

East Bay Community Choice Aggregation Preliminary Analysis

December 6, 2012



*East Bay Municipal Utility District
Oakland, California*

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GLOSSARY OF TERMS

AB	Assembly Bill
BEC	Berkeley Energy Commission
CAISO	California Independent System Operators
CARE	California Alternate Rates for Energy
CCA	Community Choice Aggregation
CEC	California Energy Commission
CPUC	California Public Utilities Commission
CRS	Cost Responsibility Surcharge
CSI	California Solar Initiative
DA	Direct Access
District	East Bay Municipal Utility District
EBMUD	East Bay Municipal Utility District
EPS	Emission Performance Standards
ESP	Energy Service Provider
FiT	Feed-in Tariff
FY	Fiscal Year
GHG	Greenhouse Gases
GWh	gigawatt-hour
IOU	Investor-Owned Utility
ISO	Independent System Operator
JPA	Joint Powers Authority
kW	kilowatt
kWh	kilowatt-hour
LAFCO	Local Agency Formation Commission
LCE	Local Clean Energy
MCE	Marin Clean Energy
MEA	Marin Energy Authority
MUD	Municipal Utility District
MWh	Megawatt-hour
PCIA	Power Charge Indifference Adjustment
PG&E	Pacific Gas and Electric Company
POU	Publicly-owned Utility
PPA	Power Purchase Agreement
PV	Photovoltaic
RA	Resource Adequacy
REC	Renewable Energy Credit
RPS	Renewable Portfolio Standard
SB	Senate Bill
SCWA	Sonoma County Water Agency
SFPUC	San Francisco Public Utilities Commission
SMUD	Sacramento Municipal Utility District
TREC	Tradable Renewable Energy Credit

EXECUTIVE SUMMARY

Introduction

As directed by the Board of Directors and in consideration of District Policy 4.10, Public Services Enterprises, this report presents a preliminary analysis of an East Bay Community Choice Aggregation (CCA). The report summarizes studies and reports completed by the District and other cities and agencies that have evaluated CCAs. It describes the potential barriers, benefits, risks, costs, interest levels and institutional issues associated with formation of a CCA.

Summary

The report describes two institutional models for those cities that have expressed an interest in working with the District to form an East Bay CCA: 1) forming a separate Electric Utility and 2) forming a Joint Powers Authority (JPA). The preliminary review of CCAs indicates that forming an East Bay CCA may be within the District's authority under the California Municipal Utility District (MUD) Act for either of these two institutional models pending further legal review.

A review of the Marin Energy Authority (MEA) revealed a positive revenue stream during its first two years of operation. Based on this information it appears that CCAs can be successful at providing energy options to customers and generating a positive revenue stream.

Electric Utility Model

The District could become a CCA provider either by passing an ordinance pursuant to the CCA statute or by taking the additional step of forming of a new special district for this purpose. The ordinance option was not analyzed as it poses a potential detriment to existing customers due to the lack of adequate separation of liabilities and risks. Under the model reviewed in this report, a third enterprise function would be formed to procure electricity for customers in those cities asking the District to be the CCA provider for their residents. This approach would require legislation to amend the MUD Act to allow formation of a special district for electric service, similar to Special District No. 1 (SD-1) for regional wastewater treatment. In creating a new special district to provide CCA services, the Local Agency Formation Commission (LAFCO) may or may not require an election. However, the establishment of the District and SD-1 were preceded by an election. Both approaches would comply with CCA legislation to serve all customers in those cities and counties that are both within and contiguous to the District's service area that pass resolutions authorizing the District to be a CCA provider on their behalf. If the District continues to evaluate forming a CCA it will need to consider which utility model best serves the public interest and protects the District's customers.

Some of the benefits of this model include furthering progress toward achieving the District's greenhouse gas (GHG) emission reduction goals, sharing some administrative costs, and leveraging the District's energy generation expertise. The risks include potential financial losses, dedicated funding and staffing for the CCA, and challenges associated with starting a new electrical enterprise.

This model may meet the evaluation criteria in Policy 4.10 if the risks can be successfully mitigated to protect water system customers.

Joint Powers Authority Model

This model presumes that the District would work with interested cities to form a JPA similar to the MEA. The MUD Act allows the District to participate in a CCA formed under a JPA; however, the participation must be consistent with District policies and not create liabilities for the water or wastewater customers. The governance, costs, and risks would be shared among the JPA members. The District could be asked to perform the administration and operation of the JPA and have a relatively minimal role in the governance based on energy use or the number of accounts served by a CCA.

Some of the benefits of this model include shared financial responsibility with JPA members funding start-up and ongoing operational costs, and a financial "firewall" between member agencies and the CCA.

The District's participation in a CCA JPA may comply with the evaluation criteria in Policy 4.10 regarding benefits to the water system and customers, depending on the terms of the JPA.

History and Background

The District began generating energy in 1930 following the construction and operation of Pardee Dam. The District has gradually added cost-effective energy generation projects and increased its generation capacity from 20 megawatts (MW) in 1930 to its current generation capacity of over 55 MW.

In 2001, the District authorized a comprehensive study of possible roles for the District as an Electric Utility. The report was completed by R.W. Beck at a cost of approximately \$400,000, and identified several options and recommendations. While the District did not pursue any Electric Utility options, it did adopt Policy 7.07, Renewable Energy, and has implemented nine renewable energy projects with an aggregate capacity of nearly 6 MW.

In 2005, the District participated in a demonstration project with the cities of Berkeley, Emeryville, Marin, Oakland, Pleasanton, Richmond, and Vallejo to evaluate the feasibility of forming a CCA in the East Bay and Marin. The study was part of a CCA Demonstration Project commissioned by the California Energy Commission (CEC) and the United States Department of Energy to assist local governments in evaluating and

implementing CCAs. To date, only Marin and Richmond have taken any action to form or join a CCA.

CCA Activities and Outreach

MEA is the only fully functioning CCA in California. MEA has been operational since 2010, has an expanding rate base, and has a positive cash flow through FY12. In 2012, the City of Richmond joined MEA and has started signing up customers on a voluntary basis, with full implementation to begin in 2013. Sonoma County and San Francisco have authorized forming CCAs.

It should be noted that MEA and the proposed Sonoma and San Francisco CCAs are all formed under the broad powers of a county. EBMUD would be the first special district to form a CCA.

The District has met with interested cities in its service area, including Albany, Berkeley, Emeryville, and Oakland, to explore their level of interest and to identify issues of concern. In general, the cities were interested but expressed concern over costs of implementation, resource availability, and the governance structure of a CCA.

Public Policy Issues

The report reviews several key policy issues for the two institutional models, including compliance with Policy 4.10. Threshold issues include cost competitiveness, reliability, environmental sensitivity, and local control. Cost competitiveness is related to the portfolio of energy sources and would be the same regardless of the institutional model chosen. Reliability of both service and costs would also be similar for each institutional model. Local control of and the ability of the customers to influence policies, rates, and activities would differ in that a JPA would be represented by the members of the JPA, and under the Electric Utility model the Board would be responsible for setting the rates and considering customer input.

Other key policy issues include the impact on the District's core water and wastewater business and impact on consumer confidence. Under the JPA model, little to no impact on the District's core business is assumed, since, except for some additional staff to administer and oversee the JPA, most functions would be contracted out. The Electric Utility model would have a greater potential to affect the District's core business in that it would require the formation of a new department and increased staffing and new types of expertise in multiple areas including customer service, accounting, legal, conservation, and public affairs.

Financial and Cost Analysis

MRW & Associates performed a financial analysis for serving the cities of Albany, Emeryville, Berkeley, and Oakland. The estimated start-up costs range from \$1.6 to \$3.2 million in addition to \$12 to \$22 million in working capital. The analysis considered four different energy portfolios including two options to achieve 50 percent renewables and two options to achieve 100 percent renewables. Due to the higher percentage of renewable power in the 100 percent renewable option, the projected ratepayer costs for power acquired through an East Bay CCA are higher than Pacific Gas & Electric's (PG&E) rates by 35 percent to 100 percent for the generation portion of the electric bill. This translates into an average increase in a residential customer's bill of \$4 to \$10 per month.

Benefits

With either institutional model, the benefits of a CCA could include expanded use of renewable energy, reducing GHG emissions (only the 100 percent renewable option would result in lower GHG emissions than currently generated using power from PG&E), developing local energy, creating local jobs, local control of energy-efficiency programs, and local control of energy portfolios and rates. For the Electric Utility model, benefits include leveraging District staff, and use of District renewable energy to maximize revenues and defray operational costs. In addition, the energy-efficiency programs could be integrated into the District's conservation program. For the JPA model, benefits also include shared financial risks and start-up costs.

Risks

There are significant risks associated with forming and successfully managing a CCA, including additional regulatory requirements and market-based fiscal uncertainty (customers have the right to opt-out at any time, potentially leaving costs for procured electric power, price guarantees must be provided to energy providers, and rate competitiveness). Either institutional model would have to comply with regulations regarding operations, reporting, and procurement of energy. In summary, a CCA does not operate as a monopoly. Customers have the ability to choose cheaper options at any time and CCAs need to comply with the California Public Utilities Commission (CPUC) rules, including those governing the Customer Care Program services for low income customers and recovery of the costs of that program through their rates.

Alternative Directions for EBMUD

The District is successfully implementing its existing energy and sustainability policies. The District's Board of Directors may decide to direct staff to continue the implementation strategies currently underway and described in the District's strategic plan and budget, or may provide direction to staff to expand efforts. Two broad options are discussed below:

Continue to Focus on Internal Renewable Energy Generation and Greenhouse Gas Reductions

The District could review Policy 7.07, Renewable Energy, which focuses on developing renewable energy projects as part of the District's ongoing infrastructure management effort and caps investment costs at \$200,000 per year indexed to inflation. The goals for renewable energy creation and GHG emission reductions could be modified and/or the investment cost cap could be changed. This would provide renewed guidance to staff to make cost-effective investments in renewable energy and reductions in GHG emissions. This could include purchasing green power through CCAs operating in the District's service area or through PG&E.

Further Investigation of CCA Models for the East Bay

Participation in a CCA for the East Bay would expand the District's scope of responsibilities beyond its current mission. The report describes benefits and risks to the District of both institutional models. The benefits include furthering the District's greenhouse gas reduction goals and supporting the District's policies related to water conservation and use of renewable energy. Since the District has developed expertise in renewable power generation over several decades, another potential benefit is building on this foundation. The District can also leverage its expertise in other aspects of utility management, such as customer service, risk management, and public outreach.

A key risk is that the District does not have experience in providing utility services in a competitive marketplace. The report presumes that an East Bay CCA would rely heavily on contracted expertise for startup and operations. Another important risk element is the potential fiscal impact of a CCA on the District. At the present time the District is facing increasing demands on resources for infrastructure maintenance and water sales are projected to remain lower than historical averages for the next several years.

If the District pursues further study of an East Bay CCA, it would be essential for staff to have clear direction on the goals and objectives of the District's involvement. Prior to initiating discussions with interested cities, the District would need to develop a set of principles to guide staff in further research and potential negotiations. The District would also expect its resource investments of staff time and research funding to be met with similar levels of investment by all parties interested in evaluating the governance models, customer benefits, costs, and level of interest, and financing alternatives. A joint effort

among the interested parties could be accomplished under a Memorandum of Understanding with each party contributing to the costs and resources. The study cost could include hiring a consultant to fully analyze the governance models and the cost of forming a CCA, to quantify the potential liability of operating a CCA, and to assist in community outreach and market assessment. Similar efforts by other agencies have cost \$250,000 to \$500,000.

Next Steps

Provide direction to staff on whether the Board of Directors wants staff to continue focus on internal renewable energy and GHG reduction and review the current goals for that effort, or whether further study of the District's participation in procuring and marketing renewable energy for local residents and businesses through an East Bay CCA is warranted at this time.

1.0 INTRODUCTION

This report summarizes the District's preliminary analysis of forming a CCA program to serve the East Bay. A CCA can procure electricity on behalf of electric customers within their jurisdictional area, and can own or procure power from wholesale markets through power purchase agreements (PPAs) and distribute the power through existing electrical distribution networks. This report describes the potential barriers, benefits, risks, costs, interest level, and institutional issues associated with the formation of a CCA to serve the East Bay.

1.1 Purpose

The District has prepared this report pursuant to District Policy 4.10, Public Service Enterprises, which allows the District to identify, in a timely manner, opportunities to provide a broader range of services within its authority under the MUD Act. The policy states that benefits to customers for any public service enterprise will include improving the level of service and/or reducing water and wastewater rates for District customers, and enhancing accomplishment of the District's overall mission. The policy requires that any new enterprise will not be detrimental to existing customers or deplete District staff resources.

This preliminary analysis addresses the evaluation, criteria, benefits, and risks of undertaking new services, pursuant to Policy 4.10.

1.2 Report Approach

The information in this report summarizes studies and reports completed for the District and other cities and agencies that have evaluated CCAs, and focuses on those cities expressing interest in an East Bay CCA including Albany, Berkeley, Emeryville, and Oakland (Appendix A1-3). The financial analysis, including customer rate impacts, was completed by a consultant with expertise in CCA evaluations. The alternatives considered in this report are being compared to the policy issues related to a CCA and the benefits and risks for the institutional models evaluated.

This report does not evaluate or quantify the benefits to cities and customers (e.g., residential customers, business, municipal accounts) or the risks associated with the formation of a CCA for customers remaining with PG&E service.

1.3 Authority/Feasibility

The District was formed under the MUD Act which permits formation of multi-purpose government agencies to provide public services on a regional basis. In 1923, voters elected to create the District to provide regional water service. In 1944, voters elected to authorize the District to provide regional wastewater treatment.

