



DATE: March 9, 2015

AGENDA ITEM # 5

**TO:** Environmental Commission  
**FROM:** J. Logan, Staff Liaison  
**SUBJECT:** Community Choice Aggregation Feasibility Study

**RECOMMENDATION:**

Receive report on Community Choice Aggregation Study Session Report to City Council

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**BACKGROUND**

City Council will convene a study session on Community Choice Aggregation (CCA) at 5:30 pm, March 10, 2015

**DISCUSSION**

The report, Attachment A, will be presented to Council and various speakers will present information regarding feasibility and formations of CCAs.

Attachments

- A. Clean Energy through Community Choice Aggregation
- B. Draft Environmental Commission Subcommittee report



DATE: March 10, 2015  
EC Agenda #5  
Council Agenda # SS1

**TO:** City Council  
**FROM:** J. Logan, Assistant City Manager  
**SUBJECT:** Clean Energy through Community Choice Aggregation

**RECOMMENDATION:**

Receive informational report on clean energy and community choice aggregation and discuss potential options for Los Altos

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**SUMMARY:**

**Estimated Fiscal Impact:**

**Amount:** None

**Budgeted:** Not applicable

**Public Hearing Notice:** Not applicable

**Previous Council Consideration:** January 24, 2015 Council Retreat discussion

**CEQA Status:** None

**Attachments:**

1. CCA Community Choice Aggregation – presentation by Gerry Glaser in May 2013
2. Los Altos Commission on the Environment CCA – presentation by Margaret Bruce in July 2014
3. Welcome to the New Energy Choices Forum – September 2014
4. Staff memo – New Energy Choices for Silicon Valley – October 2014
5. Climate Action Plan and Community Choice Aggregation Feasibility Study: Environmental Commission Report – February 9, 2015
6. California Clean Power Community Choice Simplified – presentation on February 12, 2015
7. CCA materials from other local jurisdictions – County San Mateo, City of San Mateo, City of Menlo Park

## **BACKGROUND**

### **State and Local Mandates**

State Assembly Bill 32, the Global Warming Solutions Act, was signed into law in 2006 and directed public agencies in California to support the state-wide target of reducing greenhouse gas (GHG) emissions to 1990 levels by 2020. In addition, California adopted ambitious energy and environmental policies to reduce state-wide greenhouse gas (GHG) emissions to 20% of 1990 levels by 2050 and, to provide 33% of electricity demands in 2020 from renewable resources utilizing clean energy technologies and environmental benefits.

To address the reduction of GHG emissions at the local level, the City Council adopted a Los Altos Climate Action Plan (CAP) on December 10, 2013. The CAP is a comprehensive strategy with goals and measurements to reduce GHG emissions within five focus areas: Transportation, Energy, Resource Conservation, Green Community and Municipal Operations. The CAP was adopted with a target of reducing the community's GHG emissions by at least 15% by 2020 and with an overarching plan for how the City can achieve up to a stretch-goal of 17% reduction in the GHG emissions by 2020.

### **Community Choice Aggregation**

One method that has the potential to reduce the GHG emission associated with energy consumption is the establishment of Community Choice Aggregation (CCA), a system that allows cities, counties and Joint Power Authorities (JPA) to aggregate the purchasing power of an identified customer base within a defined area to secure alternative energy supply contracts with the goal of increasing the percentage of energy from renewable sources. The purchase of alternative energy supplies includes renewable sources such as hydroelectric, wind and geothermal as opposed to non-renewable fossil fuels such as coal, oil and natural gas. The consequences inherent in the use of fossil fuels to generate energy are particularly high carbon dioxide equivalents or GHG emissions which contribute to global warming. The ability to form CCAs has been adopted into law in California and a few other states.

In the 2005 Los Altos GHG Community Inventory baseline, residential and commercial electricity account for 18% of Los Altos community-wide GHG emissions. Reducing the GHG intensity of the electricity currently flowing through the PG&E grid by incorporating more energy from renewable sources is an effective way to directly reduce community GHG emissions. If by establishment of a CCA, Los Altos purchased electricity that was 25% cleaner than PG&E-provided grid electricity, the use of renewal-source energy could potentially reduce overall city emissions by up to 4.5%. If 100% renewable/clean energy were purchased, Los Altos emissions could be reduced by up to 18% and could attain the 2020 stretch goal of 17% reduction in GHG. As such, implementing a CCA has the potential to rapidly reduce community GHGs more so than any other measure currently identified in the Climate Action Plan.

In July 2013, the City of Los Altos Environmental Commission explored the concept of GHG reductions that could be achieved by Community Choice Aggregation and has continued to hear presentations on the topic (Attachments 1 and 2).

On August 11, 2014, City of Sunnyvale staff made a presentation to the Environmental Commission regarding its Community Choice Aggregation Feasibility Study. The Sunnyvale Feasibility Study includes the Cities of Cupertino and Mountain View and is currently finalizing scopes with various consultants, including firms for program development, community engagement, and technical analysis. The Feasibility Study is on track for a presentation to the Sunnyvale City Council in May 2015. The study does not have a specific path for how other communities will engage in the study at this time. Sunnyvale project staff will be working with their consultants and project leadership over the next months to evaluate next steps and will conduct a meeting or more formal survey to determine the level of interest and readiness shortly thereafter. City of Los Altos staff has been in close communications with Sunnyvale staff on the Feasibility Study project in an effort to demonstrate the City of Los Altos Environmental Commission's interest in this project.

In September 2014, City staff attended the New Energy Choices Forum (Attachment 3) and provided a summary report to the Environmental Commission in October 2014 (Attachment 4). Staff provides updates about the City's CAP and CCAs to the Environmental Commission on an ongoing basis (Attachment 5).

On February 12, 2015, Mayor Pepper, Councilmember Prochnow, Environmental Commissioners Bray and Hedden, and City staff received a presentation from California Clean Power, a new private business (Attachment 6). Mayor Pepper and Councilmember Prochnow have invited California Clean Power to make its presentation to the entire Council at the March 10, 2015 study session.

## **DISCUSSION**

### **California Public Utilities Commission**

In 2002, the California State Legislature enacted Assembly Bill 117 permitting the creation of CCAs and extended to the California Public Utilities Commission (CPUC) provisions that regulate and permit agencies to purchase and sell electricity on behalf of utility customers within their service areas. Under a CCA system, traditional utilities such as PG&E continue to own, operate and charge for the distribution services of electricity to customers and to provide the necessary resources to ensure proper service to the CCA Service market. The CCA is responsible for: 1) procuring and charging the customer for alternative energy; 2) providing for the electric power needs of its customers; 3) maintaining customer communications; and 4) management and oversight of the CCA Service program. Once a CCA is established, all customers in the jurisdiction will automatically be enrolled in the CCA unless they take action to opt-out if they do not wish to participate in the CCA.

To establish a CCA, the CPUC's statutory and regulatory requirements must be satisfied by: 1) registration of CCA programs; 2) interim bond of \$100,000 posted with the CPUC as part of the CCA registration packet; 3) a CCA Service Agreement with the local service utility along with evidence of insurance or bond that will cover costs, fees and operational deadlines and errors in forecasting; and 4) an implementation plan. The Commission may require additional information to ensure compliance with basic consumer protection rules and other procedural matters.

Public Utilities Code Section 366.2 (c)(3) requires a CCA Implementation Plan to contain all of the following:

- A. An organizational structure of the program, its operations, and its funding
- B. Rate setting and other costs to participants
- C. Provisions for disclosure and due process in setting rates and allocating costs among participants
- D. The methods for entering and terminating agreements with other entities
- E. The rights and responsibilities of program participants, including, but not limited to, consumer protection procedures, credit issues, and shutoff procedures
- F. Termination of the program
- G. A description of the third parties that will be supplying electricity under the program, including, but not limited to, information about financial, technical and operational capabilities.

Pursuant to Public Utilities Code Section 366.2 (c)(4), a CCA is also to prepare and provide for all of the following:

- A. A statement of intent
- B. Provision(s) that provide for:
  - 1. Universal access
  - 2. Reliability
  - 3. Equitable treatment of all classes of customers
  - 4. Compliance with any legal requirements concerning aggregated service

### **Review of Northern California and Local CCA Initiatives**

Currently, there are two CCAs operational in Northern California: Marin Clean Energy (launched in 2010) and Sonoma Clean Power (launched in May 2014). The City of Lancaster is poised to begin service in early 2015 in Southern California Edison's territory. There are several other jurisdictions throughout the State investigating CCAs for their economic and environmental potential. In the Bay Area, Alameda County has allocated more than \$1 million to explore a CCA. Unincorporated Napa County has joined Marin's program and interest is growing in Contra Costa County as well.

Local interests and efforts to form CCAs are occurring with the City of Sunnyvale-led feasibility study in joint effort with the Cities of Cupertino and Mountain View and with interest from the County of Santa Clara and surrounding local agencies including the City of Los Altos.

On February 24, 2015, the County of San Mateo authorized \$300,000 for completing Phase I of a three-phased project to form a CCA program in San Mateo County. The San Mateo County Office of Sustainability (OOS) conducted education and outreach to its local agencies and requested resolutions of support to obtain electricity load data from PG&E to assess the feasibility of CCA for the county. The County's CCA work plan is based on successful program launches in Marin and Sonoma counties and Lancaster, CA and is a three-phased plan: 1) Pre-Planning and Due Diligence, 2) CCA Program and JPA

Development, and 3) Preparing for Launch. Each phase has a distinct timeline and set of activities.

The County of San Mateo Feasibility Study that includes pre-planning and due diligence will evaluate the following:

- A. Size of the potential CCA
- B. Future energy demands'
- C. Renewable energy availability
- D. Ability of potential CCA to be competitive
- E. How different power supply scenarios impact greenhouse emissions, jobs created, rates and other factors
- F. Potential risks

The Feasibility Study is scheduled to commence June 2015 and will coincide with community outreach efforts to provide information to local residents, businesses, civic organizations and policymakers about CCAs and its potential benefits for San Mateo County. A steering committee will be established.

