



# Achieving Green Energy Goals through Community Choice Aggregation

APTA Sustainability and Multimodal  
Planning Workshop  
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## Speakers



**April Chan**  
SamTrans

Chief Officer, Planning, Grants &  
Transportation Authority



**Heather Unger**  
Louis Berger

Corporate Sustainability Manager  
and Senior Planner

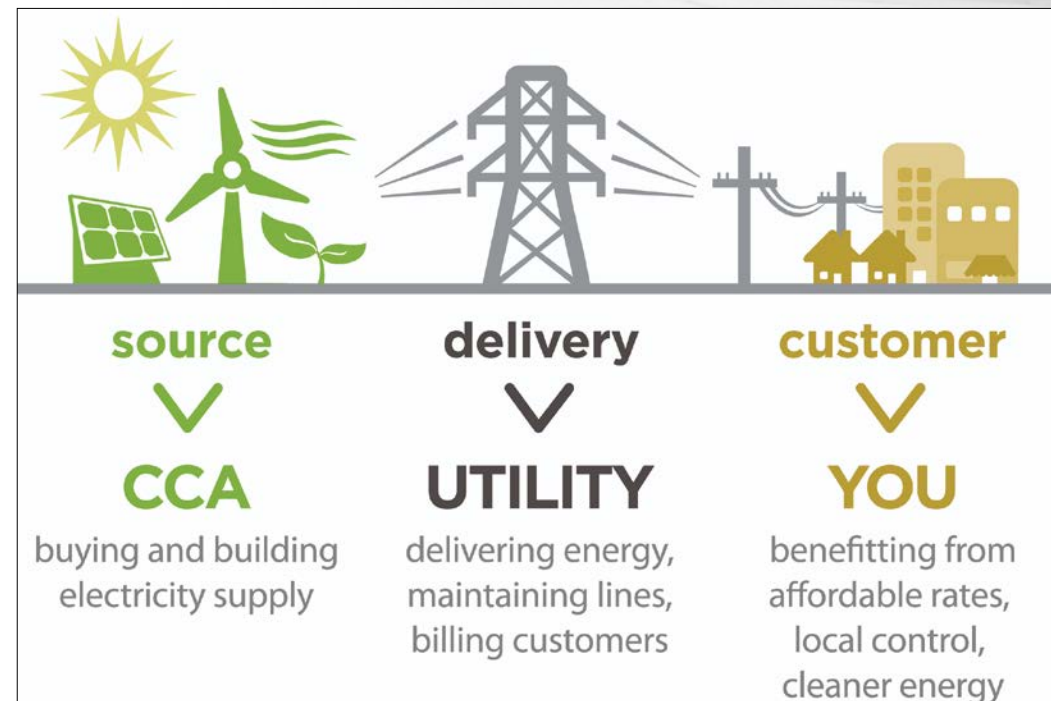
# Agenda

- **What is Community Choice Aggregation**
- **SamTrans and Caltrain's Experience with CCAs**
- **Lessons Learned/Future Considerations**

# Community Choice Aggregation

- Enables municipalities to aggregate electricity demand
- CCA procures and/or develops power for businesses and residents within its territory
- Goals: lower costs and/or enable greater control over energy mix through greener options and distributed resources

## How Local Energy Aggregation Works



Source: Lean Energy U.S.

## Benefits of CCAs

- Competitive, often lower electricity rates
- Cleaner energy
- Customer choice
- Local control
- Local economic development
- Better net metering incentives (retail rates vs wholesale)
- Energy efficiency programs

### How Responsibilities are Shared between CCAs and Investor-owned utilities (IOUs)

	CCAs	IOUs
<b>Electricity Generation</b>		
Purchasing electricity from suppliers	✓	
Balancing supply with demand	✓	
<b>Electricity Distribution</b>		
Grid infrastructure		✓
Delivering electricity to ratepayers		✓
<b>Transaction</b>		
Billing and Metering		✓
Communication	✓	✓
<b>Integrated Demand Energy Resources</b>		
Energy Efficiency Programs	✓	✓
Net Energy Metering Programs	✓	✓

Source: Table created by the Luskin Center for Innovation in May 2016.