The preliminary review of the CCA concept for the District shows forming a CCA may be within the District's authority under the MUD Act. Furthermore, based on a review of MEA's feasibility and implementation plans, it appears that an East Bay CCA could be a viable business that generates revenues and provides options to customers for green energy. However, there are numerous challenges and risks with the formation of a CCA.

2.0 HISTORY AND BACKGROUND

2.1 The History of the District's Energy Production and Management

2.1.1 Pardee Power Plant

The District began generating hydropower at Pardee Power Plant in July 1930 through two generation units constructed as part of the original project. The Pardee Powerhouse is located at the base of Pardee Dam and was expanded in June 1983 when a third unit was added. The 30 MW power plant generates 139 gigawatt-hour (GWh) of electrical energy in an average rainfall year.

2.1.2 Camanche Power Plant

Camanche Power Plant was built in 1983 and is located at the base of Camanche Dam. The power plant consists of three generation units; two units were placed in service in July 1983, and the third unit in August 1983. The 10.7 MW power plant generates 46 GWh of electrical energy in an average rainfall year.

2.1.3 Natural Gas Microturbines

In 2004, the District installed a natural gas cogeneration system on the roof of the District's administration building in Oakland. The system uses small natural gas microturbines to produce electricity for the building and has a system that captures exhaust for heating and cooling the building. The microturbines have a capacity of 120 kilowatts (kW) and are 20 percent more efficient than standard power generation systems.

2.1.4 Photovoltaic Systems

The District installed a 30 kW photovoltaic system at its Adeline Maintenance Center in 2003, which offsets about five percent of the facilities annual energy use. The District also installed a 430 kW photovoltaic (PV) system at its Sobrante Water Treatment Plant in 2007, which offsets about 30 percent of the facilities annual energy use.

In 2011, the District entered into a PPA with Solar City to install photovoltaic systems at five District facilities with a total capacity of 776 kW.

As facilities are modernized, replaced, or built, the District emphasizes energy conservation and sustainability. In 2011, the District installed a 10 kW photovoltaic system at its Mokelumne Watershed headquarters.

2.1.5 The District's Wastewater Renewable Energy

In 1985, the District installed three 2.15 MW gas powered generators at the wastewater treatment plant. This Power Generation Station (PGS) system is considered "cogeneration", producing electricity and recovering heat to be used onsite. Based on biogas production at the time, the system was designed to operate one to two of the generators simultaneously, with a third as a standby. Typical output was 2 to 2.5 MW, which provided approximately 40-50 percent of plant demand. Beginning in 1986, all the excess power from the generators was sold to PG&E.

In 2011, the District installed a 4.6 MW low-emission biogas turbine to operate on excess biogas and significantly increase renewable energy production. The new equipment provides cogeneration with a high electrical efficiency and very low air emissions. In February of 2012, the wastewater treatment plant became the first wastewater plant in North America to produce, on average, more renewable energy than is consumed onsite. In November 2012, the PG&E PPA ended and the District entered into a five-year PPA with the Port of Oakland to sell surplus power and Renewable Energy Credits (RECs).

2.2 R.W. Beck Report

In 2001, the District contracted with R.W. Beck to assess possible roles for the District as an Electric Utility. The study included:

- Identification of key policy issues the District would need to address
- Identification of possible business models for public power alternatives
- Evaluation of policy issues, benefits, and risks to the District's core businesses and cost comparisons with current and projected alternatives

The Beck Report investigated three electric business models, discussed below, including:

- District as a vertically-integrated utility
- District as a facilitator of renewable resource development
- District as an aggregator of electric loads

2.2.1 Vertically-Integrated Electric Utility

As a vertically-integrated electric utility, the District would have acquired PG&E's distribution system in selected service areas and take on the responsibility for electric supply and delivery. This was identified as the highest risk business model due to the

expected opposition from PG&E and the high cost of implementation. The study concluded this option had the greatest financial risk and the Board determined that this option did not warrant further investigation.

2.2.2 Facilitator of Renewable Resources

As a facilitator of renewable resources, the District would have developed projects through a combination of financing, ownership, and operation and maintenance of renewable resources for individuals or groups of customers. At the time of the study, there were several examples of public utilities offering similar types of services including Sacramento Municipal Utility District (SMUD), which operated a solar PV program. SMUD's solar PV program encouraged self-generation by residential and small commercial customers. Other municipalities like the City and County of San Francisco also bond-funded programs directed at the development and implementation of solar power within its service area.

2.2.3 Aggregator of Electric Loads

As an energy aggregator, the District would have become an Energy Service Provider (ESP) and provided District customers with electricity under Direct Access (DA). In California, DA allows electric customers to purchase electricity directly from competitive ESPs, while the electric utility (e.g., PG&E) provides and charges for the infrastructure to deliver purchased electricity. Within aggregation, two different business models were considered:

- The District as a facilitator of aggregation. Under this plan, the District would develop contract terms with an ESP and the ESP would contract with each entity served.
- The District as an ESP. Under this plan, the District would arrange for or provide power supply and would contract with each entity served.

The study did not recommend this option due to the prohibition of DA for new customers that was in place at the time. On March 12, 2010, the California Public Utilities Commission (CPUC) approved a limited reopening of DA for non-residential customers.

2.2.4 Beck Study Conclusions

The Beck report concluded that all three business models represented potentially viable roles for the District as a provider of public power, and that the District had the capability to evaluate and manage renewable energy programs for its own facilities.

2.3 ICF Report – Renewable Energy

In September 2002, the District contracted with ICF Consultants to evaluate the District's options for facilitating the use of renewable energy, and to develop a plan for this facilitation. ICF completed the report in May 2003 with substantial input from a Technical Advisory Committee (TAC) established for the project. The report titled Renewable Energy Facilitation Plan – A Strategy for the District to Promote Renewable Energy, recommended that the District adopt a goal for its use of renewable energy and identify elements of a strategy for meeting that goal.

The renewable energy report was developed in a three-step process. The first step was identification of the range of renewable energy business options. Initially, ICF identified 12 options in three areas: 1) buying and/or investing in renewable energy for the District's electrical energy needs; 2) promoting renewable energy for customers in the service area by providing incentives, financing, sales and/or services; and 3) providing information to customers on the benefits of green power and availability of incentive programs such as grants, financing, tax relief, etc.

The second step in development of the report was evaluation and selection of the most viable alternatives. The steps included input from the TAC and a legal analysis of the various options. The TAC met with ICF and the District project team twice. The TAC recommended that the District's renewable strategy start with a program to green its own energy use and to publicize these efforts to its customers. The TAC noted that unless the District provided leadership relative to its own energy use, it would not be successful in promoting green power to its customers. Additionally, legal review of the business options identified constraints to providing equipment or services not directly related to the District's water or wastewater businesses. This resulted in narrowing the viable options to greening the District's own power needs and promoting its program.

The final step was a market survey which showed customer support for the District using renewable energy in its own facilities. The results also showed support for the District providing information on renewable energy technologies to District customers, although not quite as strong as using renewable technologies in its own facilities or as providing information on water conservation. Survey respondents were asked to provide feedback on their willingness to pay higher rates and charges for the District to use renewable energy technologies. Respondents indicated modest tolerance for small cost increases (less than 50 cents per bill). More than 16 percent of respondents indicated that they felt the District's rates and charges were already too high; those respondents who were most willing to pay higher costs tended to be those who reported a history of giving funds to environmental causes. Survey respondents expressed general satisfaction with the performance of the District as a water utility.

ICF Consulting concluded that there was an opportunity for the District to adopt a renewable energy strategy that would increase the use of renewable energy technologies by and ultimately throughout the District. Key project conclusions were:

- Based on a review of options for the District to buy, sell, or promote renewable energy technologies, the District has several viable opportunities to facilitate renewable energy use in the District. The District's best options relate to increasing the use of renewable energy in its own operations, and using that experience to influence the future purchasing decisions of its customers.
- The District TAC encouraged the District to take advantage of its organizational strengths and pursue all available opportunities to use renewable energy technologies.
- A market survey of District customers demonstrated that there is interest in and support for the District to pursue renewable energy policies and programs.
- A goal to facilitate renewable energy can be adopted that is consistent with the District's mission to preserve and protect the environment.
- The District's renewable energy facilitation goal can be realized through an implementation strategy that includes the use of onsite generation technologies at District facilities, the purchase of offsite renewable energy generation through green tags or other contractual mechanisms through the use of green tags, and the use of marketing and outreach tactics.

The report included the following recommendations:

- Adopt a renewable energy goal based on "greening" a defined percent of the District's energy usage, and establish an implementation strategy to meet the District's interests based on maximizing onsite generation and identifying offsite generation and green power purchasing opportunities as they arise.
- Actively monitor future opportunities to purchase renewable energy for the District.
- Develop marketing and outreach that informs customers about District renewable energy activities and encourages other organizations within the District service area to use renewable energy when feasible.

On August 12, 2003, the Board approved Policy 92 that stated that the District will increase its use of renewable energy, when cost-effective, by adding renewable distributed generation capacity to District projects, and purchasing renewable power from outside sources. The policy also stated that the District will pursue cost-effective renewable energy projects that result in no net long-term cost increase to its customers, and the District will promote the results of its renewable commitment to the public to encourage the use of renewable power by others.

The policy has been amended several times since 2003 and is currently District Policy 7.07. Policy 7.07 encourages and promotes the cost-effective use and generation of renewable energy within the District's water and wastewater system operations, service area, and watersheds in accordance with the District's environmental principles.

The District has continued to increase its use of renewable energy and continues to publicize its renewable energy efforts to serve as an example to customers and other public agencies. The District has provided regular updates in the Pipeline newsletter, on the District's website, in fact sheets, and in other publications for the public.

2.4 Navigant Consulting Inc., Studies

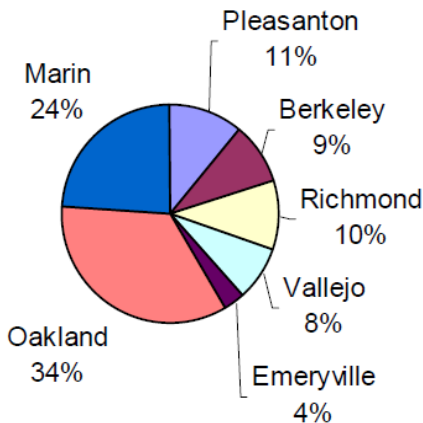
In 2005, Navigant Consulting Inc. evaluated the feasibility of forming a CCA program for the cities of Berkeley, Emeryville, Oakland, Pleasanton, Richmond, Vallejo, and Marin County, pursuant to the provisions of Assembly Bill (AB) 117. The study was part of a CCA Demonstration Project commissioned by the CEC and the United States Department of Energy to assist local governments in evaluating and implementing CCAs.

The study considered four energy supply scenarios, as follows:

- Scenario 1: Double the renewable content of PG&E
- Scenario 2: Match the renewable content of PG&E
- Scenario 3: Double the renewable content of PG&E and produce electricity from its own resources
- Scenario 4: Match the renewable content of PG&E and produce electricity from its own resources

The chart below shows the 2006 electricity sales for the cities participating in the project.

**2006 Electricity Sales of
Cities Participating in CCA Demonstration Project**



The study identified the risks and benefits with the formation of a CCA and concluded that it was feasible for the cities to implement a CCA program and deliver electricity at rates lower than PG&E. In addition, the report concluded that by combining the electric loads of multiple cities and counties, economies of scale could be achieved that would increase the benefits to all customers. Operational cost savings could be captured through common program administration and energy procurement activities.

Navigant's financial analysis found that a Bay Area CCA program would result in a 6 percent savings in energy bills for the study period (from 2005 to 2024) and that a combined operation would yield over \$300 million in additional financial benefits,

compared to the benefits achievable through individual CCA operations, which represents a 34 percent improvement in financial benefits for a joint operation.

The report also recommended that member cities and counties form a JPA for the CCA. The JPA would enable members to jointly exercise common powers, share in the costs and risks, benefit from economies of scale, minimize direct exposure to member jurisdictions, eliminate the need for redundant personnel and systems, and provide flexibility during start-up. The report noted that forming a JPA was time-consuming, challenging to provide equitable representation, and often resulted in a cumbersome decision-making process.

Following consideration of the feasibility study findings, the cities decided to jointly develop a comprehensive business plan that would refine the initial analysis and address issues not included within the feasibility study scope, and in order to lay the basis for determining whether the cities should establish a CCA program. Navigant Consulting, Inc. completed a CCA Business Plan in September 2008 for the cities, which set forth proposals for how an East Bay CCA program would be organized, funded, and operated.

According to a November 2008 memo from the City of Emeryville, although the CCA appeared promising in the pre-feasibility study (Phase I), the proposed business plan (estimated to need approximately \$230 million per year for implementation) developed under Phase II, identified significant financial risks to customers as well as the cities; that coupled with the possible effects of regulatory changes and legal challenges and the possibility of diminished effectiveness toward GHG emission reduction goals, led to a recommendation by staff to accept the report but to terminate implementing CCA.

In an October 2008 memo to the Berkeley Energy Commission, City staff recommended accepting the CCA Business Plan but to not move forward with implementing a CCA. City staff cited known and unknown financial and legal risks to the City as the justification for the recommendation.

To date, Marin County has proceeded to form a CCA and Richmond recently joined that effort.

2.5 CCA Activity in California

Several cities and counties in California have considered forming or have formed a CCA, including Marin, Richmond, Sonoma, and San Francisco. This section summarizes the status of recent CCA activities in the state.