OOS cited these goals for establishment of a CCA to serve San Mateo County agencies:

- A. Competitive, often cheaper electricity rates
- B. Consumer choice, where none currently exists
- C. Significant reductions in GHG emissions
- D. New renewable power development, local and in-State
- E. New jobs and energy programs for the community

In addition to San Mateo County, eighteen cities in that County have requested to join the study and other cities are at various stages of assessment to evaluate the potential benefits for each community.

On February 24, 2015, the City of Menlo Park adopted a resolution to indicate its commitment to participate in the feasibility phase of CCA in partnership with San Mateo County without obligation of expenditures unless so authorized by City Council. The City is also exploring other options to participate in an inter-jurisdictional CCA and may conduct a CCA technical study. These options include: 1) potential link with the City of Palo Alto's municipal electric utility; 2) work with PG&E to increase renewable energy sources; and 3) explore CCA activities in Santa Clara County and the Sunnyvale Feasibility Study. A selection of the County of San Mateo reports is included as Attachment 7.

### **Risks of CCAs**

Establishing a CCA is not without risk, although many of the early concerns have been mitigated and experience amongst agencies is providing new business opportunities and best practices for establishment of CCAs. Programmatic risks in forming a CCA generally include:

- A. Rate risk – the risk that the CCA’s rates are higher than those offered by the incumbent utility
- B. Opt-out risk – the risk that customer opt-outs are too high and the program is thus economically infeasible
- C. Operational risk – the risks associated with commodity, credit, vendor default, poor management and oversight
- D. Legislative/regulatory risk – the risks associated with unfavorable state legislation or regulation that could threaten or harm the program

**COUNCIL DIRECTION**

The Council is requested to provide direction on the following items:

- 1. What are the goals to be achieved, specifically for Los Altos, by providing a CCA alternative for residents/businesses?
- 2. Does the Council desire to add exploration of a CCA alternative as a new measure in the City’s Climate Action Plan?
- 3. What is the Council’s preference(s) regarding implementing a CCA?
  - A. Do not pursue a CCA alternative at this time
  - B. Monitor the progress of local JPA CCA models and consider joining a JPA at a future date
  - C. Consider pursuing an independent CCA model
  - D. Consider other options
- 4. Is the Council interested in allocating resources to further investigate and evaluate one or more CCA options?
- 5. If the Council decides to move forward to pursue a CCA model, where does this effort rank in the City’s priorities from a timing and resource perspective?

**FISCAL IMPACT**

None

**PUBLIC CONTACT**

Posting of the meeting agenda serves as notice to the general public.

# CCA

## Community Choice Aggregation

### Community Action

Prepared by Gerry Glaser

May, 2013

## Topics

- Who is speaking  
& Why  
& Getting on the same page
- Electricity  
& How do we get it
- What is a CCA  
& Where does it fit in
- Legislative trail  
& How CCA came to be  
& Why is CCA connected to Climate Change
- Our Community  
& Community Dimensions
- CCA Risks and Rewards  
& Establishing a CCA

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WHO IS SPEAKING  
&  
WHY  
&  
GETTING ON THE SAME PAGE

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about Gerry

ScalablePower.net

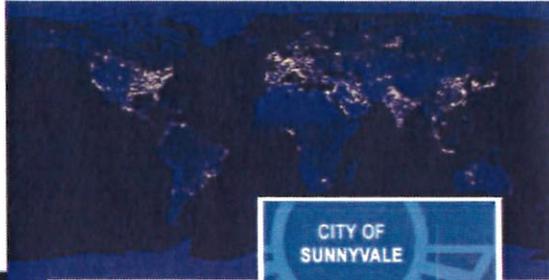
*Scalable power strives to prove that every community, regardless of size, can become self-sufficient with respect to its electric energy needs.*

$E=mc^2$

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# Why



Horizon  
2035



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# Physics 101

**Conservation of Energy**  
Energy cannot be created or destroyed  
but it can be transferred or transformed  
from one form to another

- **WATT**  
Electric Unit of power  
KW = 1000 Watts  
MW = 1,000,000 Watts  
Gerry's roof = 2.5 KW  
Diablo Canyon = 2,200,000 KW  
2200 MW or 2.2 GW



- **WATT-Hour**  
Electric Unit of energy  
KWH = 1000 Watt-hours  
MWH = 1,000,000 Watt-hours  
Gerry's roof = 4,015 KWH/yr  
Diablo Canyon = 18,000,000,000 KWH/yr  
18 billion kWh or 18 TWh

- **GHG ratio**  
PG&E 2012  
393 lbs-GHG/MWH  
South Bay CCA  
277 lbs-GHG/MWH

- **Local Energy needs**  
Santa Clara County 1,600,000 people  
18,384,000,000 KWH/yr 130 kWh/person  
Sunnyvale(estimate) 142,000 people  
2,370,000,000 KWH/yr 1660 kWh/person

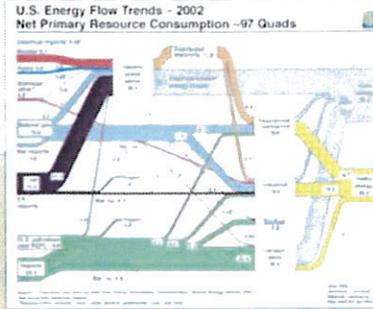
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# Physics 101 play with numbers

- **Quad**  
Unit of Energy

Quad = 1,000,000,000,000,000 BTU  
Annual USA consumption = 150 quad



- **One Quad**  
*since I don't know BTU's*

- 8,007,000,000 Gallons (US) of gasoline
- 293,083,000,000 Kilowatt-hours (kWh)
- 33,434 gigawatt-years (GWy)
- 36,000,000 Tons of coal
- 970,434,000,000 Cubic feet of natural gas
- 25,200,000 Tons of oil
- 252,000,000 Tons of TNT
- 13.3 Tons of Uranium-235

- **GHG Equivalentents**

- 1 gallon of gasoline = 20 lbs of CO<sub>2</sub>
- 1 gallon gasoline = 36.6 KWH
- ➔ 36.6 KWH = 15.5 lbs of CO<sub>2</sub> by PG&E today
- 1 tree = minus 64 lbs CO<sub>2</sub>/yr
- 1 m = 0.75 kW Honda accord = 1200 100w light bulbs
- Nissan Leaf has a 24 KWH battery pack

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## ELECTRICITY & HOW DO WE GET IT

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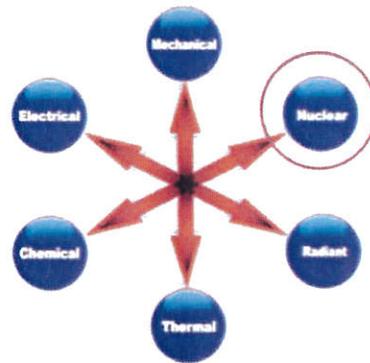
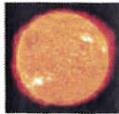
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# Electricity is one form of Energy

## Conservation of Energy

*Energy cannot be created or destroyed, but it can be transferred or transformed from one form to another.*

*Of course someone can always find an exception*



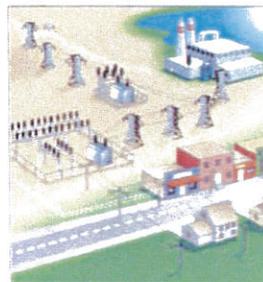
The 6 Main Energy Forms

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## Background: Energy Landscape

- Electric energy is normally vertically integrated  
Includes:
  - Generation of electricity
  - Transmission into region
  - Distribution to customer (+ Service)
- Two Predominant Models used
  - 70% Investor Owned Utility (IOU)
  - 30% Municipal Owned Utility
- Results in natural monopolies, highly regulated
  - California Public Utility Commission establishes rules and guidelines



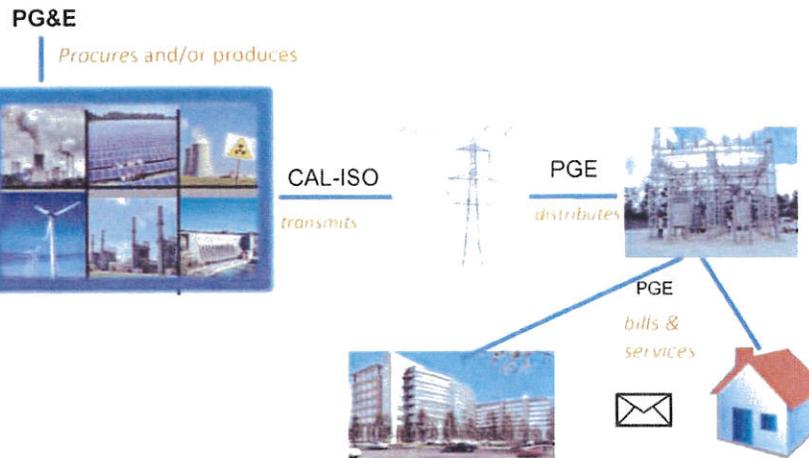
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# Electric Regulatory Terms

- LSE**  
**Load-serving Entities**  
 Providers of Power. CCA is one form of LSE. CPUC mandates certain obligations on LSEs.
- Resource Adequacy**  
 Guarantees of adequate energy based on forecast demand, +15% surplus. Review that resources are reliable and designed for the future.
- REC**  
**Renewable Energy Credit**  
 1MWH of green power = 1REC. Different activities achieve distinct REC values. Solar generate an REC with the power, natural gas does not.
- RPS**  
**Renewable Portfolio Standard**  
 Minimum percentage, that grows over time, of renewable power or equivalent credits that are required to be in the power mix and appropriate sources.