# Overview of State CCA Legislation

## Available in 7 States:

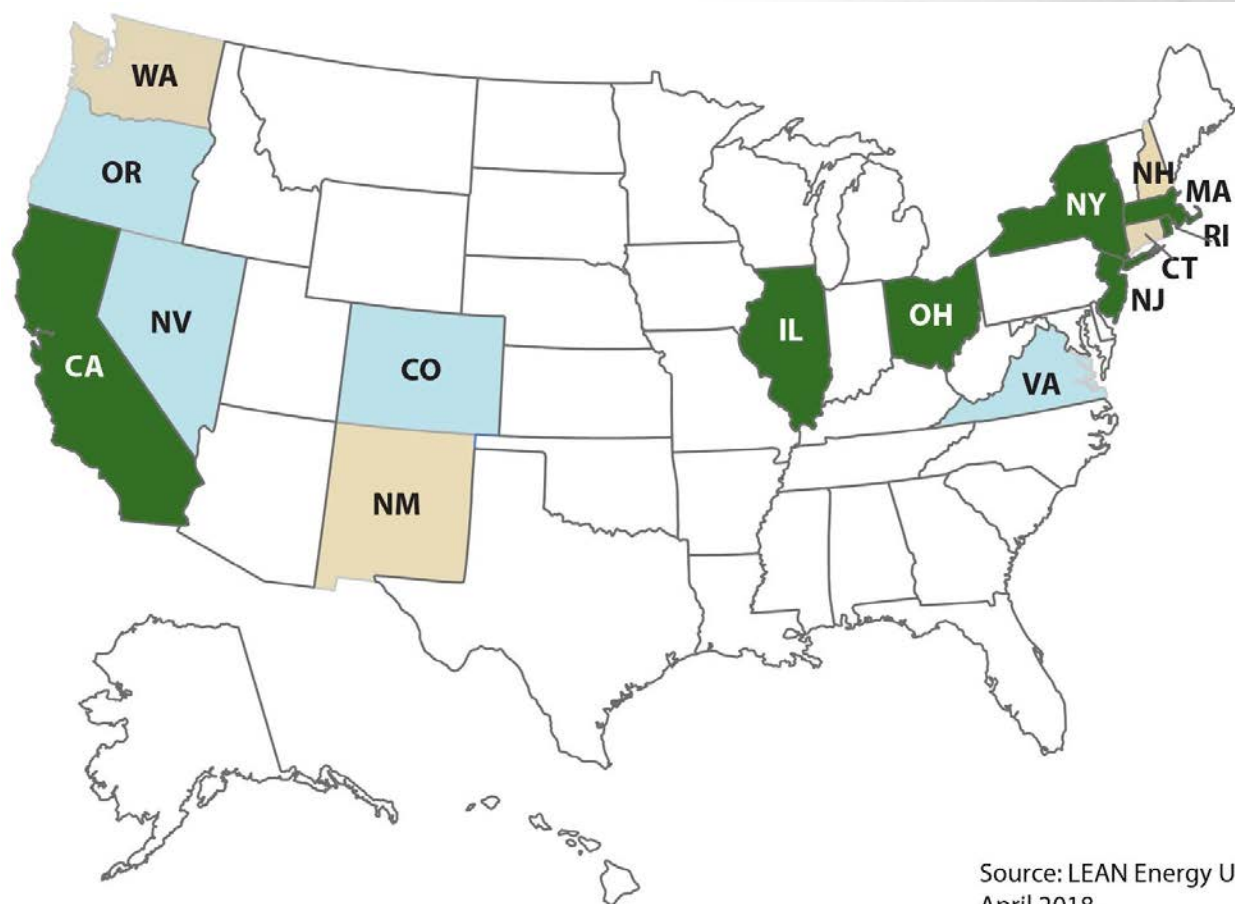
- California
- Illinois
- Massachusetts
- New Jersey
- New York
- Ohio
- Rhode Island