2.5.1 Marin Clean Energy

Marin County launched Marin Clean Energy (MCE), the first CCA in California, in May 2010. MCE is operated by MEA and is currently the only CCA operating in the state.

MEA is a JPA and members consist of the county of Marin, the cities of Belvedere, Larkspur, Mill Valley, Novato, San Rafael, Sausalito, and the towns of Corte Madera, Fairfax, Ross, San Anselmo, and Tiburon. MEA currently has approximately 93,000 customer accounts.

The CPUC recently approved MEA's energy-efficiency plan for 2012 and its amended implementation plan to add the City of Richmond to its service area. MEA is amending the JPA and will offer their dark green (100 percent renewable) product to all electric customers in Richmond who choose to enroll voluntarily. Later in 2013, MEA will expand and offer the light green product (50 percent renewable) to Richmond residents.

Electric power sold to MEA customers is purchased primarily by Shell Energy North America. At the end of Fiscal Year (FY) 2012, MEA's total operating revenue was \$22,918,843 with operating expenses of \$19,319,756, resulting in a net operating income of \$3,599,087. This was a \$2,276,844 increase over FY 2011. MEA's annual financial report attributed the increase in electricity sales directly to acquiring energy and servicing customer accounts.

2.5.2 City of Richmond

At the June 19, 2012 City of Richmond City Council meeting, the City of Richmond elected to join MCE and participate in their CCA program. The City made this decision to demonstrate its leadership and commitment to greening the local economy and achieving the City's GHG reduction goals. Under the CCA program, customers can choose to purchase electricity from PG&E or MCE. MCE will offer City of Richmond two products: light green or dark green. These products would increase residential customer bills by approximately \$4 to \$7 dollars per month.

In early October, the CPUC approved MCE's implementation plan to add the City of Richmond, and MCE plans to move forward with service enrollment in July 2013 for small- and medium-sized electric accounts. The small- and medium-sized accounts will have a choice of the light green or dark green product, and customers will receive two opt-out notices, one in April and another in May. The large electric accounts will be offered the light green product in late 2013 or early 2014. However, prior to the July 2013 date, all electric customers in Richmond can voluntarily opt-in to the program early for their dark green product. Customers will have the options to opt-out of the light green product or voluntarily choose the dark green product.

Following enrollment, two more notices will be sent, one in August and another in September, allowing customers to opt-out and return to PG&E. If a customer returns to PG&E within 60 days of their enrollment, no charges will be assessed. After 60 days, a \$5 administrative opt-out fee will be applied for residential customers and \$25 for commercial customers. In the interim, Richmond and MEA will provide businesses and residents with opportunities to enroll in energy-efficiency programs and develop local

renewable energy projects to sell power back to MEA through the MCE Feed-In Tariff (FiT) program.

The District has 29 electric services within the City of Richmond totaling over 5 million kilowatt-hour (kWh) of use and approximately \$680,000 in cost annually. Under MEA's light green and dark green programs, the annual cost to the District for these accounts would increase by approximately \$20,000 to \$55,000 per year, based on the most recent rate data available. District Policy 7.07, Renewable Energy, encourages the cost-effective use and generation of renewable energy but does not specifically address the purchase of renewable energy at cost greater than utility-supplied electricity. Choosing the light green (50 percent renewable product) option will result in an increase in GHG emissions as PG&E's energy portfolio includes 59 percent non-GHG emitting source.

2.5.3 Sonoma County

On December 4, 2012, the Sonoma County Board of Supervisors and Water Agency Board of Directors approved several actions to move forward with the development of a CCA Program (Sonoma Clean Power) in Sonoma County. The Sonoma Clean Power Program would allow one or more cities and/or counties to purchase and provide power generation services to customers within a defined service area.

The Sonoma officials approved a JPA model for creating the Sonoma Clean Power Authority. The five members of the Board of Supervisors and Water Agency Board of Directors will initially act as the directors of the Authority until additional municipalities decide to participate in the Authority. The Water Agency will continue to provide staffing services during the interim period until the Sonoma Clean Power Program becomes operational and the Authority generates funding.

The Sonoma officials approved adopting an ordinance authorizing implementation of a CCA Program. Before a program can be implemented in a particular jurisdiction, California law requires the entity electing to implement the program to do so by adoption of an ordinance.

The Sonoma officials approved a \$50,000 funding agreement with the MEA to provide consulting services to the Sonoma Clean Power Authority during the upcoming program process. The agreement will allow the Sonoma Clean Power Authority to have the benefit of MEA's experience and information during the implementation process.

2.5.4 CleanPowerSF

On September 18, 2012, the San Francisco Board of Supervisors appropriated \$19.5 million from their Hetch Hetchy Fund to finance the CleanPowerSF CCA and approved a five year contract with Shell Energy North America to provide CleanPowerSF customers with 100 percent renewable power. CleanPowerSF is estimating approximately 90,000 customers will participate in Phase 1 of the program. These customers will have five months to opt-out of the program at no cost and the average customer is expected to pay approximately \$18 per month more on their electric bill.

Under the Shell Energy contract, the City guarantees an average enrollment load of 30 MW. If the City fails to meet this goal, the City is liable for up to \$13.5 million in actual losses incurred by Shell. The \$19.5 million appropriated from the Hetch Hetchy fund includes \$6 million to fund the first two years of the CCA Sustainability Services including GoSolarSF (an incentive for solar installations), developing CCA-owned generation, and implementing energy generation and conservation programs.

As of September 18, 2012, when the San Francisco Board of Supervisors gave initial approval to the contract with Shell Energy North America, negotiations on the final contract terms with Shell were ongoing. The San Francisco Public Utilities Commission (SFPUC) will only authorize the General Manager to launch the program if the contract with Shell is approved by the Board of Supervisors and the following conditions are met to the satisfaction of the SFPUC:

- CleanPowerSF rates are approved by the SFPUC and Board of Supervisors and the SFPUC has determined that those rates are sufficient to cover the cost of power and services provided by Shell as well as other costs required for the program.
- The CPUC has made its final determination of the CCA bond amount required and the SFPUC has the resources and all necessary authorizations to obtain the bond.
- All appropriations required by the CCA supplier contracts have been authorized.
- CleanPowerSF has rates in place to be financially stable and in compliance with its reserve policies.
- A contract for customer billing data management and other administrative reserves has been approved.

2.6 Meetings in the EBMUD Service Area to Discuss an East Bay CCA

2.6.1 City Meetings

The District received letters from the cities of Oakland, Berkeley, Richmond, Emeryville, and Albany expressing their interest in an East Bay CCA. District staff met with

representatives from the cities and there were many questions and issues raised about the formation of a CCA.

On August 21, 2012, District staff met with representatives from the cities of Oakland, Berkeley, and Albany. The City of Emeryville was invited to the meeting but did not attend. During the meeting, the District provided an overview of its current exploration in a CCA. District staff described the plan to evaluate the formation of a CCA by the end of 2012 and explained that the evaluation would address public benefit, costs, risks, interest level, and institutional issues. Below is a summary of each city's interest level.

- The City of Berkeley has a strong interest in the District forming a CCA and the City Council provided a copy of issues and questions that the City would like the District to consider. Berkeley staff requested and received electric load data from PG&E and provided the data to the District. Berkeley staff expressed a major concern with the form of governance of the CCA and funding, and stated the funding for the CCA is a critical issue that needs to be addressed.
- The City of Albany expressed interest in forming a CCA and wanted to understand how a CCA would help the city meet their sustainability goals in their Climate Action Plan. Although Albany does not have any staff dedicated to evaluating a CCA, they are interested in the District's evaluation. Albany staff indicated they will request electric load data from PG&E.
- The City of Oakland attended the meeting to listen and report back to city management. Oakland's policy direction from its draft Energy and Climate Action Plan is to monitor the feasibility and utility of implementing CCA in Oakland. Their staff are also observing the CCA activities of Marin and San Francisco.

The representatives from the cities agreed that funding is a threshold issue to forming a CCA and discussed the importance of identifying the implementation costs. At this time, none of the cities have money or resources allocated for forming a CCA.

Prior to the August 21st meeting, District staff met with the City of Richmond to discuss their interest in a CCA. City of Richmond staff shared their CCA activities including their feasibility study, cost impact study, and public outreach. As noted in the previous section, the City of Richmond joined MEA in June 2012, but expressed their desire to continue working with the District to better understand how a CCA would work in the East Bay and learn more about the District's policies and goals.

In addition to these meetings, copies of the June 26, 2012 Sustainability/Energy Committee materials were provided to the cities of El Cerrito and San Leandro in response to their request for information about the District's CCA efforts.

The table below summarizes the status of each city's CCA activities.

City	CCA Activities
Albany	<ul style="list-style-type: none"> • June 11, 2012 letter to the District expressing interest in a District CCA • District meeting with city on August 21, 2012 • Requesting electric load data from PG&E
Berkeley	<ul style="list-style-type: none"> • District meetings with city on April 23 and August 21, 2012 • Requested electric load data from PG&E and shared data with District • Passed resolution No. 65,586-N.S. demonstrating the city's intent to explore a CCA with MCE, the District, and the City of Richmond • July 17, 2012 Berkeley Energy Commission draft issues and questions on the District's CCA analysis • Expressed interest in District CCA
Oakland	<ul style="list-style-type: none"> • May 23, 2012 letter to the District expressing interest in exploring the possibility of forming a CCA partnership with other East Bay cities and the District. • District meeting with city on August 21, 2012 • Has not requested electric load data from PG&E • City has not authorized additional CCA activities
Emeryville	<ul style="list-style-type: none"> • August 21, 2012 letter to the District stating that the city is following the District's CCA efforts and how it could help the city reduce its carbon footprint, create more consumer choice, and create local green jobs • Has not requested electric load data from PG&E
Richmond	<ul style="list-style-type: none"> • District meetings with the city on March 6 and March 21, 2012 • Approved joining MEA in June 2012

2.6.2 Local Clean Energy Alliance Meeting

On September 26, 2012, District staff met with representatives from the Local Clean Energy Alliance (LCE) to share the status of the District's CCA activities and learn about LCE's CCA and clean energy plans.

LCE has a stated goal of achieving 50 percent local renewable energy by 2020. In addition, LCE stated that CCAs could be the key vehicle for local energy resource development, economic growth, and clean energy jobs. LCE stated reservations about market-purchased renewable energy that could be sourced from remote solar power plants and wind farms, stating that they are often destructive of sensitive ecosystems, take years to come online, and require long, inefficient transmission lines. More importantly, LCE believes that these systems provide no local economic benefit to communities.

LCE expressed the preference for local renewable energy financed through municipal revenue bonds, Feed in Tariffs (FiTs), solar shares, power purchase agreements, property assessed clean energy financing, and net metering. LCE stated a preference for the District to have administrative authority of an East Bay CCA because of the District's technical expertise, its good standing with the local community, and because the District's service area encompasses much of the East Bay.

2.6.3 Berkeley Energy Commission (BEC)

At the July 25, 2012 BEC meeting, the BEC provided a list of questions to the District that was subsequently given to the Berkeley City Council. Below are their questions and concerns along with the District's response related to the content of this report.

- *How many products does EBMUD intend to offer?*
This report evaluates four renewable portfolios – 50 percent and 100 percent green with Tradable Renewable Energy Credits (TREC)s, and 50 percent and 100 percent green with bundled RECs.
- *Does EBMUD have specific objectives for its sources of renewable energy? (i.e., locally produced, RPS-eligible, out of state or large hydro that commenced operation prior to 2005)*
The District does not have any specific objectives at this time.
- *What is the phase-in strategy?*
This report only evaluates options that could serve the four cities that have expressed interest (Albany, Berkeley, Emeryville, and Oakland).
- *Does EBMUD intend to secure its share of energy efficiency funds from the CPUC to run its own energy efficiency programs? How will these programs differ from PG&E programs?*
The structure and securing of energy-efficiency funds could be part of any further investigations, if further investigations are authorized.
- *Will there be local hiring preferences for renewable energy and efficiency projects? If so, will these preferences have any effect on the cost of meeting the CCA's renewable energy and efficiency goals?*
Details on the hiring preferences would need to be established as part of a CCA implementation plan, if one is prepared.
- *Which CCA functions will be staffed in-house and contracted out?*
The organizational structure and staffing alternatives are discussed as part of this report. Final decisions would be part of any further investigations that are authorized.
- *What is the source of funds for start up costs, and working capital?*
Funding sources would need to be determined and described in a CCA implementation plan, if one is prepared.
- *Will the CCA continue to make franchise fee payments to the City of Berkeley? (these fees currently total approximately \$500,000 annually)*
PG&E pays the City of Berkeley a franchise fee equal to about half a percent of the gross electrical receipts. The fee payment is for the use of the city public rights-of-way for electrical poles, towers, and underground conduits used in delivering

electricity and gas. This fee would need to be evaluated as part of the implementation plan, if one is prepared.

- *What are the projected generation rates and how do they compare to PG&E rates?*
The projected rates and comparisons are discussed in this report.
- *What effect will departing load and CPUC bonding requirements have on the CCA rates?*
This would need to be evaluated as part of the CCA implementation plan, if one is prepared.
- *How will the CCA allocate generation revenue requirements to the various customer classes?*
This would need to be evaluated as part of a CCA implementation plan, if one is prepared.
- *How will the CCA rates compare to PG&E rates by customer class?*
This report compares estimated CCA procurement costs by rate class vs. PG&E rates. However, the actual CCA rates have not been determined at this time.
- *For the products being offered, what are the projected greenhouse gas emissions rates? What impact will these rates have on local jurisdictions climate goals?*
This would need to be determined as part of a CCA implementation plan, if one is prepared.
- *How will the cities be represented to the CCA Board?*
This report discusses two organizational structure models of a CCA.
- *What will be the role of local councils on CCA ratemaking, portfolio, and policy matters?*
The role of the cities in rate and policy setting would depend on the organizational structure and needs to be described in a CCA implementation plan, if one is prepared.