# Electricity Today

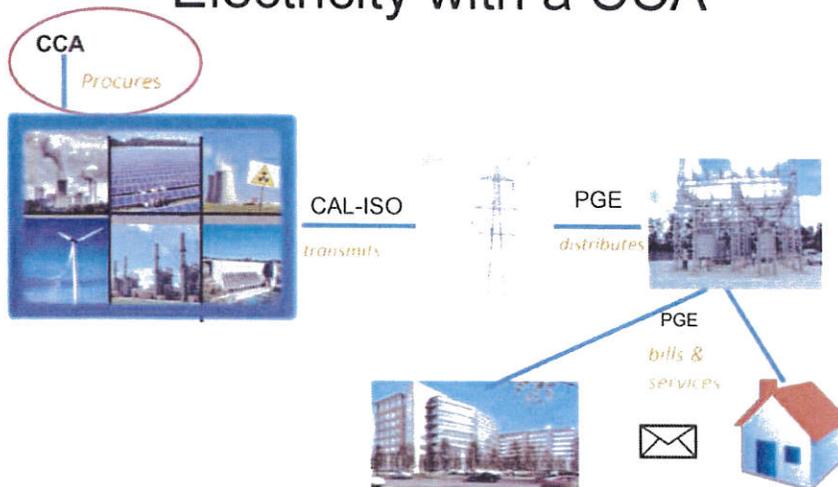


# WHAT IS A CCA & WHERE DOES IT FIT IN

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## Electricity with a CCA



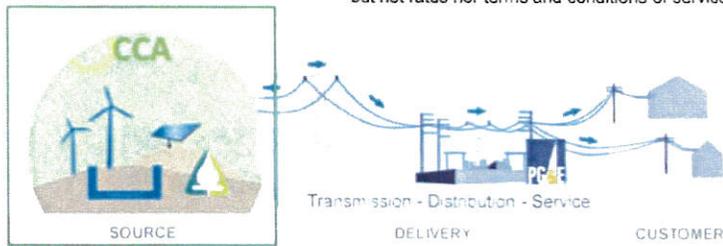
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# A CCA is \_\_\_\_\_

- + Community Choice Aggregation
- + A method to allow local government agencies to negotiate the purchasing and development of power and energy-related programs on behalf of their communities.
- + A way for energy generation revenues to be reinvested in and by the local community.
- + Regulated by the CPUC (33% RPS, resource adequacy, cost allocation; but not rates nor terms and conditions of service)



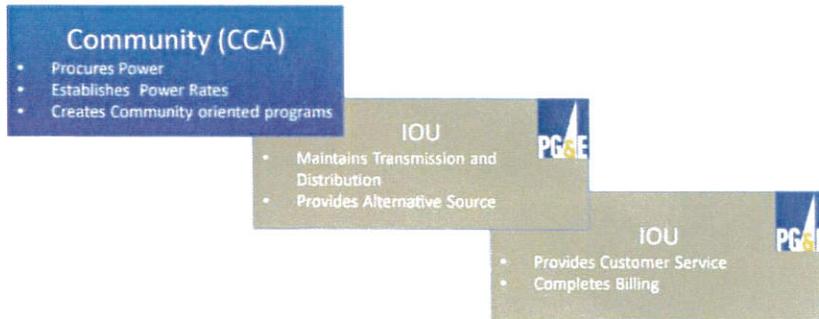
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## Simply - What is a CCA?

- Community-controlled electric power supplier
- Hybrid approach for supplying electric energy



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# A Changing Landscape

- Four years ago only one CCA was in formation in California, in 2012 dozens are in process.
- Multiple organizations to help in CCA initiation
  - Marin Energy
  - LEAN Energy
  - The CCA Alliance
  - CRS
- Six states now have legislation that supports CCA creation (CA, OH, RI, MA, NJ, IL)
- More states have pending legislation
- Attraction of CCA has been in providing cost savings

Location	Program Name	Approximate Start Date	Status
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active
California	California Energy Storage Consortium	2012	Active

U.S. Department of Energy

# Why CCA interest suddenly in California...



LEGISLATIVE TRAIL  
&  
HOW CCA CAME TO BE  
&  
WHY IS CCA CONNECTED TO  
CLIMATE CHANGE

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## California AB32 – sets a new agenda

AB 32 requires actions be taken to reduce California's greenhouse gas (GHG) emissions to their 1990 levels by 2020

Assembly Bill No. 32

CHAPTER 484

An act to add Division 23.5 (commencing with Section 86320) to the Health and Safety Code, relating to air pollution.

Approved by Governor September 27, 2006. Filed with Secretary of State September 27, 2006.

REGULATORY COUNCIL'S COMMENT

AB 32, Nasser Air Pollution Greenhouse Gas California Global Warming Solutions Act of 2006.

Under existing law, the State Air Resources Board (ARB), the State Energy Resources Conservation and Development Commission (Energy Commission), and the California Climate Action Registry all have responsibilities with respect to the control of emissions of greenhouse gases, as defined, and the Secretary for Environmental Protection is required to coordinate emission reductions of greenhouse gases and climate change activity in state government.

This bill would require the state board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and reduce compliance with this program, as specified. The bill would require the state board to adopt a statewide greenhouse gas emissions level in 1990 to be achieved by 2020, as specified. The bill would require the state board to adopt rules and regulations to set open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions, as specified. The bill would authorize the state board to adopt market-based compliance mechanisms, as defined, meeting specified requirements. The bill would require the state board to monitor compliance with and enforce any rule, regulation, order, emission limitation, emissions reduction measure, or market-based compliance mechanism adopted by the state board, pursuant to specified provisions of existing law. The bill would authorize the state board to adopt a schedule of fees to be paid by regulated sources of greenhouse gas emissions, as specified.

Because the bill would require the state board to establish emissions limits and other requirements, the violation of which would be a crime, this bill would create a state misdemeanor legal program.

The California Constitution requires the state to maintain law.

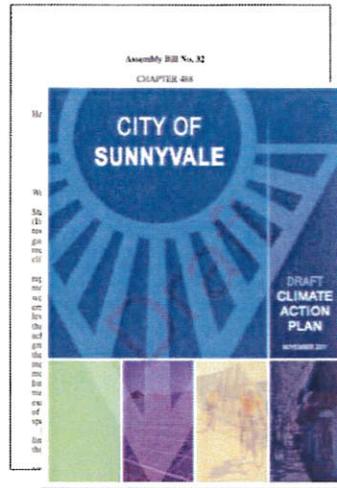
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## California AB32 – sets a new agenda

AB 32 requires actions be taken to reduce California's greenhouse gas (GHG) emissions to their 1990 levels by 2020

Various agencies have involved Local communities in describing how that will be achieved.



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## Legislative Landscape

- 1998 - AB 1890 endorses retail competition  
Only one alternate option – Direct Access (DA) as energy service provider (ESP)  
Many still in place today for commercial and industrial sites  
Program frozen in 2001, now 2<sup>nd</sup>
- ★ 2002 – AB 117 lays the foundation for CCAs  
16 page bill outlines the basic framework  
D 04-12-046, D 05-12-041, and D 10-5-050 clarify specifics
- 2006 – AB 32 Sets GHG limit goal for 2020  
Sunnyvale CAP addresses our role in that
- 2011 – SB 790 Protects CCAs  
Drafted in response to Prop 16  
Outlines anti-competitive conditions on IOUs  
Supports CCA development, outlines a *code of conduct* energy providers must respect
- ★ 2011 – SB 2 Establishes RPS Standards  
Sets goals and defines *green*
- 2012 – SB 843 Expands private energy alternatives  
Offsite Solar – Killed in committee August 31  
A CCA can already establish these programs

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## Legislative – Addressing Concerns

### AB 117 – Establishes CCAs

- Provides protections; requires CCA to file full implementation plan with CPUC
- Gives CPUC 90 days respond to any submitted CCA implementation plan
- Identifies cost recovery requirements
- Specifies the energy efficiency and conservation program aspect of CCAs
  - Opens door for associated GHG gas reduction programs
- If CCA fails, the cost of returning to IOU is NOT the burden of the customer.
- CCA must not discriminate with regards to customers in its service area
- Identifies how OPT-OUT is to be handled

### SB 790 – protects CCA creation

- Identifies which agencies can form CCAs
- Reinforces that Utility MUST cooperate with CCA. Establishes rules of conduct.
- Identifies that market information must be shared
- Explicitly identifies that IOU is to *facilitate development* of any CCA and fair competition.

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## Legislative - Green Solutions

### 2011 SB 2 specifies satisfying *green targets and methods*

- RPS can be satisfied by using a variety of power and offset options
- Qualified Renewable Power Minimums
  - 20% by 2013
  - 33% by 2020
- Three categories of *Renewable Power*
  - Category 1 - unlimited
    - energy from qualified renewable energy generators located within the state; or from out-of-state generators that can meet strict *scheduling* requirements to ensure deliverability to California
  - Category 2 – limit 25% after 2015
    - “firming and shaping” transactions where the energy produced by the renewable resource is not necessarily delivered to California, but a like amount of energy from a different resource is delivered and bundled with the former’s renewable energy attribute. (See Virtual Power Purchase)
  - Category 3 - limit 10% after 2015
    - unbundled renewable energy certificates (REC) with no related physical energy delivery

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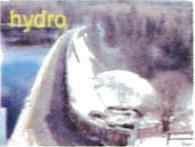
# What is Renewable?

