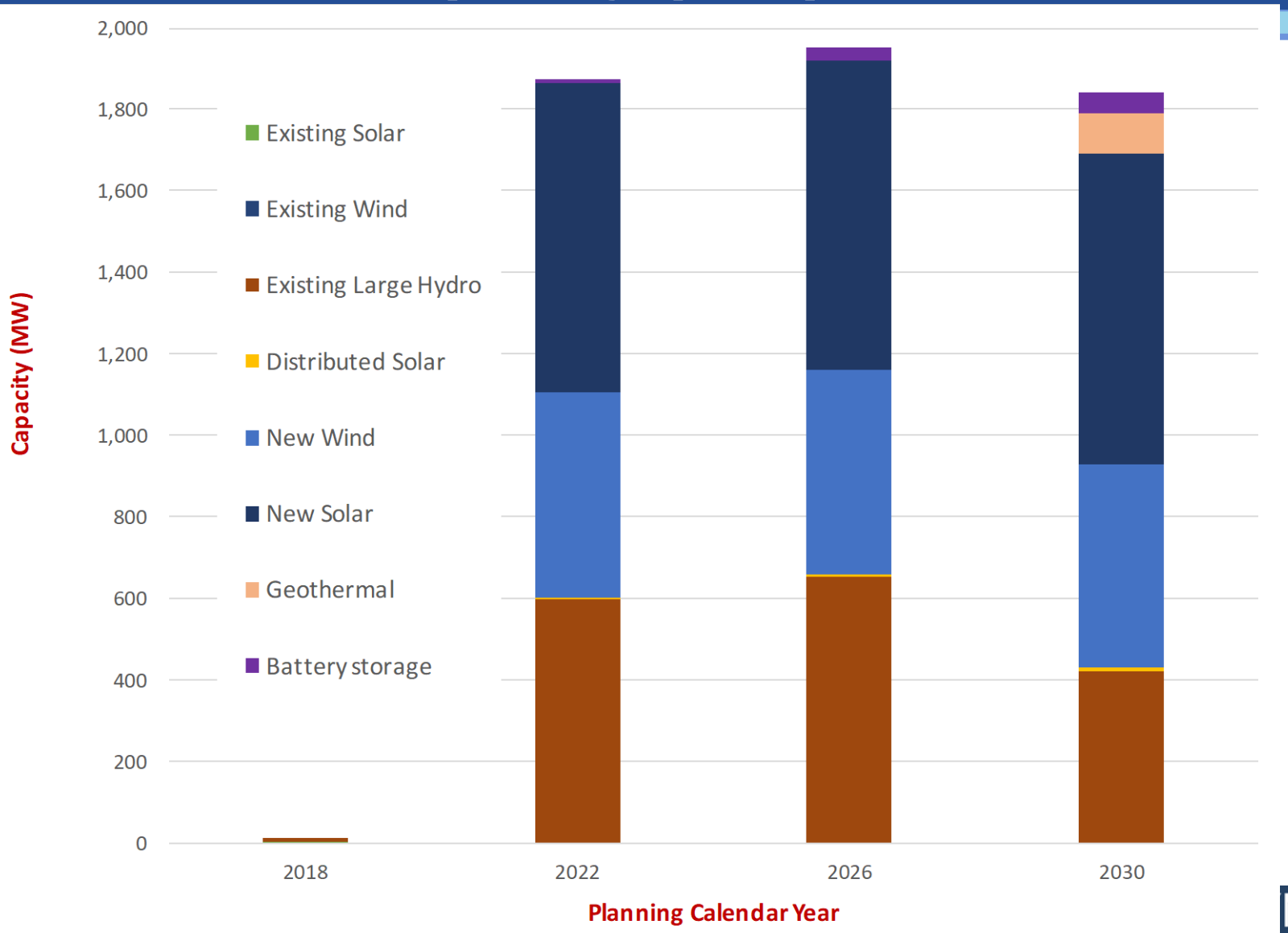
Resource Types Selected in Conforming IRP Portfolio: Capacity (MW)