2.6.4 LumenX and LEAN Energy

In 2012, the District met with consultants from LumenX and LEAN Energy on three occasions – January 13th, March 21st, and July 19th. LEAN Energy was started in 2011 and is a consulting firm that works with a range of organizations to support the formation of CCAs in the United States. Their core work is focused on CCA education, innovation, and ensuring early operational success for CCA start-ups. LEAN also partners with energy industry and aggregation experts to sponsor state CCA networks that provide intra-state connections, best-practice resources, legislative and regulatory support, and direct consulting services. LumenX is also a consulting firm focused on CCAs. During the meetings, the District updated the consultants on the District’s progress with a CCA. In addition, the consultants updated the District on CCA activities around the state.

Information on MEA was shared including a discussion of their start-up costs, financial statements, staffing levels, and customer base. A number of other topics were discussed including the following:

- LEAN Energy presented their “Public/Private” process which accelerates the CCA process vs. the traditional linear process for starting a CCA. LEAN Energy estimated the accelerated process would result in CCA formation in 90 to 120 days.
- LEAN Energy asked if the District was interested in participating in the CCA Regulatory Alliance. The District informed LEAN Energy that it was premature for the District to participate in the Alliance.
- The group discussed organizational options for an East Bay CCA.
- LEAN Energy shared with the District its view that natural gas prices were at record lows and this was an ideal time to lock in energy contracts in order to be able to deliver competitively-priced energy to customers.

In February 2012, District staff attended LEAN Energy’s first annual National CCA Strategy Retreat in Marin County. During the retreat, presenters discussed their CCA experience around the country, how to optimize aggregation for clean energy and economic development, and ideas to expand CCAs nationwide. Numerous sessions were held covering a range of topics including:

- CCA in the U.S. Energy Market: Trends, Challenges and Potential
- CCA practitioners sharing their experience
- CCA expansion in the U.S.
- Public and private routes past coal
- Efficiency and demand response innovations
- CCA in the marketplace for buyers and sellers
- Diversified energy portfolios, asset formation, and financing opportunities

3.0 INSTITUTIONAL MODELS

A CCA has the statutory requirement to provide for the following:

- Universal access
- Reliability
- Equitable treatment of all classes of customers
- Any requirement established by state law or by the commission concerning aggregated service, including those rules adopted by the commission pursuant to paragraph (3) of subdivision (b) of Section 8341 for the application of the GHG emission performance standard to community choice aggregators.

If a public agency seeks to serve as a CCA, it must “offer the opportunity to purchase electricity to all residential customers within its jurisdiction.” The word “jurisdiction” means the jurisdiction of the CCA rather than the jurisdiction of the agency.

A CCA implementation plan may include provisions for “phasing in” CCA service to eligible customers or classes of customers. However, a CCA “...may not aggregate electrical load if that load is served by a publicly-owned electric utility.” This limitation would exclude loads served by publicly-owned utilities (POU) such as Alameda Municipal Power and Hercules Municipal Power.

This report evaluates two institutional models to form a CCA:

- Electric Utility
- Joint Powers Authority (JPA)

3.1 Electric Utility Model

The MUD Act provides the District broad authorization to acquire works for supplying its customers with light, power, and heat, and to do all things necessary or convenient to exercise these powers. Under the CCA statute and except for the cities of Alameda and Hercules, the District can adopt an ordinance to provide CCA services to customers within cities and counties whose governing bodies adopt a resolution authorizing the District to provide those services within their territorial areas. The CCA statute does allow phasing; however, it requires offering the opportunity to purchase electricity to all residential customers within a jurisdiction. The ordinance option was not analyzed as it poses a potential detriment to existing customers due to the lack of adequate separation of liabilities and risks. This report reviews an Electric Utility model based on forming a new special district. This would require a legislative amendment of the MUD act for authorization to create a new special district to provide CCA services. The MUD Act currently allows formation of a special district only for sewage disposal or solid waste resource recovery purposes. Further investigation would be required prior to selecting the appropriate Electric Utility model that best serves the public.

The report considers an Electric Utility model serving the four cities expressing an interest in an East Bay CCA under a new special district. This new enterprise would have the authority to implement a CCA for those cities within its service area that have adopted resolutions requesting the District to form a CCA. The new special district would have independent financing and protect water system customers from any liabilities or risks.

The creation of EBMUD and the formation of Special District No. 1 were preceded by a general election that approved the formation and the necessary funding. To be consistent with prior practice, the Board would need to consider a general election to authorize the formation and funding of an Electric Utility.

3.2 Joint Powers Authority

A JPA is an entity formed by two or more public agencies for the purpose of acting collectively towards a common purpose. JPAs are typically governed by a Board of Directors comprised of representatives from the entities which make up the JPA. As a governance entity for a CCA, a JPA can provide some level of protection of local jurisdictions' general funds from liability or debt incurred by the JPA.

The broad authority provided under the MUD Act may allow the District to participate in a CCA formed under a JPA. The participation must be consistent with District policies and not create liabilities for the water system customers and ratepayers.

An East Bay CCA would likely follow the model used in Marin County. The purpose of the MEA JPA was to “establish an independent public agency in order to exercise powers common to each Party to study, promote, develop, conduct, operate, and manage energy and energy-related climate change programs, and to exercise all other powers necessary and incidental to accomplishing this purpose.” The following describes the MEA's organizational structure.

Powers

MEA is authorized to exercise all powers and perform all acts necessary and proper to carry out the provisions of the JPA and fulfill its purposes, including, but not limited to:

- Make and enter into contracts
- Employ agents and employees, including but not limited to an Executive Director
- Sue and be sued in its own name
- Incur debts, liability, and obligations
- Issue revenue bonds and other forms of indebtedness
- Adopt rules, regulations, policies, bylaws, and procedures governing the operation of the Authority
- Make and enter into service agreements relating to the provision of services necessary to plan, implement, operate, and administer the CCA Program
- Meeting all applicable CPUC regulations

Financial Provisions

The JPA's funds are held in separate accounts in the name of the JPA and not commingled with the funds of any city or other entity. Regular financial reporting is prepared for all receipts and disbursements at least quarterly during the fiscal year and the financial records of the JPA are open to inspection by all the JPA members at all times.

Formation Requirements

Cities and counties must pass an ordinance to join the MEA JPA. The CCA must also comply with notice and opt-out rules established in the PUC code section 366.2, the CCA tariffs, and applicable CPUC decisions.

4.0 PUBLIC POLICY ISSUES

A number of public policy issues need to be considered with respect to the District participating in the formation a CCA and expanding from its core water and wastewater business. This chapter reviews the state law that enables the District to consider forming a CCA as a starting point. It then identifies key public policy issues significant to the District's consideration of this option. These issues will require early resolution if implementation of a CCA is pursued as either a JPA or as an Electric Utility.

4.1 Enabling Statutory and Regulatory Decisions

In 2002, the California Legislature passed AB 117, which allows cities and counties to become a CCA. In 2011, the California Legislature passed Senate Bill 790 (SB 790), expanding the authorization of a CCA to include public agencies, such as the District, that have a statutory authority to generate and deliver electricity within its jurisdiction.

SB 790 provides California special districts, like the District, the authority to form and administer a CCA for electric customers within its jurisdiction, excluding areas already served by a local publicly-owned electric utility such as the cities of Alameda and Hercules. If the District were to form a CCA, it would be the first California special district to do so under the expanded authority granted in SB 790.

The CCA legislation requires investor-owned utilities (IOUs), such as PG&E to cooperate with local governments and provide electricity delivery through their distribution system, and provide consumer metering, billing, collection, and all traditional retail customer services. Local governments are not required to manage electric transmission or distribution services under a CCA program. Although CCAs have different responsibilities and operate under a different regulatory framework than IOUs, CCAs are regulated by the CPUC. District water and wastewater systems are not regulated by the CPUC.

4.2 Policy 4.10

The District's Policy 4.10, Public Service Enterprises, states that is the policy of the District to identify, in a timely manner, opportunities for the District to provide a broader range of services within its authority under the MUD Act. Policy 4.10 states that benefits to customers will include improving the level of service and/or reducing water and wastewater rates for District customers. The policy states that new enterprises shall enhance accomplishment of the District's mission, which is to manage the natural resources with which the District is entrusted, to provide reliable, high quality water and wastewater services at fair and reasonable rates for the people of the East Bay, and to preserve and protect the environment for future generations. The evaluation criteria of Policy 4.10 states that the District will periodically study the feasibility and the benefit of

undertaking new services, pursue opportunities for District costs savings, and investigate the potential for reduced customer costs associated with providing these new services. The evaluation criteria requires the District study the feasibility and the benefit of undertaking new services and that new enterprises will not be to the detriment of existing customers or deplete staff resources. The policy requires the District and its employees to maintain accountability for services they provide and new enterprises will not be to the detriment of existing customers or deplete District staff resources. The District's participation in a CCA JPA would need to comply with the evaluation criteria in Policy 4.10. At this time, the potential benefits to the water system and customers may not warrant further investments. Forming an Electric Utility may offer benefits to the District water system and its customers that may meet the evaluation criteria in Policy 4.10. However, the potential risks would need to be mitigated to protect the water system. The Board consideration of whether the District can become a CCA provider, either as a JPA or through the Electric Utility model in compliance with the policy guidelines set forth in Policy 4.10, is by necessity an ongoing evaluative process due to the complexity of the subject and no conclusions can be made on this subject at this preliminary stage. The Board would need to make specific findings in support of pursuing either model.

4.3 Threshold Issues

In addition to Policy 4.10, three threshold issues must be considered:

Cost Competitiveness

The retail cost of electricity is a key issue in determining the long-term acceptability and success of a CCA. A CCA that is a JPA or an Electric Utility would need to be cost competitive with IOUs. With either the JPA or Electric Utility model, power would be purchased through similar short-term and long-term contracts so the cost-competitiveness issue would be the same with either model.

Reliability

Reliability refers both to service and cost reliability. Service reliability is a function of the degree of control over the power generation. For the JPA and Electric Utility models, electricity would be purchased from an energy service provider so the control over the power generation would be with the energy service provider. Cost stability is a function of business planning and hedging against volatility in generation and other costs. For the JPA and the Electric Utility models, the business planning and hedging against volatility in generation would be performed by consultants with this specialized experience and not by the staff of the JPA or the Electric Utility.

Local Control

Local control refers to the perceived and actual ability of the customer to influence the policies, rate-setting, and activities of the public agency with respect to rates, local

renewable energy projects, and enhanced rebates and feed-in tariffs. With the JPA or Electric Utility model, customers can attend Board meetings and be heard in a non-legal environment. Meetings and records are open to the public. With the JPA model, the JPA Board would make the decisions and the District may have only a small voting share. With the Electric Utility model, the District Board would make all the decisions.

4.4 Other Key Policy Issues

In addition to the threshold issues, there are several key policy issues that need to be addressed including:

Impacts on Core Businesses

With the JPA model, the JPA would likely contract out the call center functions and the District's revenue would not increase as much because the District would be one of a number of members. Depending on the structure of a JPA, the District could have a small voting share. An Electric Utility CCA could increase the scope of the District's activities by a factor of two or three times. Revenues from an 80 percent participation rate in the cities of Oakland, Berkeley, Emeryville, and Albany would be between \$130 million to \$270 million depending on the specific renewable mix the CCA customers chose to receive. Call center capabilities would also have to be substantially upgraded to handle both the increase in call volume and operator's subject knowledge. In addition, additional new staff expertise would be needed in all areas including accounting, management, billing, legal, procurement, etc.

Impact on Public Confidence

While public power has many advocates who could be expected to support forming a CCA, such an effort can expect to be met with well-funded advertising and outreach efforts by IOUs that want to retain market share.

Experience from previous municipalization efforts indicate that there could be attempts to challenge the District's ability to manage an Electric Utility, to publicize any regulatory, service or administrative glitch that occurs in the normal process of running the core businesses, and to oppose the re-election or election of officials who favor municipalization.

4.5 Public Outreach and Marketing

In developing a CCA, early outreach efforts are essential to gauging customer interest and developing products that will be successful in a competitive market. Ongoing outreach is essential in a market-based environment to help retain market share. Outreach efforts can include:

- Presentations to community groups and service organization
- Workshops and forums for the public
- Customer surveys and focus groups
- Written information delivered through the web, social media, pres releases, consumer publications, etc.
- Paid advertising and direct mail campaigns
- Utility employee presentations and informational mailings

4.6 Operating Requirements

There are at least two other issues which should be considered in public policy related to operations that include the following:

- Obligation to Serve
- Risk Issues

Obligation to Serve

Until recently, all utilities in California had an obligation to serve. That is, they had an obligation to provide energy on demand to all connected customers not signed up for DA. Recent legislation changed this obligation for IOUs, transferring the obligation to supply power to the State of California but retaining the obligation to connect the customer to the IOUs. At the same time, a POU retained the entire obligation to serve.

Public utilities are exposed to greater risk if they are required to allow customers DA while retaining the obligation to serve. The risk comes by having the potential for an excess supply of generation or contract commitments if a large segment of customers opt for alternative generation sources. The public power provider could have “stranded costs” from purchasing power in excess of demands. In addition, there is a risk from volatility in generation costs due to having to purchase supply on the short-term markets to meet the fluctuating demand of customers leaving or returning to full service.