**Forms of Energy that are continually being replaced as fast as they are consumed**

Major forces are Light and Gravitational. Harnessed as:



tidal



hydro



Photo voltaic



bio-mass



wind



RECs



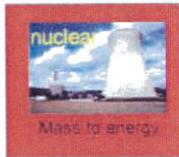
geothermal



concentrated solar



wave



nuclear  
Mass to energy

SBX1-2: biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydro (under 30 MW), digester gas, trash conversion (not utilizing combustion), landfill gas, ocean wave, ocean thermal, or tidal current

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## California Energy Profile

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	California Power Mix (GWh)	Percent California Power Mix
Coal	3 120	1.6%	692	20 158	23 969	8.1%
Large Hydro	36 596	18.3%	74	1 430	38 101	13.4%
Natural Gas	90 751	45.3%	215	13 072	104 037	36.5%
Nuclear	36 666	18.3%	-	8 031	44 697	15.7%
Oil	36	0.0%	-	-	36	0.0%
Other	0	0.0%	-	-	0	0.0%
<b>Renewables</b>	<b>33 244</b>	<b>16.6%</b>	<b>5 398</b>	<b>2 751</b>	<b>41 393</b>	<b>14.5%</b>
Biomass	5 777	2.9%	419	-	6 195	2.2%
Geothermal	12 685	6.1%	-	57.1	13 259	4.7%
Small Hydro	6 130	3.1%	6	-	6 136	2.2%
Solar	1 058	0.5%	29	130	1 217	0.4%
Wind	7 594	3.8%	4 945	2 047	14 585	5.1%
Unspecified Sources of Power	n/a	n/a	21 339	11 381	32 719	11.5%
<b>Total</b>	<b>200 414</b>	<b>100.0%</b>	<b>27 718</b>	<b>56 821</b>	<b>284 953</b>	<b>100.0%</b>

From California Energy Commission

2/24/201528

## Repurposing CCA?

- CCA concept developed before pervasive awareness of climate change
- CCA developed to provide choice and control costs
- With change in charter, CCA provides flexible ways to change the energy profile
- In California, resulting from **AB32 efforts**, CCA was identified as an established mechanism that also positively addressed Climate Change
- With further change in charter, CCA can provide ways to **achieve community goals** associated with energy

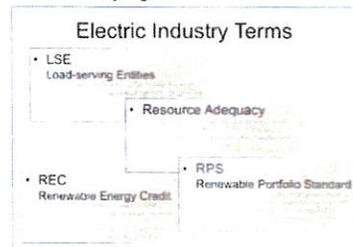
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## California PUC Regulations

CCA is governed by CPUC regulations to which all **Load Serving Entities** must comply

- Provide plan for 115% of forecast peak demand
- Local Area Resources must be made available to CA-ISO
- Tracks compliance to RPS portfolio



Also, CCA-specific CPUC regulations govern CCAs

- As part of creation, the CCA must document how it would be abandoned

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# SUNNYVALE COMMUNITY DIMENSIONS

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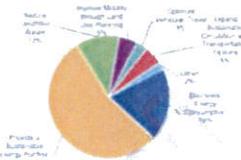
## Addressing the CAP Problem

- Reduction Goals change little over the next 25 years
- Two types of Reduction

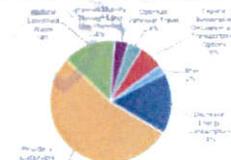
**Efficiency and behavior**  
*change relies on personal choice*

**Systemic**  
*change relies on institutional methods.*

2020 CAP reduction goals



2035 CAP reduction goals



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# CCA Efforts in California 135 of 130 CLEAN

CEC Electricity Usage Data Provided by County Only* <small>*CEC County Usage Data - <a href="http://ecans.emvgj.ca.gov/">http://ecans.emvgj.ca.gov/</a></small>	2010 USAGE Million kWh <small>(Residential/Other)</small>	EST. REVENUE \$Millions <small>069/Wh-MEA 2012</small>	CA RPS (33%) Million kWh <small>(33% of 2010 data)</small>
<b>OPERATIONAL</b>			
Marin Energy Authority (Marin County, Richmond)	1422	\$100+	469
<b>IMPLEMENTATION PLAN CERTIFIED, CONTRACT NEGOTIATED</b>			
San Francisco, City & County of/SF-PUC: Operational 2013	5,855	\$404	1932
<b>FEASIBILITY COMPLETE, JPA, IMPLEMENTATION PLAN</b>			
Sonoma County/Sonoma Clean Power: Estimated 10-12 Mos to Svc	2,875	\$198	949
<b>CCA EXPLORATION</b>			
Apple Valley, City of: Engaged consultant			
Arcata, City of/Humboldt County	920	\$63	304
Benicia, City of/Solano County	3,127	\$216	1032
Calaveras County: Engaged consultant	325	\$22	107
Davis, City of: Yuba County: scoping plan complete	1,658	\$114	547
East Bay Cities: Oakland, Albany, Berkeley, El Cerrito, Hayward			
East Bay Municipal Utility District		\$350	
Monterey County: Formed local govt. task force	2,474	\$171	816
Palmdale, City of: Engaged consultant			
Rancho Mirage, City of			
San Benito County	309	\$21	102
San Diego County/City of Solana Beach, Santee: Resolution review	18,800	\$1,297	6104
San Luis Obispo/City & County: CCA in Climate Action Plan	1,649	\$114	544
Santa Cruz/City & County: CCA in CAP; Unanimous Board support	1,252	\$86	413
<b>Santa Clara, County of (2011 data)</b>	<b>16,384</b>	<b>\$1,130</b>	<b>5,407</b>
Trinity County (partially served by public utility)	43	\$3	14
Tuolumne County: Engaged consultant	448	\$31	148
<b>TOTAL</b>	<b>46,718</b>	<b>\$3,573.54</b>	<b>15,416</b>

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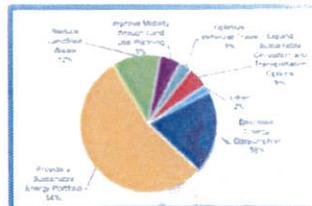
35

## The CAP Problem – the math

Tackling Energy Portfolio provides

*the earliest,  
the quickest,  
most impactful*

method of addressing GHG mitigation.



Marin's Approach



Each city participating in MEA CCA receives CAP credit

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## CCA RISKS AND REWARDS & ESTABLISHING A CCA

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### What we learned – **Myths** - about CCA

- Utilities will stop the effort.  
Electric utilities are not interested in CCA. They are only interested in their own interests.
- This is bleeding edge  
CCA is a bleeding edge technology. It is not a mature technology. It is a new technology.
- This is difficult and expensive to setup  
CCA is a difficult and expensive technology to setup. It requires a lot of money and a lot of time.
- Utilities already find it difficult to find alternative power  
Utilities are already finding it difficult to find alternative power. They are not interested in CCA.
- This is a drain on Municipal resources  
CCA is a drain on Municipal resources. It requires a lot of money and a lot of time.

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## What we learned - **Reasons** – to have a CCA

- **The Obvious**

- Provides new options for citizens to participate in the **green economy**
- Provides **competition** for customers – more sources and energy options
- Eventually **reduces energy costs**



- **The Not so Obvious**

- Supports existing Sunnyvale-headquartered industries that play in this industry
- Makes Community more **attractive to businesses**
- Better assures energy supply (get the benefit of both IOU and CCA – SB 790)
- **Creates jobs** in the energy sector (ex: 12 install and 3 maintenance jobs for each MW of new solar)
- Provides **competition** for energy supplier – more markets for smaller players
- **Transportation Electrification is increasing the future portfolio size.** (100 000 plug-in vehicles on roads today – 1300+ charging station in Bay Area)
- Reduces the responsibility of the City and reliance on the General Fund for addressing some of the **actions associated** with the CAP

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## The Customer Experience

- Customers automatically are serviced by the CCA (*by law – AB 117*).

Public Utility Outreach is a utility with more than 100,000 customers. DPT 2012 Report on the impact of the utility industry on the environment.

- Costs can be higher initially

IOU rates are higher than CCA rates. The utility industry is a major contributor to the global climate change problem. The utility industry is a major contributor to the global climate change problem.

- No change is made to how billing and service is handled

The utility industry is a major contributor to the global climate change problem. The utility industry is a major contributor to the global climate change problem.

- Electric power delivery reliability and priorities remain unchanged

The utility industry is a major contributor to the global climate change problem. The utility industry is a major contributor to the global climate change problem.

- Rental customers can participate in conservation programs

The utility industry is a major contributor to the global climate change problem. The utility industry is a major contributor to the global climate change problem.

- Energy Customers can choose from whom they buy their power

The utility industry is a major contributor to the global climate change problem. The utility industry is a major contributor to the global climate change problem.

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## Local Government Responsibilities

- Elect to offer established CCA service  
--- OR ---
- Create legal entity that forms CCA
  
- Pass Enabling Ordinance to offer or allow others to offer service
  
- With independent CCA, depending on charter and method of formation
  - Appoint representation to CCA board
  - Secure (repayable) start-up funding to establish or modify operation of existing CCA

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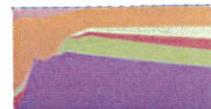
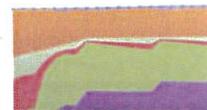
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## Sonoma County - *example*

### Consultants Evaluated 4 Scenarios

- Scenario 1 - Baseline  
*Meet State RPS standard*  
*Low cost*
- Scenario 2 - Transitional  
*Immediate 33% green, 51% by 2020*  
*Power from mixed sources (renewable and non)*  
*Power from local and from remote sites*
- Scenario 3 - Aggressive  
*Immediate 51% green, 75% by 2020*  
*Emphasize development of local resources, both large and small source*
- Scenario 4 - Transformational  
*Immediate 20% green, 85% by 2020*  
*Guided by CAP to build large amount of local power sources*  
*Target long-term cost reduction*

Qualified Renewable Power Minimums  
20% by 2013  
33% by 2020



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# Costs of Starting up

## Startup - first 6 mo *(Recoverable after CCA launches)*

- Staffing and Professional Services
  - Marketing and Communications
  - Security deposits
  - Customer noticing and public meetings (at least 3)
  - Data Management B2B exchange w PGE
- PG&E Service Fees
- Miscellaneous Administrative and General Financial Security/Bond Carrying Cost
- Non-performance bond with PG&E (current rate under review)

## First month Operating

- Working capital
- Generation prepayment expense and other project financing

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# Mechanics of Starting up

## CPUC Filing describing:

- Organizational structure of the program, its operations, and its funding
- Methods for entering and terminating agreements/contracts with other entities
  - A description of the third parties that will be supplying electricity under the program, including, but not limited to, information about financial, technical, and operational capabilities.
- The rights and responsibilities of program participants, including, but not limited to:
  - Consumer protection procedures, credit issues, and shutoff procedures
  - Rate-setting and other costs to participants
  - Provisions for disclosure and due process in setting rates and allocating costs among participants
- Description of service level
  - Universal access
  - Reliability
  - Equitable treatment of all classes of customers
  - Any requirements established by law or the CPUC concerning aggregated service.
- Termination of Program
  - Develop plan to be used only if CCA fails
  - After CPUC certification, need executed agreement of terms with PG&E to cover customer re-enlistment

## After approval; CCA entity formation

- Create legal entity
- City council ordinance to offer service through CAA entity