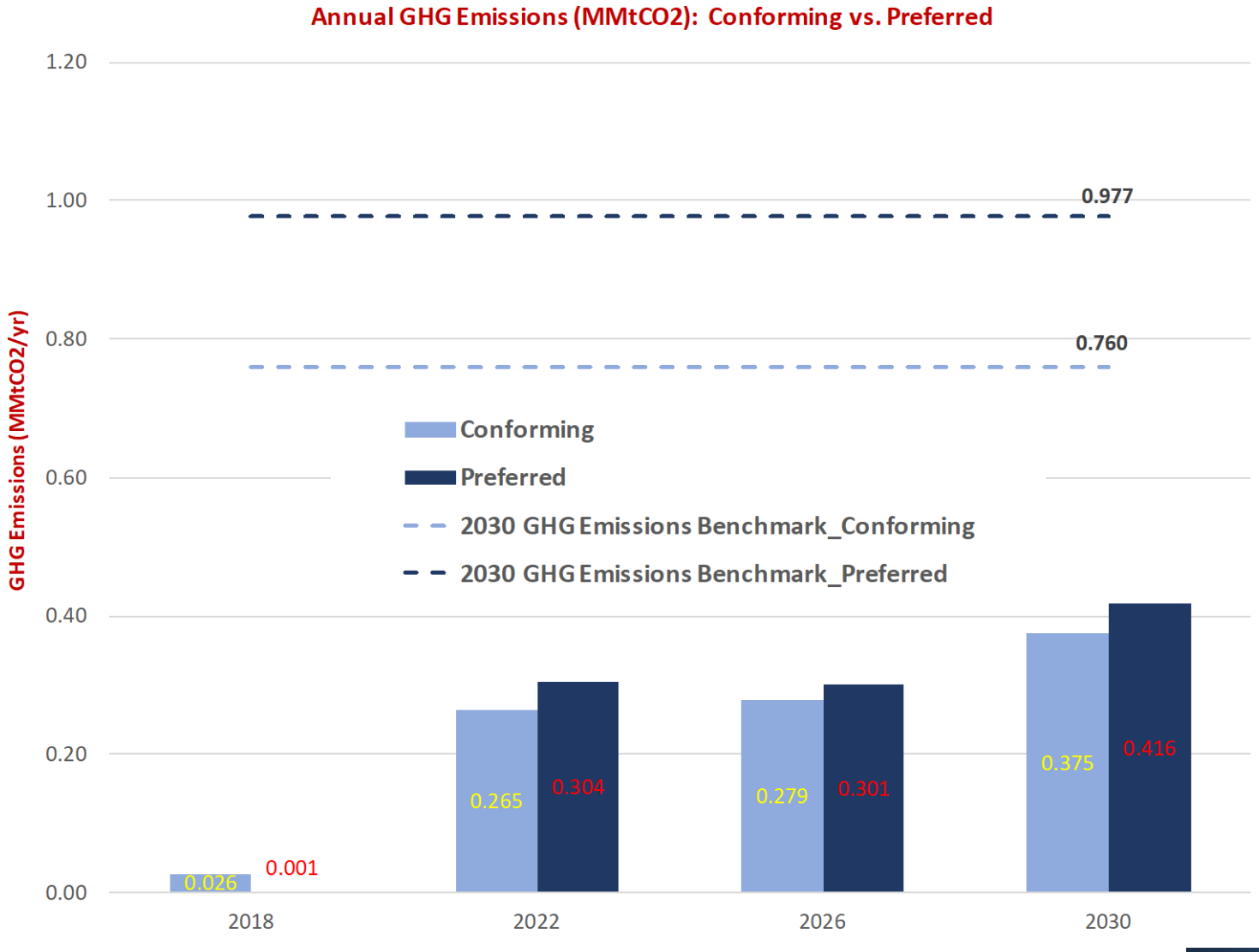
Resource Types Selected in Preferred IRP Portfolio: Energy (MWh)



Resource types Selected in Preferred IRP Portfolio: Capacity (MW)