## Watch List/Potential:

- Colorado
- Nevada
- Oregon
- Virginia

## Inquiries Received

- Connecticut
- New Hampshire
- New Mexico
- Washington



Source: LEAN Energy U.S.  
April 2018

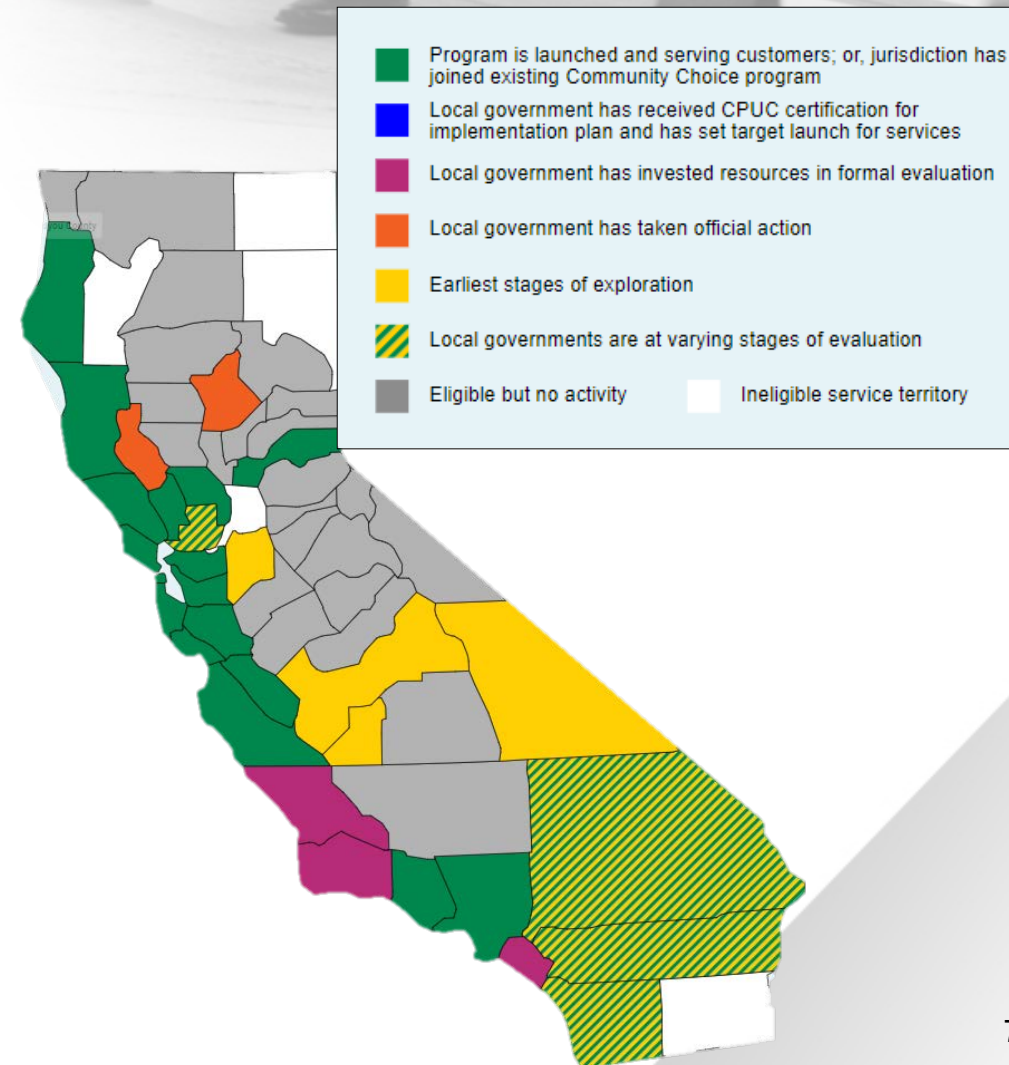
# CCA Adoption in CA

## History

- 2002 – Legislation Passed
- 2010 – First CCA launched
- 2018 – 16 operational CCAs
- 2020 – CCAs could provide 60% of state's electricity

## By the Numbers:

- Close to 1 million customers enrolled
- Estimated 940,388 MT CO<sub>2</sub> will be saved in 2018
- Estimated \$99,088,000 electricity costs will be saved in 2018



# San Mateo County Transit District

- San Mateo County bus service, including paratransit (SamTrans)
- Caltrain commuter rail from San Francisco to San Jose/Gilroy (Caltrain)
- San Mateo County Transportation Authority (TA)



Peninsula Corridor  
Joint Powers Board



SamTrans



San Mateo County  
Transportation Authority



# Technical Evaluation Criteria

- 1. Environmental:** % renewable, % GHG free
  - Offer 50% and 100% renewable and GHG options
- 2. Cost** (see next slides)
- 3. New Entity Risk Management**
  - Successful start-up of service, high customer participation, industry standard/prudent power management practices
- 4. Administrative**
  - No adverse effects on billing or customer service