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## Sonoma 2013 - example

		2013	
Accounts**	Residential Accounts	144,000	956,000 MWH
	Other Accounts	21,000	
			1,024MWH
CCA fully loaded costs		\$169,000,000	
	CCA power costs		\$140,000,000
	CCA power reserves		\$12,800,000
	CCA Operating (various)		\$17,000,000
	Reserve		\$5,600,000
Exit Fees	Declines over 7yr	\$24,000,000	
	CCA	\$0.187	
\$/KWH to Customer (Delivered)	PG&E	\$0.172	

- Similar number of Accounts
- Very *different* profile of consumption

Avg initial cost change

- Risk \$225,000 if project abandoned
- Bridge funding repaid by first 24 month operations
- Other profits used to finance energy-related community projects

		Initiation	
Consulting	Initial Report	\$225,000	\$165,000
	Review		\$25,000
	Research		\$35,000
Initiation Staff	Initiating Agency staffing	\$300,000	
	6 month start-up	\$975,000	
PG&E	Fees and Coordination	\$300,000	
	CCA Bond & Deposits	\$700,000	
60 Days Ops		\$6,000,000	
			<b>\$8,500,000</b>

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## Formation Questions Requiring Answers

- Resource Adequacy –  
What is the 115% peak demand figure likely to be  
(S.C. County 16,000 GWH/yr – but what is peak load – 5x Sonoma ? – 2400 MW )
- What are the available sources of power for CCA
  - What is available in year one
  - What responsibility should the CCA assume in developing new sources?
  - What programs and innovative schedules should the CCA consider?
- How would CCA start
  - What phases might there be?
  - What are CCA's primary supply objectives/targets and when should it plan on meeting them?
  - Are there limitations the CCA should set in advance as to what activities it might include

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# Renewable Energy Providers

- **Marin's renewable suppliers**  
8 original suppliers  
Washington, Oregon and California  
Solar, hydro, wind, biogas & biomass  
From 2GW (Niles Canyon, WA) up to 36 GW (Tri Dam, CA)
- **Shell Energy North America**  
Aggregator of above renewable suppliers
- **"Power Suppliers"**  
Includes aggregators such as Shell Energy North America  
Includes various agencies that trade R.E.C.s
- **CleanPowerSF**  
Also contracts with Shell Energy N.A.

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# Mechanics of Starting up

## Answer Market Analysis Questions:

- What is the real Market for the CCA
  - Projected Opt-Out
  - Participation by Industry
- Measure the interest of **surrounding communities** in participating in a South Bay CCA.
- Engage with the **Industrial Community** to measure interest and determine their specific energy needs.

(California CCA rules excluding Direct Access agreements - currently in Sunnyside)

## Identify Sources of Local Supply:

Example: 9.5 MW (as of 2012) of installed solar capacity in Sunnyvale (9.1 MW as of 2014)  
560 documented solar installations in Sunnyvale (California Energy & California Public Utilities Commissions)

## Figure what CCA charter should include:

- **Identify consultants** to help complete the initial study; that are also capable of preparing a CPUC CCA submission
- Highlight how CCA can help address the actions of the **Community's CAP**

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## Next Steps Considered

- Measure the interest of **surrounding communities** in participating in a South Bay CCA.
- Engage with the **Industrial Community** to measure interest and determine their specific energy needs.
- **Identify consultants** to help complete the initial study; that are also capable of preparing a CPUC CCA submission
- Highlight the **actions of the Community CAP** that might be better orchestrated by a CCA

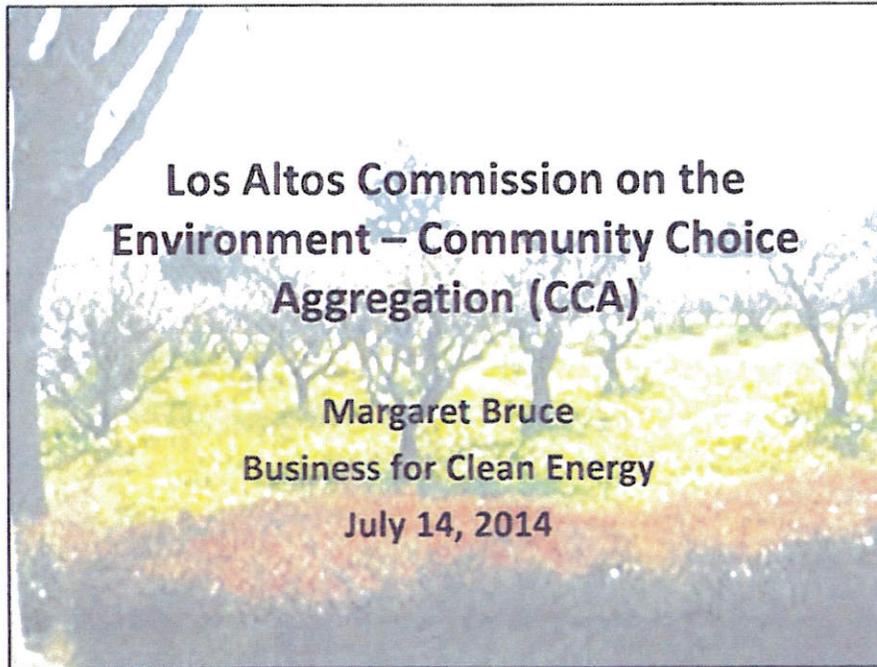
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## What we saw

- The Presenter is interested, but no expert in this area
- A fast look at how we get power and how much we consume
- That early actions need to be taken to address Climate Change for both practical and legal reasons
- That Electric energy could be an effective component in how Sunnyvale's addresses its Climate Change Responsibilities
- That reliance on a CCA is potentially a large impact action that many communities are considering
- Engagement with the Sunnyvale **Industrial Community** is necessary in order to achieve the best results
- That early adopters of CCAs have made it easier to establish one quickly and with little interruption in our daily lives

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### What is “Community Choice?” A Hybrid Model

Investor Owned Utility	Community Choice	Municipally Owned Utility
Energy Generation and Energy Efficiency	Energy Generation and Energy Efficiency	Energy Generation and Energy Efficiency
Energy Purchasing and Rate Setting	Energy Purchasing and Rate Setting	Energy Purchasing and Rate Setting
Own/Maintain Transmission Lines	Own/Maintain Transmission Lines	Own/Maintain Transmission Lines
Customer Service	Customer Service	Customer Service

## Why are Communities Interested?

- ✓ Consumer Choice
  - ✓ Competitive Rates
  - ✓ Local Control/Local Decision-making
  - ✓ Improved Environmental Performance (GHGs)
  - ✓ Community Economic “Multipliers”
  - ✓ Renewable Energy Market Drivers
  - ✓ Potential “Dividend” – Positive Feedback Loops for Energy Projects
- 

## CCA Electricity Rates

- CCAs Weigh Scenarios - Lower Rates vs. Other Attributes (% local, % non-carbon, long/short term, etc.)
- 30+ Year PG&E Trend (4% increase year over year)
- Current rates in MCE and SCP - 3% below PG&E +/-

## GHG Emissions

- Climate Action Plan Goals –
- This scenario > all other Los Altos CAP actions.

PG&E Emissions (2012) ("all power sources")	MCE Emissions (2012)	Los Altos Electricity Use (2005 Inventory)	Los Altos GHG via PG&E	Los Altos GHG at MCE emissions rate
445 lbs/MWh	373 lbs/MWh	148,965,459 kWh	33,042 metric tons CO <sub>2</sub>	25,226 metric tons CO <sub>2</sub>
			Δ 7,815 Metric Tons	



## CCA Governance

- Establishing the JPA
  - Structure/Governance/Funding
  - Implementation Plan and CPUC Submittal

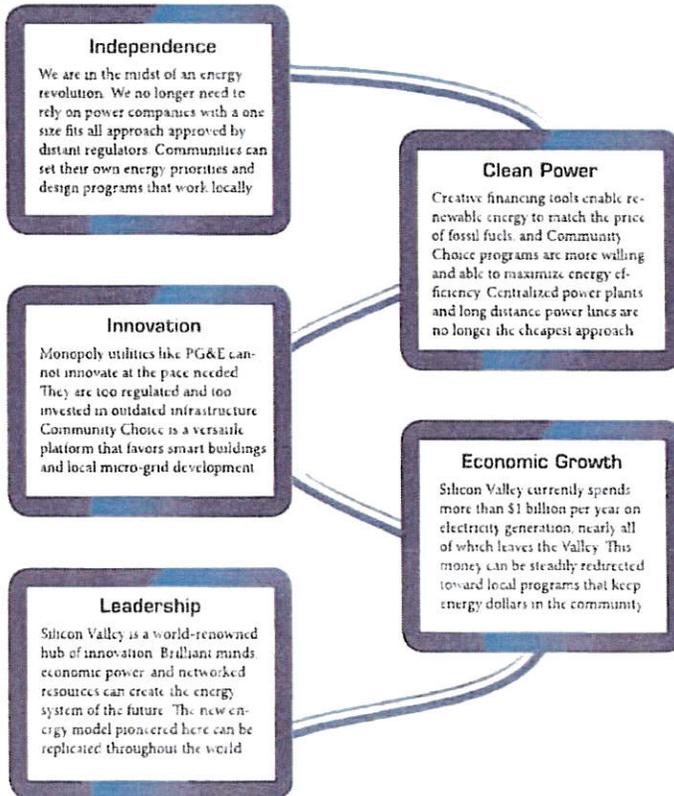
### Hypothetical Timeline with Sunnyvale leading the local effort

- Small group convened (now)
  - Preliminary Feasibility Study (Oct '14)
    - To SV Council in Jan '15
      - Begin Full Feasibility Study/Implementation Plan
      - Engage community stakeholders and other jurisdictions (Q1 – Q3 '15)
        - JPA formation, City Resolutions, Financing arrangements
          - RFP for Contract/s (Procurement service and Energy contracts (Q4 '15)
            - Q1 '16 Launch

# Community Choice

## A Game-Changing Innovation to Build the Energy System of the Future

A Community Choice energy program buys and generates electricity for businesses and residents. It introduces competition and choice to the electricity market and unleashes innovative businesses to create an Internet of energy. PG&E continues to provide transmission, distribution, billing, and maintenance. A local board oversees professional energy service providers that purchase power and offer innovative programs for local power needs.