For an East Bay CCA, the financial risk of stranded costs presented by DA is no greater under the JPA or Electric Utility models. For these models, if more customers depart the CCA than planned, the CCA will also have the potential for having excess supply of generation.

Cost of Power Risks

Power supply makes up 65 percent to 75 percent of the total cost of integrated electric service. Wholesale prices have been extremely volatile since the summer of 2000. This volatility creates significant uncertainty as to future market prices. This is exacerbated by natural gas price volatility that makes up 70 percent to 80 percent of electricity-generating costs (in new gas-fired power plants). With the Electric Utility model, any commitment (whether in purchasing generating plant, engaging in long-term power

supply contracts, or relying on forward purchases in the market) locks in prices that the District would have to recover in its revenue requirements. If market prices are depressed below Districts costs and DA is available, customer loads could be lost, and remaining customers will have to make up the difference. The District would need an effective risk management program. With the JPA model, the risks would be the same and would be shared among the JPA members in proportion to benefits received.

5.0 CCA ORGANIZATION OVERVIEW

5.1 Finance

Many factors need to be considered to ensure adequate reserves and revenue to cover a CCA's costs regardless of the organizational structure (i.e., Electric Utility or JPA). These include the costs, rate setting objectives, and noticing requirements.

Costs associated with financing a CCA include:

- Electricity procurement
- Ancillary service requirements
- Exit fees
- Staffing and contractor costs
- Infrastructure requirements and interest expenses
- Billing, scheduling coordination, grid management charges and CCA bond costs
- Franchise fees
- Public outreach and advertising

The primary objectives of a CCA would be to set rates to achieve the following:

- **100 percent renewable energy supply option:** Offer the lowest possible rate for 100 percent renewable power.
- **Rate competitive tariff option:** Offer rates comparable to PG&E for a 50 percent green option.
- **Rate stability:** Maintain rate stability by hedging supply costs over multiple time periods.
- **Customer understanding:** Straightforward rate design to ensure customers can understand their bills and that rates are uniform for similar customer types.
- **Revenue sufficiency:** Rates will be sufficient to cover the costs of the CCA and will be adjusted, as necessary, to maintain the ability to fully recover all the costs.

The electric rates would be designed to encourage economic expansion and business retention in the areas served by the CCA. Moreover, rates for customers with on-site generation eligible for net metering from PG&E will need to be offered. The PG&E net metering tariff (E-NEM) requires CCAs offer a net energy metering tariff in order for customers to continue to be eligible for service on the tariff.

The CCA would also need to adopt customer noticing requirements required by the CPUC. The noticing requirements include:

- Publishing notice of rate changes in at least one newspaper of general circulation in the county within 10 days after submitting the application.

- Within 45 days after submitting the application to increase rates, furnishing notice of the application to the customers affected by the proposed increase, either by mailing the notice or including the notice with the regular bill to customers.

At this pre-feasibility report level, rates cannot be determined. Start-up and operating costs for an East Bay CCA program are discussed in more detail in Financial Analysis section of this report (Section 7).

5.2 Operations

In the initial phase of an East Bay CCA being formed, energy procurement, scheduling, and customer service components of the CCA operations would be contracted out. Both MEA and CleanPowerSF have contracted with Shell Energy North America as their energy service provider and Noble Americas for customer services.

An East Bay CCA could likely follow a similar model for both the Electric Utility and JPA organization structures since neither the District nor the cities have the expertise or staffing to procure power and support the necessary customer service needs of a CCA.

5.3 Organizational Structure

This section describes the general organizational structure for an East Bay CCA. The CCA would include the following groups: governing body, executive officer, finance, legal and regulatory, marketing and communications, rates and support, resource planning, contract management, customer service, supply operation, and account management. Responsibility or support for each of the groups will depend on the institutional model chosen (i.e., Electric Utility or JPA). The following table illustrates an example of how the CCA may be structured depending on the institutional model (JPA or Electric Utility) chosen.

Electric Utility	JPA
<u>Governing Body</u> ■ EBMUD Board of Directors <u>Executive Officer</u> ■ General Manager <u>Finance</u> ■ Finance Department ■ Vendor <u>Legal and Regulatory</u> ■ Office of General Counsel ■ Vendor	<u>Governing Body</u> ■ Board of Directors comprised of member agencies <u>Executive Officer</u> ■ Employee hired by JPA <u>Finance</u> ■ Executive Officer ■ Vendor <u>Legal and Regulatory</u> ■ Executive Officer ■ Vendor

Electric Utility	JPA
<u>Marketing and Communications</u> ▪ Vendor <u>Rates and Support</u> ▪ EBMUD Board of Directors ▪ Finance Department ▪ Vendor <u>Resource Planning</u> ▪ District staff ▪ Vendor <u>Contract Management</u> ▪ District staff <u>Customer Service</u> ▪ Vendor <u>Supply Operations</u> ▪ Vendor <u>Account Management</u> ▪ District staff ▪ Vendor	<u>Marketing and Communications</u> ▪ Vendor <u>Rates and Support</u> ▪ JPA Board of Directors ▪ Executive Officer ▪ Vendor <u>Resource Planning</u> ▪ Executive Officer ▪ Vendor <u>Contract Management</u> ▪ Executive Officer <u>Customer Service</u> ▪ Vendor <u>Supply Operations</u> ▪ Vendor <u>Account Management</u> ▪ Executive Officer ▪ Vendor

Governing Body

The governing body for a CCA would be comprised of a Board of Directors. The CCA Board’s primary duties would be to establish program policies, set rates, and provide policy direction to the Executive Officer or District staff. The Board would also determine necessary staffing levels, individual titles, and related compensation ranges for the organization. The CCA Board would adjust staffing levels and compensation over time in response to actual workload, specific programs, and/or general responsibilities of the CCA.

Executive Officer

For the JPA model, an Executive Officer would need to be hired and would have general responsibility for the CCA program operations consistent with the policies established by the Board. The Executive Officer would be an employee of the JPA, and the Board would be responsible for evaluating the Executive Officer’s performance. The Executive Officer would be supported by a combination of internal staff and contractors. Certain specialized functions needed for program operations (e.g., electric supply and customer account management functions), would require experienced third-party contractors.

The Electric Utility model would not have an Executive Officer as the functions would be spread across staff from a number of existing and new departments reporting to the current General Manager.

Finance

The finance function arranges financing for capital projects, prepares financial reports, ensures sufficient cash flow, and establishes credit policies for the CCA. This function

also plays an important role in risk management by monitoring the credit of suppliers to ensure credit risk is properly managed. If a supplier's financial condition and/or credit rating changes, the CCA would be able to take appropriate action, as necessary.

The Executive Officer or District staff, advisors, and consultants would be responsible for managing the finances of the CCA including preparation of an annual budget and revenue requirements, managing and maintaining cash flow, managing and procuring bridge loans and other financial tools, and handling billing settlements. Customer billing would be initially contracted out to a firm with the necessary infrastructure and capability to handle the accounts.

Legal and Regulatory

CCAs require ongoing regulatory representation to file resource plans, ensure resource adequacy, ensure compliance with California Renewable Portfolio Standard (RPS), and provide overall representation on issues that impact the CCA and its customers. CCAs also need to maintain an active role at the CPUC, CEC, Federal Energy Regulatory Commission, and the California legislature. Analysis and reporting of pertinent legal and regulatory issues require legal and regulatory counsel and/or qualified contractors. CCAs must retain legal services, as necessary, to review contracts and provide overall legal support to the CCA activities.

Marketing and Communications

CCAs need to contract for professional expertise in electric utility marketing and key customer account management functions. These responsibilities include the assignment of account representatives to key accounts, which ensure high levels of customer service to these businesses, and implementation of a marketing strategy to ensure customer satisfaction. Administering communications, marketing messages, and delivering information regarding the CCA to all customers is important for the overall success of the CCA. These services require extensive support and are expected in an environment where consumers have a choice of providers.

Rates and Support

The CCA Board would have the ultimate responsibility for setting the electric rates for a CCA. The Executive Officer or District staff would be responsible for developing proposed rates and options for the Board to consider before adopting the rates. The final approved rates would need to meet the annual revenue requirements, including any reserves and coverage requirements set forth in electric supply agreements and/or bond covenants. The Board would have the flexibility to consider rate adjustments within certain ranges, provided that the overall revenue requirement is achieved.

Resource Planning

CCA senior staff manage employees and contractors to develop a resource plan under the guidance provided by the CCA Board and in compliance with California law and other requirements of the CPUC and CEC. Long-term resource planning includes load forecasting and supply planning on a ten-to twenty-year time horizon.

The CCA is also responsible for developing integrated resource plans to meet program supply objectives and balance cost, risk, and environmental considerations. Integrated resource planning considers demand-side energy-efficiency and demand response programs as well as traditional supply options. Resource plans will be updated and adopted by the CCA Board on an annual basis.

Contract Management

The Executive Officer or senior staff manage day-to-day operations of the CCA and retain consultants as necessary to manage contracts. Program operations would be conducted by the Executive Officer or staff through its own internal staff or contracts with third parties.

Customer Service

As a retail service provider, CCAs are responsible for providing a range of services, including processing customer service initiation and termination requests, maintaining customer records, and providing a call center to respond to customer questions and concerns. CCAs also are responsible for coordinating billing with the IOU, tracking payments and accounts receivable, issuing customer notices, and administering customer deposits.

Customers of CCAs are entitled to participate in any program funded through non-bypassable charges imposed by the utility. For example, the customers are entitled to apply for incentives under the California Solar Initiative (CSI), just as they would if they were a bundled customer of an IOU. CCAs need to identify all eligible programs and use this provision of the CCA statute for the benefit of customers. Similar to MEA and CleanPowerSF, an East Bay CCA would initially contract the customer services component of the operations with a third party contractor.

Supply Operations

CCAs are responsible for wholesale procurement of electricity to serve end use customers. This highly specialized task is contracted and the services include the following:

- **Electricity Procurement:** Assemble a portfolio of electricity resources to supply the electric needs of program customers.
- **Risk Management:** Reduce exposure to the volatility of energy markets and insulate customer rates from sudden changes in wholesale market prices.

- **Load Forecasting:** Develop accurate load forecasts, both long-term for resource planning and short-term for the electricity purchases and sales, needed to maintain a balance between hourly resources and loads.
- **Scheduling Coordination:** Schedule and settle electric supply transactions with the California Independent System Operations (CAISO).

Account Management

The Executive Officer or District staff will be responsible for account management and customer services functions and would use contractors to support these activities. Account management includes retail settlements-related duties and management of customer account data. This function will also process customer service requests and administer customer enrollments and departures from the CCA, and maintain a current database of customers enrolled in the CCA.

This CCA function coordinates the issuance of monthly bills through the IOU and tracks customer payments. Activities include the electronic exchange of usage, billing, and payment data with the distribution utility and CCA, tracking customer payments and accounts receivable, issuing late payment and/or service termination notices, and administering customer deposits in accordance with the CCA credit policies. The Customer Account Services function also manages billing related communications with customers, customer call centers, and routine customer notices.

6.0 EAST BAY CCA

6.1 Service Area

The District's service area includes 20 incorporated and 15 unincorporated cities and communities in Alameda and Contra Costa Counties. This preliminary CCA evaluation is based on the cities that have expressed interest in an East Bay CCA and include the cities of Oakland, Berkeley, Albany, and Emeryville.

6.2 Electric Accounts by PG&E Customer Classes

This section summarizes the number of accounts, the electric load, and load classes in the cities of Oakland, Berkeley, Albany, and Emeryville. The table below shows the actual water service counts from the District's water service database as of June 2012 for these cities, and the estimated number of electric meters based on the conversion factor developed in the February 2002 R.W. Beck Report.

Estimated Electric Meter Counts

Customer Type	Water Customer Count	Est. Electric Meter Count
Single Family	109,884	109,884
Multi Family	17,459	105,114 ¹
Commercial	7,877	7,877
Industrial	1,028	1,028
Total	136,248	223,903

¹.Multi-family electric meter numbers are greater than the water meter count since a single water meter generally serves a multi-family unit but each unit will generally have its own electric meter.

The table below shows the estimated electric meter counts segregated into PG&E account classes for each city (MRW & Associates in the September 27, 2012 CCA Financial Analysis). MRW & Associates assigned the single and multi-family accounts to the PG&E's residential classification (E-1), and the commercial and industrial accounts to PG&E's electric rate classes (A-1, A-10, E-19S and E-20T) based on the 2005 Navigant CCA studies for the cities of Berkeley and Emeryville. The City of Oakland has more electrical accounts in each category than the other three cities combined.

Estimated Electric Meter Counts by City

	Albany	Berkeley	Emeryville	Oakland	Total
Residential (E-1)	5,925	50,208	2,256	156,609	214,998
Small Commercial (A-1)	240	1,929	234	4,988	7,392
Medium Commercial (A-10)	29	234	62	928	1,253
Large Commercial (E-19S)	3	24	16	190	233
Industrial (E-20 T)	0	3	2	22	27
Total	6,197	52,398	2,570	162,737	223,903

7.0 FINANCIAL ANALYSIS

In September 2012, MRW & Associates prepared a financial analysis for an East Bay CCA formed within the cities of Albany, Berkeley, Emeryville and Oakland. The analysis included start-up costs, a one-year snapshot of the operating costs, and procurement of energy under four different renewable energy portfolios (50 percent renewable portfolio using TRECs and bundled RECs, and 100 percent renewable portfolio using TRECs and bundled RECs). The costs of these portfolios were compared with the charges customers would pay if they remained with PG&E. The results of this analysis are summarized below.