## Technical Evaluation Criteria (Cont.)

### 5. Reliability: infrastructure

- No change; delivered and maintained by PG&E
- De-prioritization of customers not allowed/practicable

### 6. Reliability: energy supply

- Industry standard/prudent Power Purchase Agreements, Reserve Capacity, CAISO oversight

### 7. Compatible with future electrification

- Can support electrified fleets (rail and bus)
- Should explore transit-specific rates, regardless of provider

# Caltrain Analysis

Option		Caltrain System Total		Est. Annual Cost Difference (Compared to Previous PG&E)	
		% Renewable Energy	% GHG-free Energy	%	\$
1	CCE current path	36%	67%	- 1%	- \$14,000
2a	CCE upgrade	60%	78%	+ 2%	+ \$35,000
2b	CCE + Municipal upgrade	65%	79%	+ 3%	+ \$41,000
2c	CCE + Municipal + PG&E upgrade	100%	100%	+ 11%	+ \$158,000
3	opt-out back to PG&E default	30%	59%	0%	\$0
4	opt-out back to PG&E & upgrade	100%	100%	+ 15%	+ \$225,000

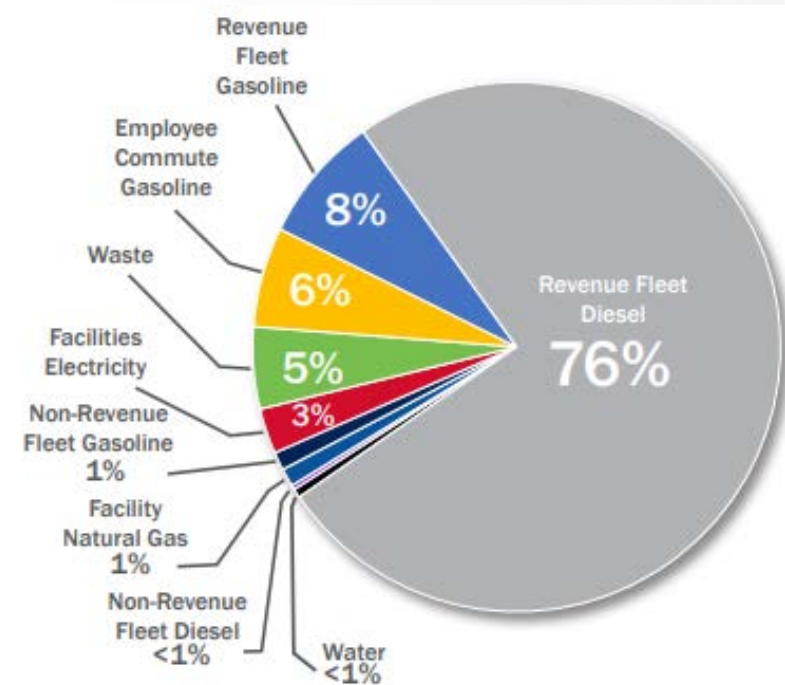
# SamTrans Analysis

Generation Source	Option		% Renewable Energy	% GHG-free Energy	Est. Annual Cost Difference (Compared to Previous PG&E)	
					%	\$
	1	current path	50%	75%	- 2%	- \$17,000
	2	upgrade	100%	100%	+ 2%	+ \$17,000
	3	opt-out back to PG&E	30%	59%	0%	\$0
	4	opt-out & upgrade	100%	100%	+ 19%	+ \$145,000

# Why CCA for SamTrans and Caltrain?

- **Meet clean energy goals:** SamTrans is 100% renewable and GHG emission-free electricity; Caltrain is 65% renewable and 79% GHG emission-free electricity
- **Limited cost increase:** ~ 2 - 3% higher costs compared to PG&E default, less expensive than PG&E 100% renewable
- **Easy:** no additional effort needed from agency. Legislation required to enable transit agencies in CA to enter into PPAs; onsite renewable requires significant planning, investment and maintenance.

