

Caltrain Electrification

Energy Procurement
Strategy (EPS) Update

Finance Committee
April 22, 2024



Agenda for Today's Meeting

1. **Where we are today**
2. **Community Choice Aggregators**
3. **Pacific Gas & Electric**
4. **Wholesale Market**
5. **Public Power Agencies and Users**
6. **Low Carbon Fuel Standard Program**
7. **Action Needed by Finance Committee/Board**
8. **Timing and Next Steps**



EPS: Where we are today

- We are in **active discussion with Peninsula Clean Energy (PCE) and San Jose Clean Energy (SJCE)** regarding potential power procurement for the South San Francisco substation and the San Jose substation.
- We are in **regular contact with PG&E** involving several material open business issues specific to how energy will be metered and billed, but we are making some progress thus far.
- **We have met with Palo Alto, Santa Clara, SFPUC, Stanford University, and BART.**
- We are in the process of implementing **both an immediate strategy for power procurement in September as well as considering longer-term alternatives.**



Community Choice Aggregators (CCA)

- The default energy suppliers are Peninsula Clean Energy (PCE) and San Jose Clean Energy (SJCE).
 - Based on where the traction power stations are located (SSF/SJ).

- Each CCA has a variety of different product offerings.

- Each product has different power content.
- Power content will vary in the future depending on availability and market conditions.
- ECO100 and Total Green are intended to be 100% Eligible Renewables under State Law.
- While subject to future Board and City Council direction, each CCA currently charges a \$0.01 kWh premium to use 100% Eligible Renewables.

2022 POWER CONTENT LABEL

	PCE		SJCE		State of CA Power Mix
	<u>ECOplus</u>	<u>ECO100</u>	<u>GreenSource</u>	<u>Total Green</u>	
<i>Eligible Renewables</i>					
<i>Biomass/Biowaste</i>	8.2%	0.0%	2.5%	0.0%	2.1%
<i>Geothermal</i>	4.9%	0.0%	0.0%	0.0%	4.7%
<i>Eligible Hydro</i>	0.8%	0.0%	1.5%	0.0%	1.1%
<i>Solar</i>	18.5%	50.0%	29.9%	0.0%	17.0%
<i>Wind</i>	19.3%	50.0%	25.2%	100.0%	10.8%
<i>Sub-Total Eligible Renewables</i>	51.7%	100.0%	59.1%	100.0%	35.7%
<i>Coal</i>	0.0%	0.0%	0.0%	0.0%	2.1%
<i>Large Hydro</i>	48.2%	0.0%	7.4%	0.0%	9.2%
<i>Natural Gas</i>	0.0%	0.0%	0.0%	0.0%	36.4%
<i>Nuclear</i>	0.0%	0.0%	24.8%	0.0%	9.2%
<i>Other</i>	0.0%	0.0%	0.0%	0.0%	0.1%
<i>Unspecified Power(1)</i>	0.0%	0.0%	8.6%	0.0%	7.1%
TOTAL (2)	100.0%	100.0%	100.0%	100.0%	100.0%

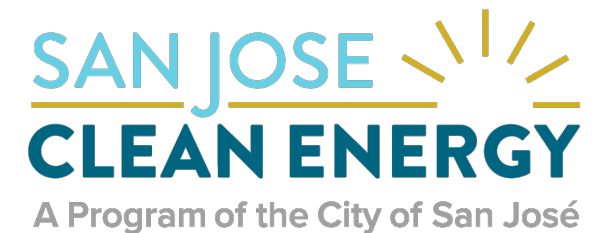
(1) Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source.

(2) May not add to 100% due to rounding.



Community Choice Aggregators

- **Consistent with Caltrain's core values, objective is to use 100% Eligible Renewables under State Law, which will also maximize Low Carbon Fuel Standard (LCFS) revenues.**
 - The reason this is important is because non-eligible resources are subject to future variability in power content and may be treated as default CA Power Mix.
- PCE is working to create a new CARB-certified Traction Power Tariff with **100% renewable 0% Carbon Intensity (No GHG)** and anticipate seeking Board approval on April 25.
- SJCE is working to create a new CARB-certified Traction Power Tariff with **100% renewable 0% Carbon Intensity (No GHG)** and anticipate seeking City Council approval on May 21.
- **Open issues and next steps include:**
 - **LCFS** – CCA's need to confirm registrations of new tariffs with CARB and Caltrain needs to register at CARB for the administration and sale of LCFS credits using the new tariffs.
 - **Pricing** – PCE is proposing to use the default ECOplus rate, and SJCE is proposing a 50% discount on their default Total Green rate (\$0.005 kWh).