7.1 Estimated Service Load

The CCA participation rate for this analysis was assumed to be 80 percent across all customer classes based on MEA's 20 percent opt-out rate. The table below summarizes the estimated annual service load for each city by customer class.

Estimated Annual CCA Service Load by City

Account Class	Albany (MWh)	Berkeley (MWh)	Emeryville (MWh)	Oakland (MWh)	Total (MWh)
Residential (E-1)	33,474	283,665	12,475	884,778	1,214,653
Small Commercial (A-1)	2,358	18,955	2,299	49,014	72,637
Medium Commercial (A-10)	5,030	40,589	10,754	160,968	217,341
Large Commercial (E-19-S)	2,100	16,801	11,200	133,005	163,107
Industrial (E-20 T)	0	27,187	18,125	199,374	244,686
Total	42,962	387,197	55,853	1,427,139	1,912,424

7.2 Start-up Costs

MRW & Associates estimated start-up costs to be approximately \$1.6 - \$3.2 million to cover staffing and professional services, marketing and communications, data management, PG&E service fees, and miscellaneous overhead costs. In addition, another \$12 to \$22 million in working capital would be needed to cover approximately two months of lag between the purchase of wholesale renewable electricity and receipt of bill payments from the CCA customers.

7.3 Energy Supply Portfolios

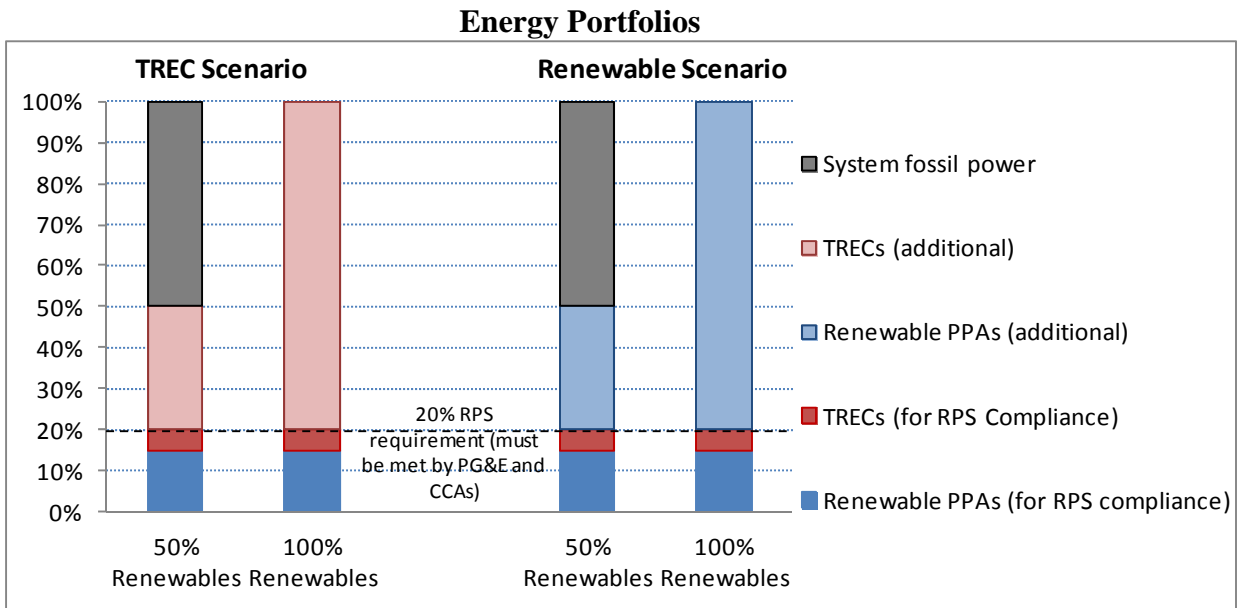
MRW & Associates developed a range of procurement costs based on four renewable energy procurement scenarios. All four of the scenarios meet the minimum 2013 California RPS level of compliance, which states that 20 percent of electricity must be procured from eligible renewable energy resources. Up to 25 percent of this renewable

energy can be provided from TRECs and at least 75 percent of this renewable energy must be from bundled RECs for RPS compliance.

A TREC, or REC-only transaction, is defined as a REC that is sold separate from underlying renewable energy, while a bundled REC is sold as a transaction that includes both the REC and the renewable energy. Generally bundled RECs are sold as part of a PPA and have a market value twenty to forty times greater than TRECs.

The four portfolios considered were divided into two separate classifications – the TREC Scenario and the Renewable Scenario. In the TREC Scenario, all renewable procurement in excess of the RPS level are met with either 50 percent or 100 percent TRECs. In the Renewable Scenario, all renewable power procurement in excess of the RPS level is met with either 50 percent or 100 percent bundled RECs through renewable PPAs. In all four scenarios, the TRECs, or bundled RECs, were from an equal mix of wind, PV, landfill gas, and geothermal resources (25 percent each).

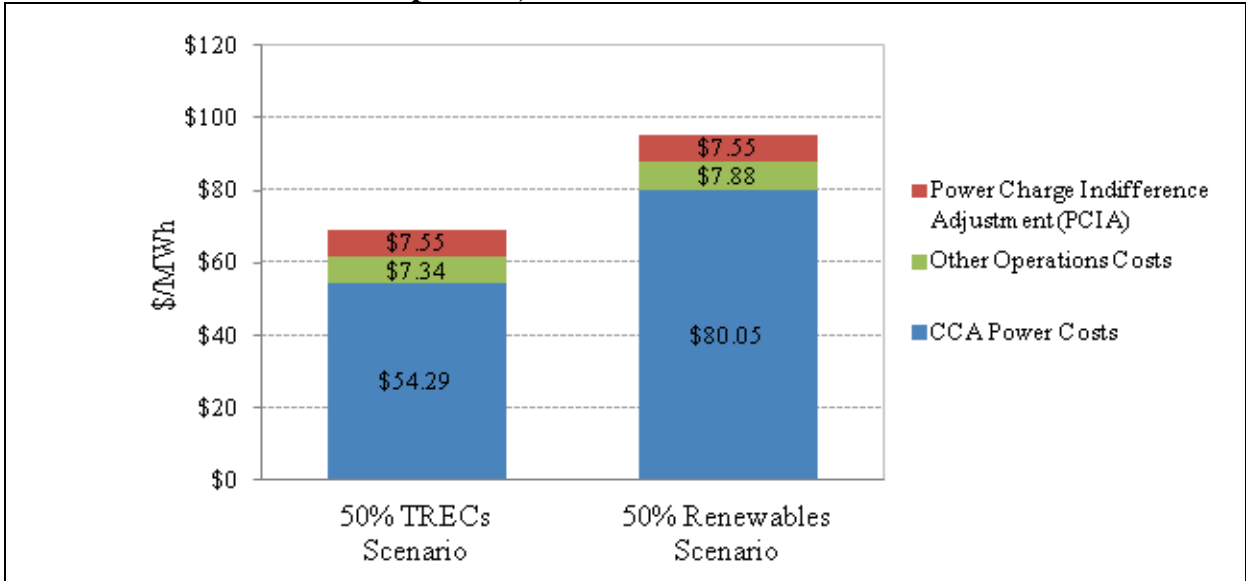
The renewable resources mix is shown in the figure below.



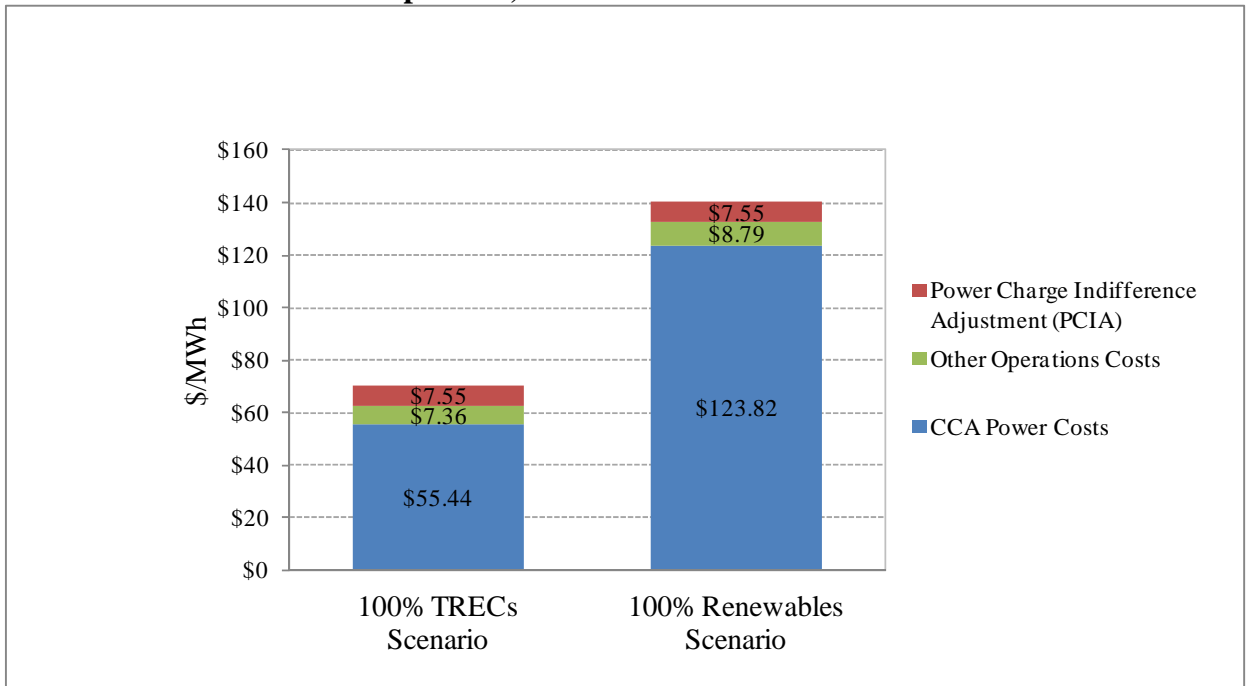
MRW & Associates estimated the unit cost for these portfolios by assembling all the components required for servicing the electric load. The components included costs for renewable contracts, wholesale power, and TRECs. In addition, power costs include ancillary services and the cost to procure capacity to meet the CPUC’s Resource Adequacy (RA) requirements. The Power Charge Indifference Adjustment (PCIA), an exit fee charged by PG&E to all CCA customers as a result of the departure of customers from PG&E, represents roughly \$7.50/MWh of the total cost. Other costs associated with the operation and financing of the CCA vary by scenario but average between \$7 to \$9 per MWh.

The following two figures show the estimated cost breakdown for the 50 percent and 100 percent portfolios. The 50 percent and 100 percent TREC portfolios' unit costs are similar due to the small incremental cost of TREC while the units cost for the 50 and 100 percent renewable portfolios are much larger due to the much higher cost of bundled RECs.

Cost Components, 50% Renewable Portfolio



Cost Components, 100% Renewable Portfolio



7.4 Energy Supply Requirements

CCAs are responsible for procuring electricity and related products to serve the electric demand of all CCA loads. This includes the following:

- Soliciting bids and contracting with suppliers of power and ancillary services and related financial security requirements.
- Compliance with all related federal and state regulatory requirements.
- GHG Emission Performance Standard Compliance for arrangement of five or more years and other procurement requirements related to energy and capacity.
- Managing risk using common industry tools, such as hedging, in order to reduce the impact of market volatility. Considerations include the cost and need to identify and contract with an entity experienced in procurement.
- Scheduling and settling electric supply transactions with the CAISO. Considerations include potential cost for scheduling and settlement, financial security postings relative to market participation, and some limited exposure to CAISO penalties in the event of scheduling failures or inaccuracies.

7.5 Operating Costs

CCAs must comply with CAISO and CPUC RA requirements, which include year- and month-ahead capacity requirements, a 15 percent reserve margin, and compliance with requirements to procure a prescribed portion of capacity from local RA resources. MRW & Associates estimated the annual operating costs, including operations and scheduling, data management, billing and metering, at \$10 million, not including procuring energy.

A CCA may satisfy a portion of RA requirements through procurement of demand-side resources. Failure to comply with and report compliance with RA requirements can result in significant penalties from the CPUC and CAISO. Administration and compliance for both CPUC and CAISO submissions and related contract administration will be important.

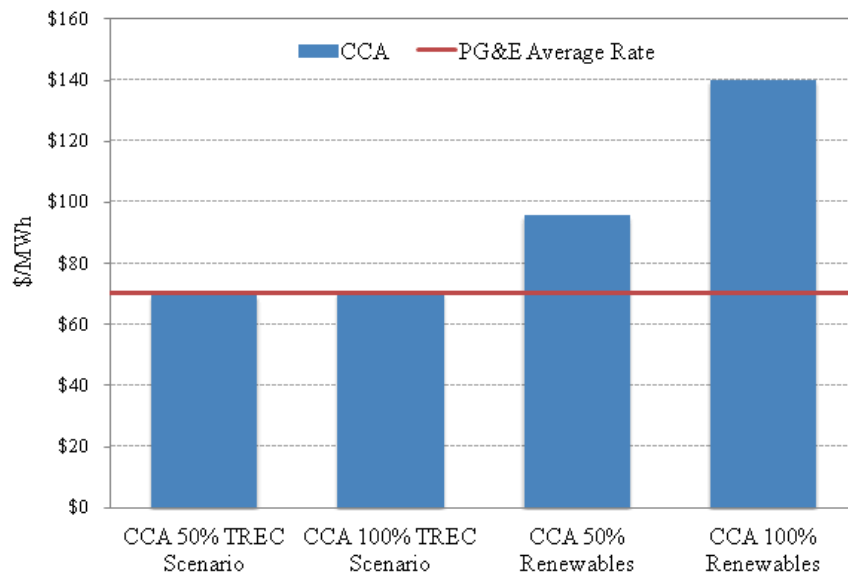
Furthermore, any resources providing RA capacity will be subject to potential costs associated with availability charges. RA requirements are subject to ongoing regulatory changes which introduces a measure of uncertainty in predicting cost and risk. The cost of RA compliance and the risk of volatility in the market cost of RA products may be mitigated if regulators establish a market for capacity, which is not likely in the near future.