## Community Choice: A Revolutionary Change

In 2001 PG&E went bankrupt. It was the third largest bankruptcy in U.S. history. This bankruptcy cost ratepayers, taxpayers, and shareholders over \$40 billion. In the aftermath, California lawmakers instituted reforms that opened up opportunities for competition. In 2002 they established Community Choice, a means by which competitors could enter the energy market. Lawmakers believed that such reforms were needed not only to prevent another energy meltdown, but also to enable the transition from fossil fuels to renewables.

California's first Community Choice program has been operating in Marin County for more than three years. A program in Sonoma County will go live in 2011. At least ten other California communities are now considering Community Choice. Five other states also have Community Choice programs.

Community Choice energy programs enable the creation of advanced energy systems much faster than traditional utilities. Having a power provider that is a willing partner in creating local power is a game changer for the entrepreneurs who are developing new energy technologies.

### Competitive advantages

A new local power provider is in a strong position to compete with large utilities. Many qualified energy professionals can be enlisted to oversee bids for electricity supply and manage energy programs. Hiring them locally is more efficient than relying on a remote, bureaucratic regulatory agency to make energy decisions.

Community Choice energy providers are non-profit entities with low overhead. They do not have to grow to satisfy shareholders and do not pay taxes.

### Cost-effective clean power

California's one operational Community Choice program, Marin Clean Energy, has competitive rates with PG&E while offering much greener power.

A lot of electricity is lost over long distance power lines. A local electricity provider focuses on small-scale power sources closer to consumers.

Energy efficiency and reducing consumption at peak demand times are the cheapest and cleanest energy options, and have never been pursued aggressively by traditional utilities. Community Choice programs can tap this potential and bundle it with new local generation, using inexpensive "megawatts" to fund more clean megawatts.



Contact: Margaret Bruce  
(408) 605-2761  
mbruce@biz4cleanenergy.com  
www.biz4cleanenergy.com



## Community Choice – FAQ

### **What is Community Choice?**

Community Choice energy programs, formally known as Community Choice Aggregation (CCA) under California state law, is a local program that buys and generates electricity for residents and businesses and may also administer localized energy efficiency programs.

### **Why pursue CCA?**

CCA is a means of establishing local control over decision-making about how to spend millions of dollars of an existing revenue stream in any given jurisdiction. Currently most communities have limited ability to influence decision-making about electricity rates and policies. CCA brings that decision-making closer to home in a public arena accessible to businesses and residents.

**How can CCA help businesses to obtain competitive, stable energy costs?** By incentivizing customers with a customized, integrated suite of services including financing, energy efficiency, renewable energy generation, automated demand response, and smart grid technology, businesses can cut their energy use and costs.

**What are the business opportunities for growth under CCA?** Rooftops, parking lots, and other under-utilized spaces can be assets that generate energy and revenue as surplus power is sold into the grid, enabled by Community Choice.

**How does CCA enhance overall community economics including job creation?** Keeping the millions of dollars of electricity payments now leaving your community will stimulate the local economy and create much needed jobs, especially for building trades.

### **What are the potential benefits of CCA?**

CCA offers any number of benefits depending on a given community's values and reasons for launching a CCA. Benefits may include enhanced consumer choice, competitive rates, market competition, local economic benefits, private sector investment opportunities, opportunities for technology innovation, greenhouse gas reductions, and energy security.

### **What are the risks of CCA?**

The ultimate risk is that a CCA fails. Contingencies for that unlikely event are established in the original 2002 CCA law and further California Public Utilities Commission regulations that allow for a smooth transition back to full bundled service from the distribution utility without a disruption of service.

For more information, please contact Margaret Bruce  
[margaret@manzanita-ca.com](mailto:margaret@manzanita-ca.com), 408-605-2761 (mobile).



## Community Choice – Background

### **What laws allow CCA?**

Assembly Bill 117 (2002) and Senate Bill 790 (2011) empower local governments to aggregate the ratepayers in their jurisdictions and provides a code of conduct that requires the distribution utility to cooperate with the CCA.

### **How does CCA work?**

In CCA, the distribution utility continues to own and maintain the transmission and distribution infrastructure and continues to handle metering and billing. CCA is a line item on the electric utility bill that replaces the "generation" line item.

### **Has CCA been done before?**

Yes. Six states have CCA laws including California. In California, Marin Clean Energy launched its program in 2010. About 80 percent of customers in the program have opted to keep getting renewable power from Marin Clean Energy even though they have the choice of switching to PG&E. CCAs have been operating successfully in Massachusetts and Ohio since the late 1990s.

### **Is CCA another big government bureaucracy?**

CCAs do not require large staffs. Across the country CCA staff sizes range from two to about fifteen.

### **How is CCA funded?**

No taxpayer funds are involved in CCAs. CCAs require seed money during the formation period, but ongoing funding is all ratepayer based. In most cases, reimbursement of seed funds for start-up is folded into the rate structure in the early years of the program.

### **Who sets rates?**

Under a CCA, after the public utilities commission has certified the CCA's implementation plan, the CCA takes on the role of setting rates and setting policies that incentivize energy resource development.

### **How are ratepayers protected?**

CCAs introduce a choice for consumers where none exists. It is only possible to establish CCAs in monopoly investor-owned utility service territories. As such, CCAs offer the best safeguard possible for ratepayers – competition. In addition, CCAs are public, not-for-profit entities, dedicated to serving the public interest.

### **Why does CCA use an "opt-out" choice structure?**

Under state law, residents and businesses are automatically enrolled when a CCA program begins in their area and have the option of opting back to the investor-owned utility. A critical mass of load is required at launch in order to establish a viable program. Because opt-in rates are known to be low even for programs that clearly benefit consumers, an opt-out system is necessary to achieve that critical mass.

## Useful Links and References

Sonoma Clean Power: Main website: <http://sonomacleanpower.org/>

Sonoma Clean Power: "About" page <http://sonomacleanpower.org/about-scp/> This page has links to:

- Joint Powers Agreement
- Final Implementation Plan
- Draft Implementation Plan Executive Summary
- CCA Feasibility Study
- Residential Survey
- Commercial Survey
- Residential focus group summary
- Commercial in-depth interviews

Marin Clean Energy: Main website: <http://www.mcecleanenergy.org/>

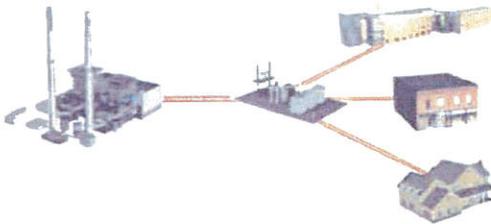
MCE's FAQ page: <http://www.mcecleanenergy.org/faq/>

California Public Utilities Commission, Community Choice Aggregation information - [http://www.cpuc.ca.gov/PUC/energy/Retail+Electric+Markets+and+Finance/070430\\_ccaggregation.htm](http://www.cpuc.ca.gov/PUC/energy/Retail+Electric+Markets+and+Finance/070430_ccaggregation.htm)



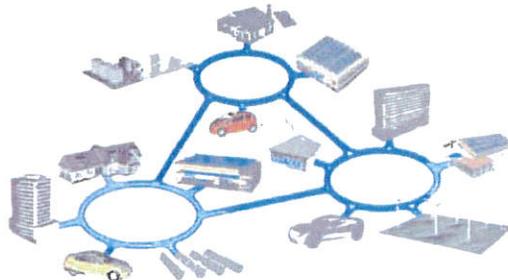
### We Are Here - CENTRALIZED GRID

- ✓ Linear
- ✓ Non-Renewable Dependant
- ✓ Closed Loop
- ✓ Inefficient



### We Need To Be Here - SMART GRID

- ✓ Intergrated
- ✓ Renewable
- ✓ Distributed
- ✓ Community Scaled
- ✓ Efficient



## Supporting Choice for Cities

- Public Sector Climate Task Force – comprised of cities and counties working collaboratively to reduce greenhouse gas emissions
- Smart Energy Enterprise Development Zone (SEEDZ) – private and public interests addressing energy challenges together
- Goal is to provide information our members can use to assess their energy choices
- Support powering the grid with clean & renewable energy sources, and recognize the critical role that competition and choice play



Joint Venture  
SILICON VALLEY



- Steve Tate, Mayor, City of Morgan Hill & Chair
- Environmental Sustainability/Climate Action Subcommittee:
  - Jim Griffith, City of Sunnyvale
  - Margaret Abe-Koga, City of Mountain View
  - Burton Craig, City of Monte Sereno
  - Rod Sinks, City of Cupertino

- **Consumer Choice in Energy**
  - Joe Como, Director, Office of the Ratepayer Advocate, California Public Utilities Commission
- **Community Choice Energy Programs in Operation**
  - Geof Syphers, CEO, Sonoma Clean Power
  - Jamie Tuckey, Communications Director, MCE Clean Energy



## Marin Clean Energy

A not-for-profit, community based  
renewable energy provider



## About MCE

Agency formed in 2008

Service started in May 2010

Serving 125,000 MCE customers in Marin & Richmond (approx. 77%)

Reduced >131 million lbs of greenhouse gases

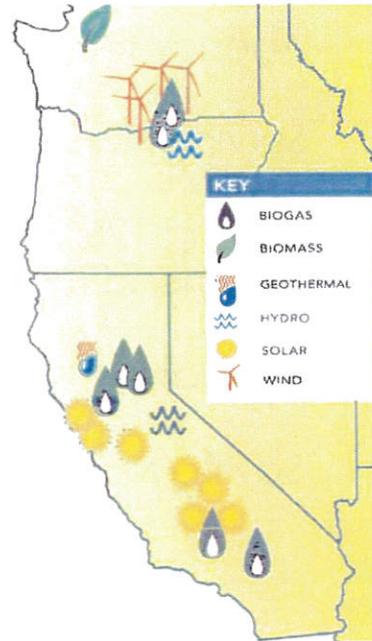
Saving MCE customers \$5.9 million in 2014