Pacific Gas & Electric (PG&E)

- **Active discussions with PG&E, who will deliver the energy in any alternative.**
 - PG&E will invoice Caltrain monthly for both energy supply (CCA's) and delivery.
 - PG&E's delivery charges include both the energy delivered and the maximum amount of energy that could be delivered (Demand).
 - Caltrain could opt-out of the CCA's and take energy from PG&E, but PG&E does not have a 100% renewable, 0% CI CARB certified product to offer Caltrain, and is likely more expensive than the CCA's.
- **There are two material open issues we are working to resolve:**
 - **Net Energy Usage** – Caltrain only wants to be billed for the net energy used over any 15-minute billing period.
 - **Totalizing Meters** – Caltrain wants PG&E to calculate the energy use and demand based on the combined meters at each traction power station – which will reduce the demand charge.
- **PG&E is reviewing the request to determine what technical and regulatory steps may be necessary to implement as well as the corresponding timing.**
 - Will require new meters and an inter-connection agreement with PG&E.



Wholesale Market

- **Caltrain does not have the current legal authority under its existing governing provisions to buy power in the wholesale market.**
 - Without such legal authority, Caltrain cannot buy power from anyone it wants or buy specific power content, such as Large Hydro.
 - Have to work with the CCA's to develop specific power content, where maximizing LCFS revenues has been the priority (i.e. 0% Carbon and certified by CARB).
 - Working with regulatory counsel currently to assess feasibility and potential steps to achieve wholesale market access and/or greater future flexibility.
- **There are three potential strategies to obtain such flexibility:**
 - California has a “Direct Access” lottery, which is how Stanford gained wholesale market access in 2012; however, the lottery is capped and at capacity with no current plans to expand.
 - Caltrain is exploring what alternatives might be possible from members that have the existing legal authority to buy and sell power (San Francisco).
 - Caltrain could seek legislation to provide for wholesale market access, similar to BART.



Wholesale Market (Cont'd)

- **Wholesale market access does not guarantee lower rates and comes with significant risk.**
 - Currently exploring potential steps and feasibility.
 - Has been successfully navigated by other transit agencies, notably BART.
 - Other public entities have attempted similar new authorizing legislation unsuccessfully in the past.
 - Comes with substantial operational, resource, and compliance considerations.
 - A thoughtful power supply and risk mitigation strategy would need to be developed and implemented.
- **Wholesale market access is a longer-term strategy that is being explored but does not impact immediate priorities with PCE and SJCE.**



Public Power Agencies and Users

- **We have met with Palo Alto, Santa Clara, SFPUC, Stanford University and BART.**
- Palo Alto and Santa Clara cannot supply energy to Caltrain at this time.
 - Not physically connected and the traction power stations are not in their service territories.
 - Any potential physical connection would be a very long lead time, require substantial capital investment, likely not be operationally or financially feasible, and could face regulatory hurdles at this time.
- If Caltrain had the legal authority to buy power on the wholesale market, it might be feasible to purchase power from a public utility in the future. However:
 - Public utilities rate advantages are based on a power portfolio built over an extended timeframe.
- We collectively agreed with each agency to stay in touch and see what long-term opportunities may present themselves in the future.



Low Carbon Fuel Standard (LCFS)

- LCFS Program is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives **to cut GHG emissions** and other smog-forming and toxic air pollutants **by improving vehicle technology, reducing fuel consumption, and increasing transportation mobility options** – all of which are directly aligned with PCEP.
- **LCFS is a market-based program and Caltrain is hopeful to receive ~\$9M to \$10M annually. Actual results will be dependent on a number of factors, including:**
 1. Successfully registering for the LCFS Program and energy efficiency designation as “Heavy Rail” by CARB.
 2. Power content of the electric resources procured by Caltrain.
 3. Actual electricity used by Caltrain.
 4. Future market prices for the credits.
 5. Successful administration of the LCFS program by Caltrain, including the sale of the credits in the market.
 6. Changes and regulatory amendments to the LCFS program structure from CARB.
 7. Ongoing compliance with the rules and requirements of the LCFS program, including quarterly and annual filings.
 8. Ongoing maintenance of the LCFS Program by CARB.



Action Needed by Finance Committee/Board

- **Staff recommendation:** Authorize the Executive Director or designee and a Caltrain division chief or designee, as necessary, **to file an application to the CARB LCFS program on behalf of Caltrain, including taking all steps necessary to register, administer, and comply with, the LCFS program on behalf of Caltrain, including, but not limited to:**
 - a. Signing and submitting all required paperwork,
 - b. Submitting any attestation(s) required for registration and annual reporting compliance,
 - c. Filing any quarterly and annual reports,
 - d. Retaining a third-party verifier for LCFS compliance, if necessary, and
 - e. Managing LCFS credit activity, including retaining third-party broker(s), entering into any sale or term of use agreements, including Leadership for Energy Automated Processing (LEAP) Master Agreements, and any steps necessary to receive and sell credits under the LCFS program.
 - f. Taking any additional steps as required by CARB under existing and future rules and regulations.