8.0 CUSTOMER RATE ANALYSIS

8.1 Rate Comparison and Ratepayer Impacts

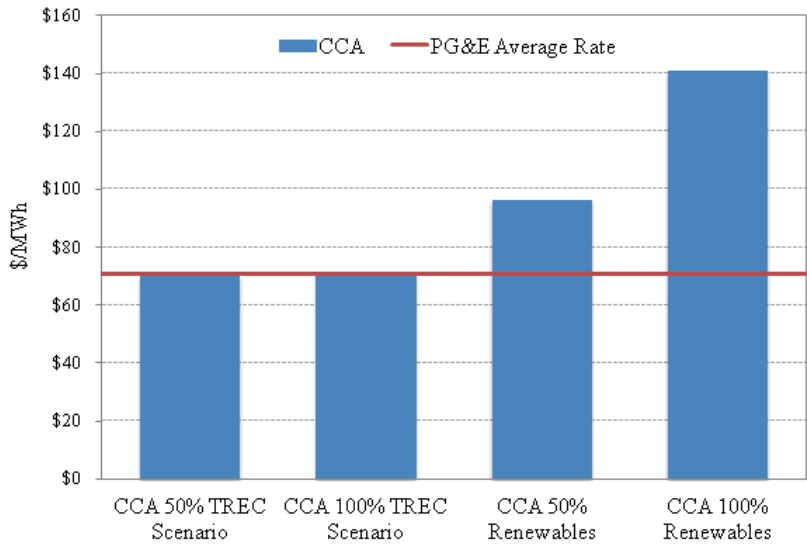
This section summarizes the estimated procurement cost for all four portfolios and compares these costs to PG&E's average generation rate component. The portfolio costs include the cost of power, CCA operating costs, franchise fees, and the PCIA fee. The rate elements that an electric customer would pay on either the CCA or PG&E service, such as transmission and distribution charges, are not included in the results. The figures below show the overall comparison of all the cities' combined loads and the results for each individual city. The estimated CCA rate for each city is similar due to the larger percentage of residential customers and the larger residential electric load in each city. Only the City of Emeryville has a noticeably lower cost due to the relatively large proportion of industrial and commercial customers and their accompanying flat electric load profile.

PG&E Rates vs. CCA Estimated Costs (all four cities combined)*

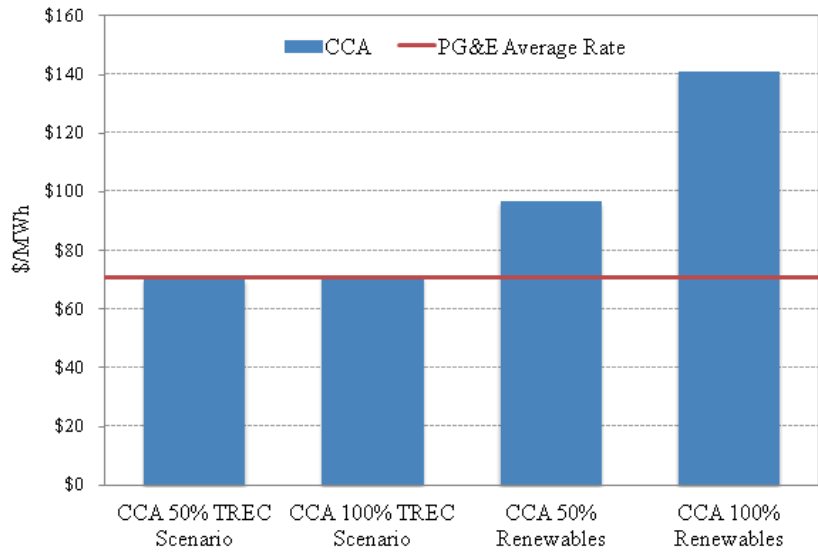


* Does not include all rate elements

PG&E Rates vs. CCA Estimated Costs (City of Albany) *

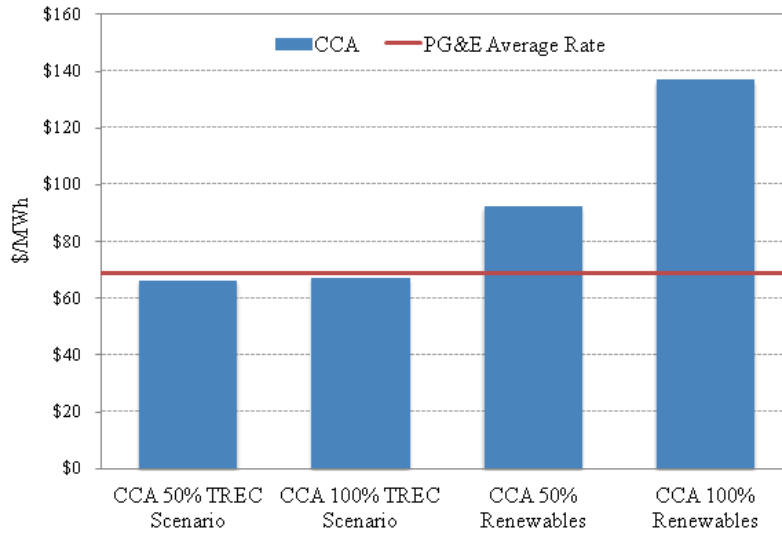


PG&E Rates vs. CCA Estimated Costs (City of Berkeley) *

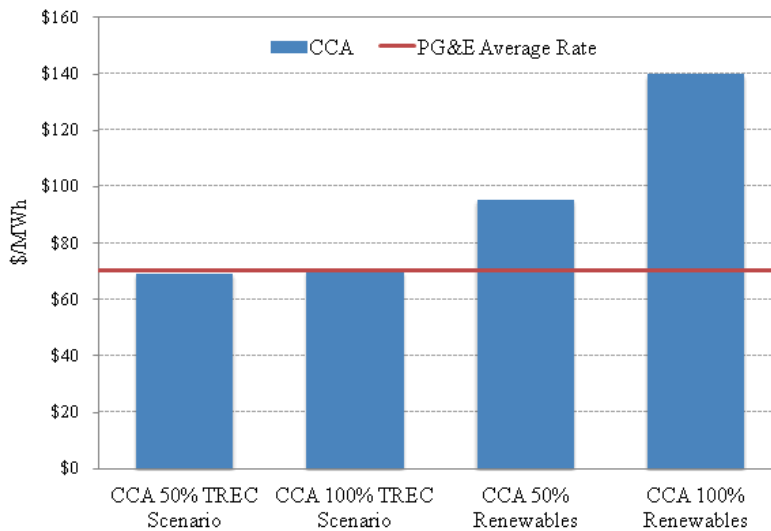


* Does not include all rate elements

PG&E Rates vs. CCA estimated Costs (City of Emeryville) *



PG&E Rates vs. CCA Estimated Costs (City of Oakland) *



The two TREC portfolios represent the least-cost purchase options for procuring and providing renewable power to CCA customers in excess of the mandated RPS. For all four cities, the 50 percent TREC portfolio cost is slightly less than the current PG&E rate. The 100 percent TREC portfolio is slightly more expensive than PG&E rates for three of the four cities; Emeryville, with its relatively large proportion of commercial and industrial customers, has a lower cost than PG&E for the 100 percent TREC portfolio.

* Does not include all rate elements

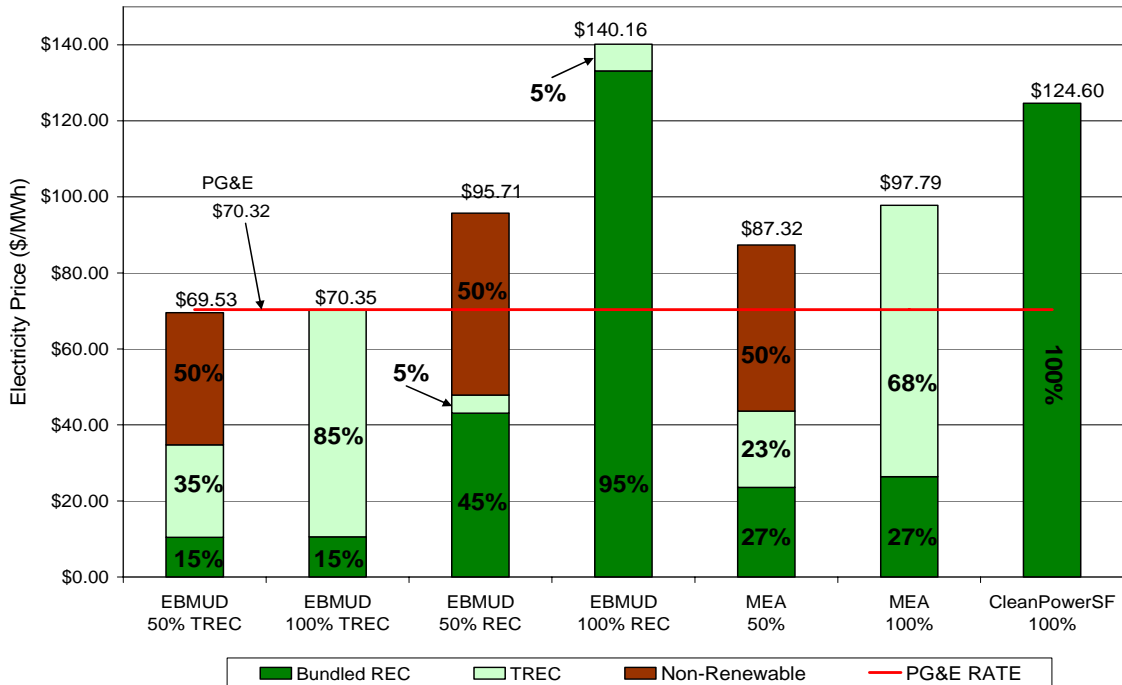
For both the 50 percent and 100 percent renewable portfolios, the CCA costs are significantly higher than the current PG&E generation component. This difference ranges from 35 percent to 100 percent greater. These two portfolios use only the more expensive bundled RECs for renewable energy purchases above the RPS goals.

Summary of CCA Rate Analysis (\$/MWh)

	PG&E Average Rate	50% TREC Scenario Rate	100% TREC Scenario Rate	50% Renewable Scenario Rate	100% Renewable Scenario Rate
Albany	\$70.96	\$70.39	\$71.21	\$96.56	\$141.00
Berkeley	\$70.95	\$70.45	\$71.27	\$96.62	\$141.07
Emeryville	\$69.02	\$66.39	\$67.21	\$92.57	\$137.02
Oakland	\$70.18	\$69.37	\$70.19	\$95.55	\$140.01
Average	\$70.32	\$69.53	\$70.35	\$95.71	\$140.16

The results from this analysis differ from studies by other active and proposed CCAs in California. For example, MEA and CleanPowerSF rates are greater than comparable PG&E rates. The difference is due to the fact that portfolios that rely on the lower cost TRECs are generally more competitive with PG&E rates while portfolios that use greater quantities of the more expensive bundled RECs are generally more expensive than PG&E rates. The figure below compares the cost and renewable mix of the four portfolios considered in this analysis compared to MEA’s and CleanPowerSF’s portfolios, and the comparable PG&E rate.

Estimated Cost of Comparable CCA Portfolios with Renewable Mix



Note that the CleanPowerSF electricity price for 100 percent renewable power is less than the East Bay CCA electricity price for a similar product (\$124.60 vs. \$140.16). The difference is due to the fact that the East Bay CCA portfolio cost was estimated based on a snapshot of market prices for energy, TREC, and bundled REC as of September 2012, while the CleanPowerSF cost was based on different market assumptions.

8.2 Termination and Exit Fees

CCAs are responsible for collecting cost responsibility surcharges (CRS) from customers. The CRS is paid by customers leaving an IOU service to ensure that all remaining IOU customers do not pay higher rates when the customer leaves the IOU. These include Department of Water Resources bond charges and power contract costs, other non-bypassable charges, and the above-market portion of procurement contracts. Exit fees may change over time and are revisited periodically by the CPUC. Recently, advocates for direct access and CCA customers were successful in obtaining an update to the complex formula for calculating the CRS to more accurately reflect the avoided cost to the utilities of procuring renewable resources for bundled customers.

Under PU Code 394.23(e), a CCA is responsible for posting a bond or demonstrating insurance coverage sufficient to cover potential “re-entry fees” if the utility were to accept the “involuntary” return of CCA customers in the event the CCA unexpectedly closes down or becomes insolvent. In consideration of the potential financial implications of either becoming or joining a CCA, the District would need to factor in this requirement if the Board requests further studies. Other security requirements will arise under the CAISO tariff and from counterparties providing energy and/or capacity.

8.3 PG&E Green Option Comparison and Issues

In April 2012, PG&E announced a new “Green Option” which would give customers additional renewable energy options. PG&E asked state regulators for permission to offer a new clean energy program to give electric customers an opportunity to purchase 100 percent renewable energy for an average of a few dollars extra each month.

Under this program, PG&E would purchase TRECs to match the portion of each participating electric customer's energy that is not already covered by PG&E's eligible renewable energy deliveries. These certificates represent proof that specific quantities of electricity were generated from renewable sources such as wind and solar. PG&E would certify the Green Option through Green-e Energy, a program of the non-profit Center for Resource Solutions in San Francisco.