## Customer Choice



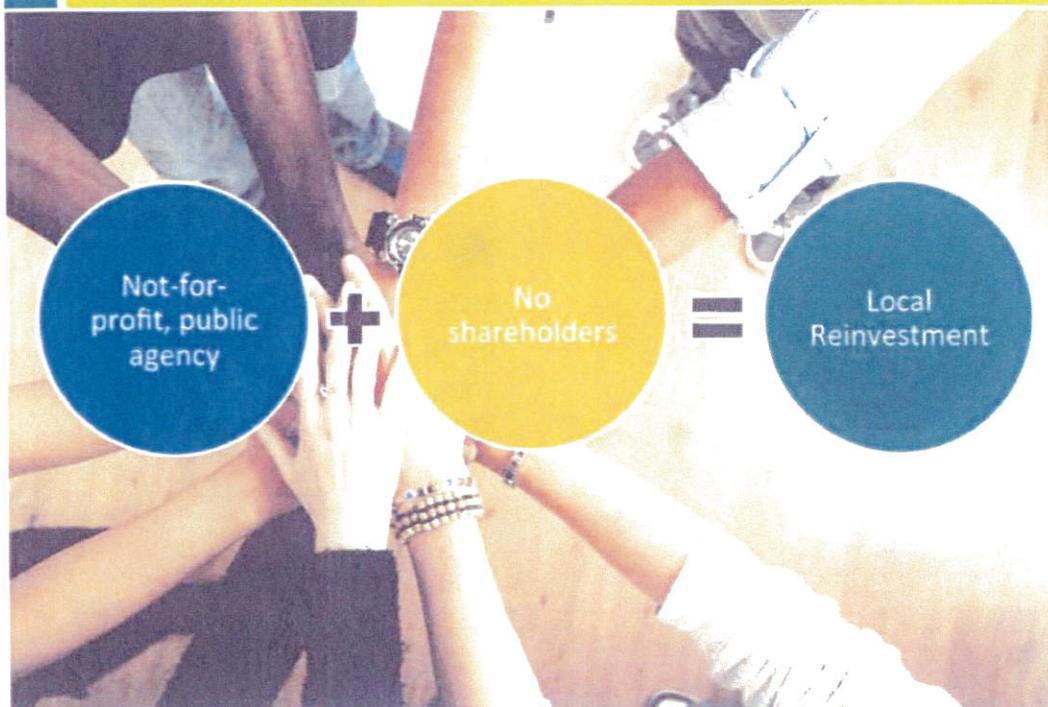
## MCE Power Sources 2010 - 2013

- Contracts with 12 energy suppliers
- More than 54 MW of new CA renewable energy under development for MCE customers
- Enough clean energy to power approximately 23,000 homes per year

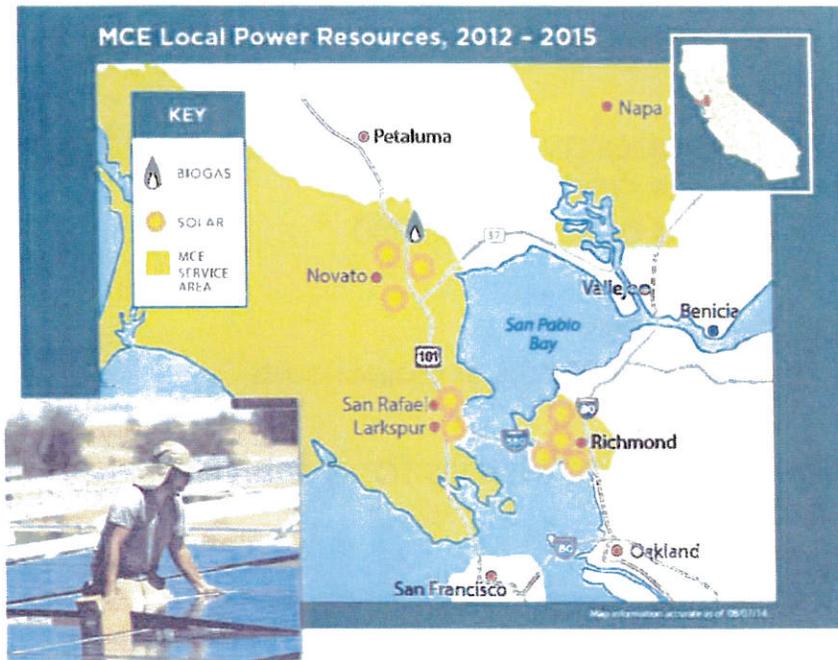


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## Community Benefits



## MCE Local Development



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## Local Programs

Electric vehicle charging stations

Tesla pilot program

Bidgley Home Area Network pilot program

Marin Green Business program



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## \$4.1M Energy Efficiency Program

---

Funded through Public Purpose Charge

No-cost energy assessments for multifamily properties and businesses

- Valued at \$3,000 - \$5,000

Cash rebates

- Averaging 25-60% of project costs

No-cost direct installs for multifamily tenant units

Loans with on-bill repayment



## Local Jobs

---

More than 1,300 California jobs created and supported by MCE in less than 3 years

20 MCE employees

54 service vendors (34 local)

Energy efficiency jobs through: Rising Sun Energy Center, RichmondBUILD, Marin City Community Development District



Ruben Pendoza, RichmondBUILD graduate



Jamie Tuckey  
 Communications Director  
[jtuckey@mceCleanEnergy.org](mailto:jtuckey@mceCleanEnergy.org)  
 (415) 464-6024

## Residential Cost Comparison

508 kWh E-1/Res-1	PG&E 22%	MCE Light Green 50%	MCE Deep Green 100%	MCE Local Solar 100%
Delivery	\$36.24	\$36.24	\$36.24	\$36.24
Generation	\$46.75	\$40.13	\$45.21	\$72.14
PG&E Fees	-	\$5.91	\$5.91	\$5.91
<b>Total Cost</b>	<b>\$82.99</b>	<b>\$82.29</b>	<b>\$87.37</b>	<b>\$114.29</b>

- Delivery rates stay the same
- Generation rates vary by service option
- PG&E adds exit fees on CCA customer bills
- Even with exit fees, total cost for Light Green is less than PGE

## Commercial Cost Comparison

	PG&E	MCE Light Green	MCE Deep Green	MCE Local Solar
1,405 kWh A-1/Com-1	22%	50%	100%	100%
Delivery	\$137.97	\$137.97	\$137.97	\$137.97
Generation	\$135.55	\$111.00	\$125.05	\$199.51
PG&E Fees	-	\$14.49	\$14.49	\$14.49
<b>Total Cost</b>	<b>\$273.52</b>	<b>\$263.46</b>	<b>\$277.51</b>	<b>\$351.97</b>

- Delivery rates stay the same
- Generation rates vary by service option
- PG&E adds exit fees on CCA customer bills
- Even with exit fees, total cost for Light Green is less than PGE

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## 2013 Electric Power Content Mix

	PG&E	MCE Light Green	MCE Deep Green
<b>Renewable</b>	<b>22%</b>	<b>51%</b>	<b>100%</b>
Bioenergy	4%	6%	0
Geothermal	5%	0	0
Small hydroelectric	2%	12%	0
Solar	5%	<1%	0
Wind	6%	33%	100%
Large Hydroelectric	10%	10%	0
Natural Gas	28%	0	0
Nuclear	22%	0	0
Unspecified	18%	39%	0
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>2012 GHG Emissions (lbs CO<sub>2</sub>e/MWh)</b>	<b>445</b>	<b>380</b>	<b>0</b>

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## Seven New Local Projects Underway

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1 MW solar carport shade structure in Novato (Q2, 2015)

### Feed-In Tariff Projects:

286 kW rooftop solar at CostPlus building in Larkspur (Q4, 2014)

999 kW solar in Greenbrae (Q1, 2015)

1.5 MW solar at Cooley Quarry in Novato (Q1, 2015)

4 MW biogas at Redwood Landfill in Novato (Q1, 2016)

### Local Renewable Development Fund Projects:

2-10 MW solar at Richmond Chevron-owned property (Q3, 2015)

1.5 MW solar at Richmond Port brownfield site (Q2, 2016)

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## Pursuing Choice

- Barbara Hale, Assistant General Manager,  
Power, San Francisco Public Utilities  
Commission



Joint Venture  
SILICON VALLEY



## Community Choice Aggregation: A Regulatory Perspective

Market Structure & Design Section  
Energy Division  
California Public Utilities Commission  
By Will Maguire, Esq.

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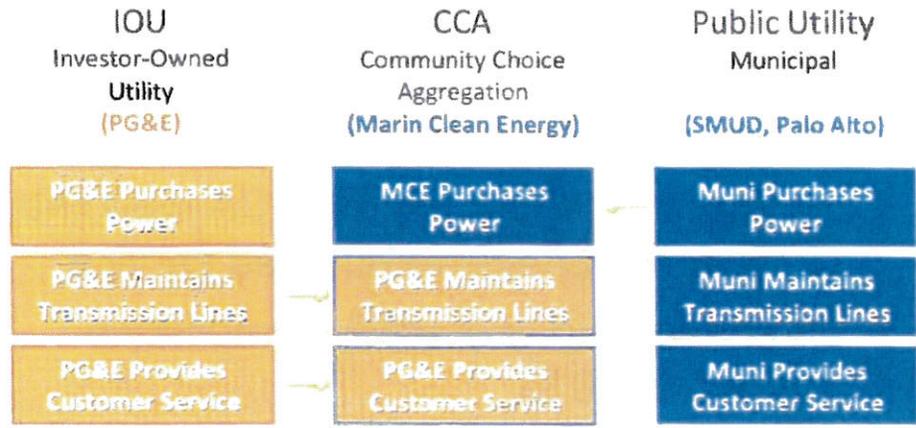


## Community Choice Aggregators

- “CCAs” are a system adopted into law in the states of [Massachusetts](#), [Ohio](#), [California](#), [New Jersey](#), [Rhode Island](#), and [Illinois](#) which allows cities and counties to aggregate the buying power of individual customers within a defined jurisdiction in order to secure alternative energy supply contracts on a community-wide basis
- Goal: More local control of utility service
- Goal: More renewable energy than IOU (Critique of Renewable Energy Credits (RECs)=“greenwashing”?)
- Consumers not wishing to participate can **opt-out**

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Source: <http://www.neuralenergy.info/2011/06/cca.html>

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## CCA History in CA

- Authorized by AB 117 (Migden, 2001)
- Expanded by SB 790 (Leno, 2011)
  - SB 790 also required CPUC to open Rulemaking to adopt a Code of Conduct, associated rules, and enforcement procedures, to govern the conduct of an electrical corporation relative to the CCAs
  - **D. 12-12-036**

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## Code of Conduct highlights

- Limits utility marketing or lobbying against CCAs
- No discrimination against CCA customers or tying of benefits to bundled service
- Bi-annual audits of utility compliance starting in 2015

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## CCAs: CPUC has a light regulatory touch

- P.U. Code 366.2 permits CCAs to enroll new customers unless they opt out of CCA service.
- P.U. Code 366.2 (c)(3) requires CCAs to register with the CPUC and submit an Implementation Plan and Statement of Intent for approval. The implementation plan must contain all of the following:
- (A) An **organizational structure** of the program, its operations, and its funding. (B) **Rate setting and other costs** to participants. (C) Provisions for **disclosure and due process** in setting rates and allocating costs among participants. (D) The methods for **entering and terminating agreements** with other entities. (E) The **rights and responsibilities** of program participants, including, but not limited to, consumer protection procedures, credit issues, and shutoff procedures. (F) **Termination of the program**. (G) **A description of the third parties that will be supplying electricity** under the program, including, but not limited to, information about financial, technical, and operational capabilities.