SJCE's Projected Emissions Well Below CPUC GHG Benchmarks



San José Clean Energy
2018 Calendar of Events

August 2018

Name of Event	Dates	Time	Location	Contact Information
Music in the Park	Fridays, August 3 & 24	6:00 p.m. – 9:15 p.m.	Plaza de Cesar Chavez	aanderson@sjdowntown.com 408.279.1775 x324 Amy Anderson
San Jose Summer Jazz Festival	Friday, August 10 Saturday, August 11 Sunday, August 12	5:30 p.m. – 11:00 p.m. 2:00 p.m. – 10: 00 p.m. 12:00 p.m. – 8:00 p.m.	Paseo de San Antonio 1 Plaza de Cesar Chavez San Fernando, Park, Post, Lightson Alley	brucel@sanjosejazz.org 408.288.7557 Bruce Labadie
Italian Family Festa	Saturday, August 25 Sunday, August 26	11:00 a.m. – 8:00 p.m. 11:00 a.m. – 6:00 p.m.	History Park at Kelley Park 1650 Senter Road San Jose, CA 95112	info@italianfamilyfestasj.org Tel: 408-368-9094
Farmers Markets	Fridays, May – November	10:00 a.m. – 2:00 p.m.	San Pedro Street/Santa Clara and St. John	aanderson@sjdowntown.com 408-279-1775 x 324 Amy Anderson
Viva Parks Neighborhood	Monday – Thursday Various dates June – August	6:00 p.m. – 8:30 p.m.	Throughout the City	PRNS
Viva Parks Downtown	Year-round	Various Times	Plaza de Cesar Chavez St. James Park	PRNS

San José Clean Energy
2018 Calendar of Events

September 2018

Name of Event	Dates	Time	Location	Contact Information
Bark in the Park	Saturday, September 15	10:00 a.m. – 5:00 p.m.	Williams Street Park	chris@giantcreative.com 408-834-6587 Chris Esparza
Fiestas Patrias	Sunday, September 16	12:30 p.m. – 9:00 p.m.	GRP&G Discovery Meadow	mschabbing@sbcglobal.net 510-377-5308 Maria Schabbing
42nd Annual Almaden Valley Art & Wine Festival	Sunday, September 16	10:00 a.m. – 6:00 p.m.	Almaden Lake Park 6099 Winfield Blvd.	pattybarbaccia@gmail.com 408-429-9656 Patty Barbaccia
Viva CalleSJ 2018	Sunday, September 23	10:00 a.m. – 3:00 p.m.	Monterey Rd. E. Williams St. to Branham Ln.	Ed Solis Ed.solis@sanjoseca.gov
Little Italy San Jose Festival	Sunday, September 30	11:00 a.m. – 7:00 p.m.	N. Almaden Blvd. between Saint John and Julian	jcmelander@yahoo.com 408-394-2893 Joshua Melander

San José Clean Energy
Community Advisory Commission
Work Plan
Draft: 7/16/18

PCIA charges
- impact
- drivers
- ed-c dnal

2018 Activities *(CECAC Meeting Dates)*

Focus Area	April	May	June (4)	July (16)	August (6)	September (17)	October (15)	November (5)	December (3)
Marketing and Community Engagement			Phase 1 and Phase 2 planning				Phase 2 planning		
Products, Supply Sources, and Rates		Supply choices and product energy mix				Finalize Phase 2 power supply mix and rates			
Budget			FYE 2019 pro-forma					Updates with final rates and costs	
IRP and DER				Review IRP	Review PCIA Charges			Review IRP and plans for DER and solar NEM	
Risk Management Policies		Review RMP				CALCCA Legislative		Revisit trading and operations risk management	
Administrative	CECAC setup and work planning								

Major Milestones And Staff/City Council Actions

- *May 1 - Approve risk management policy*
- *June - Launch website. Approve rates and supply for Phase 1*
- *July - Issue power supply RFP for residential and commercial load*
- *August/September - Power supply negotiations and contracting*
  August - IRP due to CPUC
- *Approve supply contracts, products, and energy mix*
- *Approve rates for residential and commercial customers*
- *Sept 1 Launch Phase 1 Municipal Only*

2019 Activities *(CECAC Meeting Dates)*

Focus Area	January (7)	February (4)	March (4)	April	May
Marketing and Community Engagement	Phase 2 launch activities and outreach support				Post-launch review
Products, Supply Sources, and Rates					
Budget				Planning for FYE 2020	
IRP and DER					
Risk Management Policies					
Administrative	New year planning and positions				Post-launch review

Major Milestones And Staff/City Council Actions

- *Jan 1 - Phase 2 first opt-out notice*
- *Feb 1 - Phase 2 second opt-out notice*
- *Mar 1 Phase 2 Launch Residential and Commercial*
- *Review SJCE progress, successes, and lessons learned*