**SamTrans Percentage of GHG Emissions by Source FY16**



# Cost Considerations

- Power Charge Indifference Adjustment (PCIA) “exit” fee – around 10% of cost of electrical service
- Rates fluctuate for utility and CCA
- Summer vs Winter Rates
- Demand
- On/Off Peak Usage
- Electric Vehicle Rates

**ENERGY STATEMENT**  
[www.pge.com/MyEnergy](http://www.pge.com/MyEnergy)

Account No: 1234567890-1  
 Statement Date: 10/01/2013  
 Due Date: 10/22/2013

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**Service For:**

MARY SMITH  
 1234 STREET AVENUE  
 SAN RAFAEL, CA  
 94804

**Questions about your bill?**  
 24 hours per day, 7 days per week  
 Phone: 1-866-743-0335  
[www.pge.com/MyEnergy](http://www.pge.com/MyEnergy)

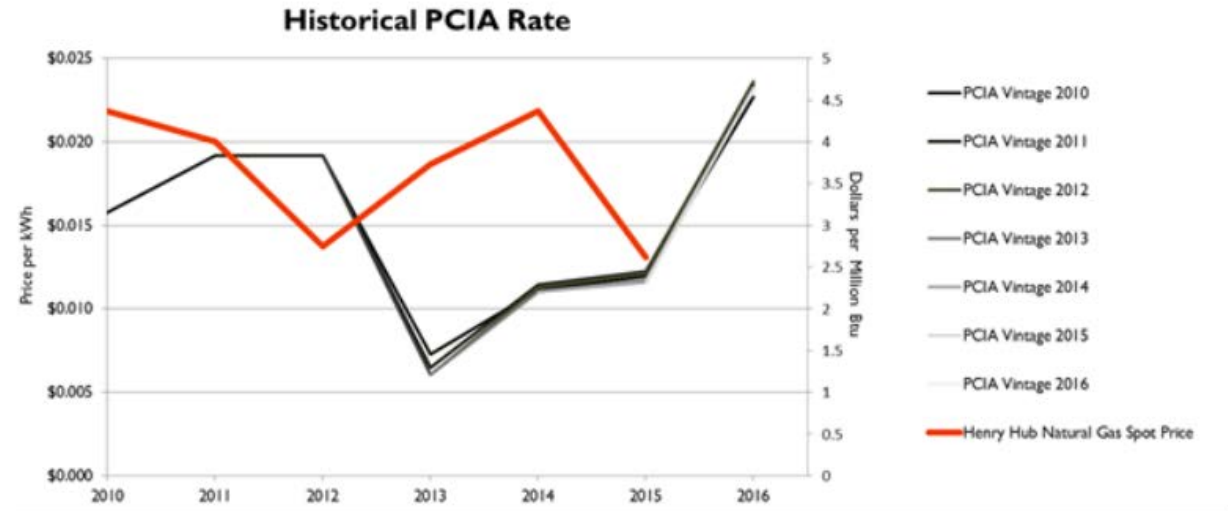
**Your Account Summary**

Amount Due on Previous Statement	82.85
Payments Received Since Last Statement	82.85
Previous Unpaid Balance	\$0.00
<b>Current PG&amp;E Electric Delivery Charges</b>	<b>\$39.32</b>
<b>MCE Electric Generation Charges</b>	<b>\$42.81</b>
Current Gas Charges	\$27.20
Total Amount Due	\$109.33

Your Electric Charges Breakdown	
Generation	\$7,012.94
Transmission	10,096.58
Distribution	17,528.54
Electric Public Purpose Programs	4,397.98
Nuclear Decommissioning	482.44
DWR Bond Charge	1,777.72
Competition Transition Charges (CTC)	276.93
Energy Cost Recovery Amount	-3.26
<b>PCIA</b>	<b>3,285.08</b>
Taxes and Other	1,432.68
<b>Total Electric Charges</b>	<b>\$46,287.63</b>

# Lessons Learned

- Confirm meter schedules during enrollment
- Difficulty acquiring data for cost comparison
  - Meter numbers can change
  - Different meter and service numbers between utility and CCA
  - Utility provides bill, but Excel version does not include CCA generation cost
- Prepare for PCIA fee changes/other regulatory changes



Source: [PCIA Rate Data from PG&E "Historical Rate Tables."](#) Natural Gas Prices from Energy Information Administration. "Henry Hub Natural Gas Spot Price (Dollars per Million Btu)."

# Future Considerations

- Fleet electrification
  - Caltrain electricity usage will increase tenfold
- Electric vehicle rates
  - Southern CA Edison has developed
  - PG&E in-process of developing