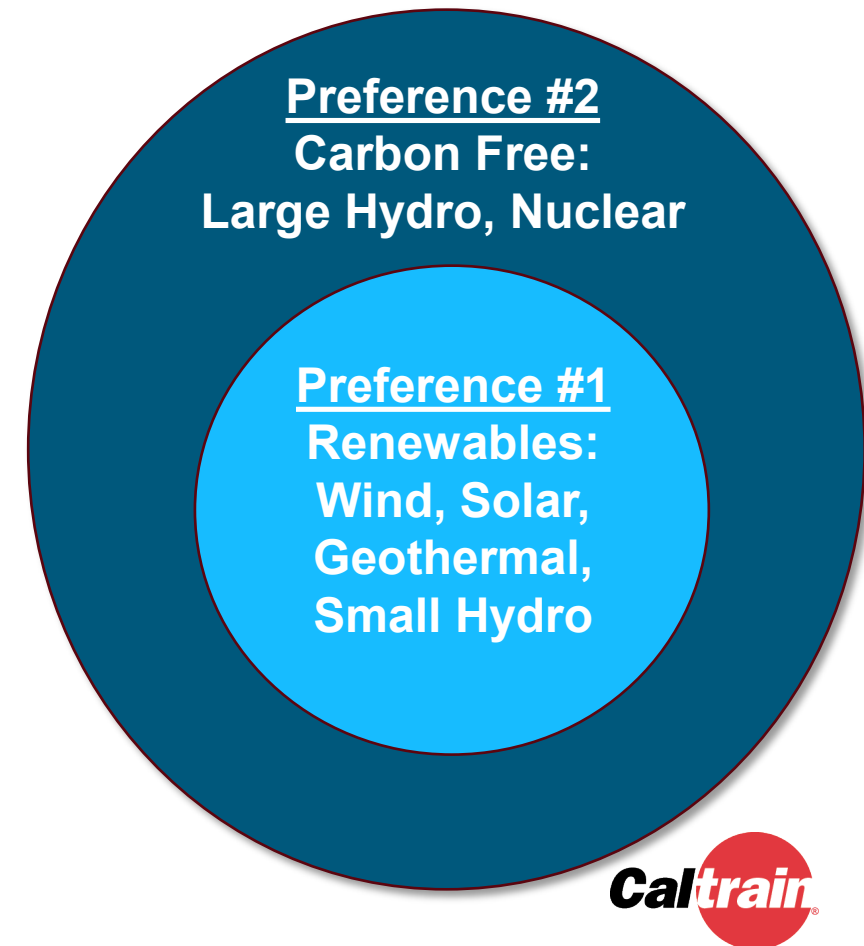
Timing and Next Steps



- Immediate priority is to ensure the most cost-effective delivery of energy by September 2024.
- The CCA's are the best current option to supply the power given:
 - Location of the traction power stations
 - Ability to procure 100% renewable 0% CI that will be certified by CARB
- In all cases, PG&E is responsible for the delivery and invoicing of the power, and we are actively seeking to reduce costs.
- Key next step is registering for the LCFS program, and we are seeking Board approval to authorize staff to take the necessary steps to register and administer the program.
- We will also continue to explore feasibility and steps for longer-term actions to reduce costs.

Appendix: Caltrain Energy Policy

- The Energy Policy:
 - **First:** Uses definition of Renewables under State law to maximize revenues in LCFS program.
 - **Second:** Provides for carbon-free energy even if it did not meet the State law definition of Renewables.
- Under the Policy, “Renewable Energy” is defined by the California Energy Commission (CEC) to meet the compliance requirements for California Renewable Portfolio Standards (RPS).
 - **Includes:** Geothermal, Solar, Wind, Biomass, Municipal Solid Waste, Landfill Gas, Tidal, Wave, Ocean Thermal, Hydroelectric (Small), Anaerobic Digestion, Fuel Cells using Renewable Fuels.
- Under the Policy, “Carbon-Free Energy” are resources that do not emit carbon when used to produce electric power (compared to fossil fuels) but do NOT meet the definition of Renewables under State law.
 - **Includes:** nuclear and large Hydro.
- These are the same definitions used by SJCE.



FOR MORE INFORMATION

WWW.CALTRAIN.COM