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## CCAs: CPUC has a light regulatory touch

In addition, a CCA shall provide for the following:

- Universal access
- Reliability
- Equitable treatment of all classes of customers
- Any other requirements established by state law or by the commission
  - **Public Utilities Code 366.2 (c )(4)**

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## CCA Registration Packet

CCA's registration packet shall include:

- Service Agreement with the underlying utility
- Evidence of insurance, self-insurance or a bond that will cover such costs as potential re-entry fees, penalties for failing to meet operational deadlines, and errors in forecasting.
  - \$100,000 interim bond amount
  - **CPUC Decision 05-12-041 & Resolution E-4113**

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## “Existing” CCAs

- Marin Clean Energy (MCE)
- San Joaquin Valley Power Authority (SJVPA)
- Sonoma Clean Power (SCP)
- Lancaster Community Choice Aggregation (LCCA)
- CleanPowerSF

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## CCAs: CPUC's Role

- P.U. Code 366.2 (c) (11) requires the Commission to **proactively expedite the complaint process** for disputes regarding an electrical corporation's violation of its obligations pursuant to this section in order to provide for timely resolution of complaints made by community choice aggregation programs.
- Informally mediate disputes between IOU and CCAs



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**DATE:** March 6, 2015  
**TO:** Los Altos City Council  
**FROM:** Los Altos Environmental Commission  
**SUBJECT:** Evaluation of Community Choice Energy (CCE)

**RECOMMENDATION:**

Authorize Immediate Study of CCE Options

**BACKGROUND**

On December 10, 2013, Council adopted the City of Los Altos Climate Action Plan (CAP). The CAP sets a greenhouse gas (GHG) reduction goal for Los Altos of 17% by the year 2020, from the 2005 baseline. This would reduce emissions to 152,000 metric tons of CO<sub>2</sub> equivalent.

The Business as Usual Case estimates emissions growing to 199,070 metric tons in 2020. Government mandates, such as Federal CAFE standards for improving fuel efficiency in automobiles, California's Renewable Portfolio Standards and existing local measures will help to reach the reduction goal. Nevertheless, additional Los Altos measures will be needed to address a gap of 15,640 metric tons if the City is to reach its goal.

The CAP identifies over 40 measures and estimates the potential GHG reduction impact and cost of each. The top three areas are improvements to non-motorized transportation, increased energy efficiency, and increased use of renewable energy. If all measures are implemented the gap will be filled, but the requirements in staff time and capital cost will be substantial (several millions of dollars).

The CAP does not currently include a Community Choice Energy (CCE) initiative. A CCE provides residential and commercial electricity customers new options for buying power from renewable, carbon-free sources. Emissions from the production of electricity represent 18% of 2005 baseline emissions (36,400 metric tons); therefore the potential for GHG reduction is large. If Los Altos achieves results similar to Marin Clean Energy (MCE), a reduction of 7,815 metric tons is possible. Further, if via CCE, Los Altos were able to establish an energy mix that was 100% renewable, the reduction of 36,400 metric tons would be more than twice the impact of all current CAP measures combined.

At the time the CAP was developed, only one CCE was in place in California (MCE) and it required several years and significant effort to achieve. This was not considered a viable option for Los Altos.

## Recent Developments

Over the past few years, utility-scale energy from renewable sources has become less expensive and more widely available. Major local businesses such as Apple, Google and Kaiser Permanente have made significant investments in renewable energy projects to provide power for their business operations.

Furthermore, Community Choice Aggregation (CCA), a common mechanism for deploying CCE, is gaining popularity. Marin Clean Energy (MCE), beginning service in 2010, was followed by Sonoma Clean Power in 2014. The City of Lancaster in Southern California will begin Choice Energy this year. Alameda County, San Mateo County, and the City of San Francisco have each funded CCA feasibility studies. The City of Sunnyvale, joined by Mountain View, Cupertino, and the County of Santa Clara is preparing a May report on a pre-feasibility study for a South Bay CCA.

CCA rates are competitive with PG&E. MCE offers a 'light green' option (50% renewable) at slightly lower cost, and 'dark green' (100% renewable) at slightly higher cost. For comparison, the CO<sub>2</sub> emissions per Megawatt-Hour are 445 pounds for PG&E, 380 pounds for MCE Light Green, and 0 pounds for MCE Dark Green (2012 numbers).

New options for the formation of CCAs are emerging that may be relevant to smaller jurisdictions such as Los Altos. A third-party 'CCA provider' can aid cities in forming, financing and operating a CCA.

Additionally a new 'Green Option' program being implemented by PG&E allows customers to voluntarily purchase power from 100% renewable sources.

Of concern, the City of Mountain View announced in February that they are not meeting their GHG target and that emissions from 2005 to 2012 are trending up, not down.

Zach Dahl, Senior Planner, announced March 9 that the City of Los Altos.....

## CCE Options for Los Altos

Current options for consideration and Council direction:

### 1. 'Do it Yourself' CCA

Los Altos forms its own entity to buy renewably sourced power. This is impractical for a City such as Los Altos with 30,000 residents and a small commercial electricity load. It's generally recommended that an entity be on the order of 200,000 residents to justify the time and cost required.

### 2. Public Partner CCA, ASAP

Los Altos teams with a larger partner, e.g. Sunnyvale/South Bay CCA, as soon as possible. This requires Los Altos to move forward aggressively, and take steps to analyze its current

electric load and provide timely input to the Sunnyvale feasibility study. This would enable Los Altos and the South Bay CCA to determine and plan the ‘fit’ (e.g. Los Altos requirements, cost/GHG mix expectations) and if a fit looks reasonable, bring Los Altos into the South Bay CCA, either at formation or as soon as possible thereafter. This would not require or guarantee a long-term commitment by either party to the CCA, but could potentially save Los Altos thousands of dollars. Sunnyvale and current partners Cupertino, Mountain View, and the County of Santa Clara, anticipate working over the next few months to establish their approach for partnering with other interested jurisdictions.

### 3. Public Partner CCA, Later

Los Altos teams with a larger public partner later, once the entity is well established. This is a passive ‘wait and see’ approach and assumes South Bay CCA, for example, would have an interest in expanding to other local Cities – as happened with MCE. This could be a relatively low cost option, but with much delayed GHG reduction benefits.

### 4. Commercial Partner CCA

Los Altos teams with a private company to provide CCA services, including formation, financing, and operation. This approach offers the promise of high GHG reduction potential, rapid implementation, good cost performance, risk management, and a high degree of control by the City. At this time there is a plentiful supply of low-cost renewable energy offering a good opportunity to lock in favorable rates. Furthermore, there is considerable interest forming around this new model for CCAs, and there may be advantages for early adopters in developing and negotiating agreement terms and ensuring access to currently available low cost green power. Nevertheless, this is a new and emerging type of offer, and any vendors offering these services would need to be thoroughly vetted and contracts carefully written.

### 5. Green Option

Los Altos promotes the purchase of green power directly from PG&E. This involves the City promoting the new PG&E ‘Green Option.’ The Green Option tariff is expected to require that customers ‘opt-in’ and pay a small premium (probably 1-2 cents/kWh), and is scheduled to become available in late 2015. Uptake is likely to be modest, with voluntary ‘green energy’ programs around the country typically seeing a 5-20% customer subscription rate. Encouraging such a program locally could be a good near-term measure, especially if formation or participation in a CCA is not a high priority.

Each option has unique attributes. The table below provides our qualitative, high level comparison of the options versus a number of key evaluation criteria. Options 2 and 4 appear to offer the most potential for Los Altos, in terms of GHG reduction impact, speed, and cost of implementation. These options are both time-sensitive, as the South Bay CCA is now in the process of being scoped, and the commercial market for clean energy is currently favorable.

Community Choice Energy Options, and High-Level Comparison of General Attributes					
Attribute	Community Choice Energy Option				
	1	2	3	4	5
	DIY CCA	Public Partner CCA - ASAP	Public Partner CCA - Later	Commercial Partner CCA	PG&E Green Option
Potential GHG Reduction Impact	●	●	●	●	○
Speed of Implementation	○	●	○	●	●
Potential for Customer Cost Savings	●	●	●	●	○
Cost Efficiency to Implement	○	●	●	●	●
Degree of City Influence/Control	●	●	○	●	○
Market Precedent/Experience/Predictability	○	●	●	○	●
Potential for Other Customer Benefits/Programs	●	●	●	●	○

Higher ● Intermediate ● Lower ○

**RECOMMENDATION**

That a study be immediately authorized to evaluate CCE initiative options, and to establish City direction on a CCE initiative; this would include a data request to PG&E for detailed customer load data, with strong provisions for privacy protection in place, to allow an evaluation of the prospective options, costs and benefits associated with CCE.