The Green Option is a voluntary program and customers will have the option to support either the “100% green power” option or a designated Green Option quantity (“block product”) that they choose. PG&E will only offer RECs that have been certified as meeting “Green-e Energy certified” requirements. The RECs purchased for PG&E’s

Green Option cannot be used for any other PG&E compliance purposes, including compliance with California’s RPS standard. In addition, PG&E will only procure RECs from providers within the geographic boundaries of the Western Electric Coordinating Council with a preference for California-based solar and other California RECs that meet Green Option price targets.

PG&E will have the option to adjust the Green Option price either up or down but not to exceed \$20/MWh above the otherwise applicable bundled rate. All administrative, marketing, and procurement costs incurred by PG&E to fund the Green Option will be borne by participating customers only. Over the course of the program, costs in excess of revenues received from participating customers, to the extent that they are not recovered through rates charged to participating customers, will be borne by PG&E. PG&E plans to use a third-party provider to do all or a portion of the marketing in order to maximize the number of customers and is asking the CPUC for approval by early 2013.

The Coalition of California Utility Employees and The Utility Reform Network have filed formal protests to the CPUC against PG&E’s Green Option. They argue that the program will not result in any new renewable power, only the purchase of RECs (existing sources of green power), and that the program is a marketing program and will not “green the power”. These groups support CCAs and argue that a CCA will allow local jurisdictions to control their power supply.

8.4 California Alternative Rates for Energy Program

PG&E’s California Alternate Rates for Energy (CARE) Program provides a monthly discount on energy bills for income-qualified households and housing facilities. To protect low-income households against escalating electricity bills, the CPUC froze rates for the CARE program at July 2001 levels. As general rates have increased, the effective CARE discounts are approximately 30 percent lower than the two residential rate tiers and up to 76 percent lower in Tier 4. Recent CPUC action is moving to adjust the rate design to modestly increase the CARE Tier 3 rates; however, CARE customers will continue to receive significant discounts relative to other residential customers.

Qualification for CARE is based on the number of persons living in the home and the total annual household income. The table below summarizes the program guidelines based on the size of the household and the combined household income.

Size of Household	Maximum Annual Income to Qualify for CARE
1	\$22,340
2	\$30,260
3	\$38,180
4	\$46,100
5	\$54,020
6	\$61,940
7	\$69,860
8	\$77,780
Each Additional Person Add	\$7,920

The District does not have data on the number of residential customers in the CARE program for the cities of Oakland, Berkeley, Albany, and Emeryville. However, system-wide, PG&E reports approximately 25 percent of its residential customers are on CARE rates. Based on the October 11, 2011 MRW & Associates report for the City of Richmond, a typical CARE household taking service from MCE would pay approximately \$100 more each year than it would taking service from PG&E. However, given the anticipated rate changes with the CARE program, this value may drop to approximately \$30-\$40 per year.

It is important to note that discounts for CARE customers are taken in both the distribution and generation components. This means that the level of CARE discount in the generation rate will have to be accounted for in setting an equivalent CARE rate for low-income CCA customers. An East Bay CCA would need to address current PG&E CARE customers.

The cost of the four proposed East Bay CCA portfolios were not adjusted to account for subsidizing CARE customers. Therefore, depending on the number of actual CARE customers choosing to take service from the East Bay CCA and the actual discount offered to these customers, the rates offered to non-CARE customers may be greater than the MRW & Associates' analysis and possibly higher than a comparable electric bill under PG&E.

9.0 BENEFITS

9.1 GHG Reduction

An East Bay CCA can reduce GHG emissions for participating cities. However, when estimating the emissions reduction, it is important to evaluate the reduction in the emissions factor to determine the overall GHG emissions reduction when compared to PG&E. The emissions factor is a mathematical relationship between the quantity of pollution emitted per unit of electricity produced. The average GHG emissions from a CCA would need to be lower than the marginal emissions from PG&E (i.e., the actual incremental emissions that PG&E would incur if it were serving that load) to result in a reduction in GHG emissions when compared to PG&E. The current PG&E energy portfolio includes 59 percent from energy sources that do not generate GHG emissions (e.g., large hydroelectric).

Furthermore, there can be considerable variability in the estimates for GHG reduction depending on the renewable portfolio mix considered. For example, Sonoma County estimates their GHG reduction for their 33 percent renewable mix to be 70,000 metric tons of CO₂ versus a GHG reduction for their 85 percent mix of 7.6 metric million tons of CO₂.

9.2 Potential Job Creation

A CCA may have local purchase preferences and may be able to attract green businesses to the cities served by the CCA. Over time, incremental economic development in the service area may occur.

9.3 Local Energy Program Development

A CCA may have greater capacity to implement energy-efficiency, renewable energy, and financing programs than local government. A CCA may allow cities to have a higher level of input and participation in designing and implementing regional energy programs. Moreover, community members can attend and provide input into CCA programs. In comparison, public proceedings for utilities such as PG&E, are held in Sacramento at the CPUC, which is less convenient for East Bay community members to attend.

9.4 Feed-In Tariffs

A FiT is a financial tool and policy mechanism that provides incentives to customers to develop renewable energy projects and deliver electric power under contract at set prices and terms. FiTs can provide rates for renewable energy projects, guaranteed contract

terms, prices, and certainty to help developers obtain financing, and provide market demand to the private sector to deliver renewable energy projects.

Local development projects may lead to more jobs, additional opportunities for city businesses, and additional revenues to the cities from property and business taxes and permits.

9.5 Residential Renewable Energy and Energy-Efficiency Rebates

A CCA can offer rebates to households that complete energy upgrades or renewable generation installations. These rebates would be in addition to rebates offered through the statewide Energy Upgrade California program and the CSI. A CCA could offer additional financial incentives to customers considering home energy upgrades or installing solar systems. For example, MCE offers \$500 rebates to households that complete home energy upgrades or solar installations in addition to the CSI rebate.

9.6 Energy-Efficiency Program Plan

AB 117 and SB 790 authorized CCAs to elect to become third-party administrators of statewide energy-efficiency funding sources that are collected and managed by the CPUC. This type of program could spur local job creation and create partnership opportunities with workforce development programs and local workforce investment boards, provide benefits to economically disadvantaged areas, avoid redundancy, and accommodate the need for a host of regional and statewide programs.

9.7 Potential Greater Local Control Over Power Supply Decisions and Rate Setting

A CCA could offer greater control of procurement and rate-making decisions than PG&E. However, different cities have different demographics and the interests of one city may not be the same as the interests of other cities.

9.8 JPA or Electric Utility Institutional Models

There are a number of benefits depending if a CCA is formed as a JPA or as an Electric Utility.

For the JPA model, benefits include the following:

- **Shared financial risk and liability:** Members of a JPA share in the risks and liability associated with starting a JPA so no one agency or city takes on all the risks while the electric customers of the cities only see the benefits.

- **Financial “firewall” between member agencies and the CCA:** If structured properly, a JPA minimizes direct exposure to financial liability if the CCA were to default or if the operating cost increased significantly.
- **Shared financing for start-up and ongoing operating costs:** There are significant start-up costs associated with a CCA. A JPA shares the costs (and risks) among all members, reducing the financial burden for each member.
- **Eliminate the need for redundant personnel and systems:** A JPA allows member agencies to share common resources needed for the CCA. For example, a single executive officer can operate a CCA if there is a JPA rather than each city and agency hiring their own executive officer.
- **Economies of scale:** Having all member agencies join a single agency increases the amount of electricity needed, customer service requirements, and other needs. There may be significant savings with third-party vendors (e.g., an ESP) by combining the load and customers rather than having individual cities contract out for these services separately.

For the Electric Utility model, benefits include the following:

- **Potential use of District hydropower and other generation facilities:** The District has a significant number of energy generation facilities and in a normal year, generates more electricity than it uses. There are legal and policy issues with directing this generation towards a CCA, but the generation may be available for use in the CCA and result in increased revenues.
- **District experience with energy industry:** District staff have experience with scheduling, settlements, and contracts for wholesale power sales. Although the District is familiar with certain aspects of the energy industry, staff do not have experience with power purchase, load scheduling, and settlements as a load serving entity.

10.0 RISKS

This section describes some of the major risks the District, cities, and customers would face as a result of forming a CCA. Some of the information in this section is taken from MCE's report titled Risk Assessment of Participation, which was prepared by MRW & Associates for the City of Richmond and from reports developed for CleanPowerSF. Some of the most significant risks are a CCA's uncertainty with estimating electric load which can cause under- or over-procurement of power, financial risks associated with providing guarantees to power suppliers, and whether a CCA will ultimately be able to provide long-term power supplies at costs that are competitive with PG&E generation rates.

10.1 Renewable Portfolio Standards

CCAs are subject to mandatory RPS requirements currently set at 33 percent requirement by 2020. A CCA may meet its RPS compliance requirements through contracting with third-party generators or member-owned generation, development of CCA member-owned generation resources, and/or customer-owned distributed generation. A portion of RPS requirements may also be satisfied through procurement of TRECs.

A CCA may be subject to significant penalties for failure to meet CPUC RPS requirements. Compliance with RPS should be relatively straightforward if and when the CPUC and CEC complete implementation of the latest statutory changes. However, compliance entails additional staff time and legal support to ensure that all requirements are met.

10.2 Emissions Performance Standard (EPS)

CCAs are required to comply with the CPUC rules implementing the GHG EPS, a statutory requirement that emissions associated with any long-term financial commitment (five years or longer) from base load generation must be no higher than the GHG emissions rate of a combined-cycle gas turbine power plant. The EPS probably would not pose a particular procurement challenge for an East Bay CCA, but this obligation would entail compliance reporting responsibilities.

10.3 Procurement Risks

An East Bay CCA would have to specify the quantity of renewable and non-renewable energy and other services that it would receive from the supplier or establish some other mechanism whereby its loads are met. This is a concern if the CCA over-procures power, since it would have to resell its excess supplies into the market at unknown prices and could face significant losses or gains from those sales. If the CCA under-procures, then it

would need to purchase power in the future at unknown rates, which could be higher or lower than the prices fixed in the PPA.

The CCA would be required to enter into an agreement with its power supplier for a certain period of time. When the contract expires, the CCA would have to negotiate a new power supply agreement for its load. The pricing of power is unknown and there is uncertainty regarding the ability of the CCA to offer prices that are less than PG&E's price when it is time to renew the CCA's PPA.

10.4 Regulatory and Policy Risks

Regulatory decisions made at the CPUC can impact a CCA. In addition, there are risks to the CCA member agencies associated with the CCA policies. JPA members have a voice on the CCA policies; however, no single member can control policy. Since various cities within the District's service area have different demographics, economics, and business composition, a particular city's needs and policy preferences might not be reflected in the CCA decisions.

If the CCA plans on constructing renewable supply sources, the CCA would have to issue debt to undertake such a program. There are certain risks with the CCA developing its own resources or entering into long-term PPAs. The CCA would have fixed debt service obligations to pay for its renewable resources.

The CCA would also have to post a bond with the CPUC as part of its registration process. The CCA bond is designed to cover the potential re-entry costs if the CCA were to suddenly fail and be forced to return all its customers back to PG&E bundled service. The magnitude of this bond is uncertain. During a wholesale market price spike, the CCA bond could potentially increase significantly to tens of millions of dollars and is one example of how regulatory changes can erode the economic viability of a CCA.

10.5 Customer Cost Risks - CARE Rate Policies

The CPUC froze rates for the CARE program at July 2001 levels to protect low-income households against escalating electricity bills. As general rates have increased with CARE rates remaining frozen, the effective CARE discounts are approximately 30 percent lower than PG&E's first two residential rate tiers and up to 76 percent lower than PG&E's Tier 4. Although the CPUC is working to adjust its rate design to modestly increase the CARE Tier 3 rates, CARE customers will continue to receive significant discounts relative to other residential customers. Approximately 25 percent of PG&E's residential customers are on CARE rates. These costs are recovered through higher rates on non-CARE customers.

10.6 Customer Cost Risks - Uncertainty in Exit Fees

The CCA program in California was established by AB 117, and includes a provision stating customers that remain with the utility should not be affected by the departure of customers from the utility service to a CCA service. The CPUC interpreted this to mean that the departure of customers to a CCA service cannot cause the rates of the remaining utility “bundled” customers to go up. In order to maintain bundled customers rates, the CPUC instituted an exit fee, the PCIA, that is charged to all CCA customers.

The purpose of the PCIA is to ensure that generation costs incurred by PG&E before a customer transitions to CCA service are not shifted to remaining PG&E bundled service customers. Since many of the inputs to calculating the PCIA are not publicly available, forecasting the PCIA is challenging. The CPUC is considering revisions to the PCIA calculation methodology which adds further uncertainty to the PCIA. MCE’s current policy places the financial risk associated with the level of exit fees that will be paid to PG&E on those customers.

10.7 Electric Customers’ Potential Risks

A CCA may need to issue bonds to cover portions of its operations and start-up costs. Some members of the JPA may not be willing to post a portion of the CCA bond. For example, when MCE was initially established, it needed to fund its start-up activities. Because they had no customers and no credit rating, MCE had to borrow funds. Also, before start-up, MCE needed to post security with its power supplies. According to MEA and San Francisco, it could take up to three years before a CCA could become sufficiently creditworthy to engage an insurance company to underwrite the CCA bond.

10.8 CleanPowerSF Policy Considerations and Risks

San Francisco took a major step toward public power on September 18, 2012 when the Board of Supervisors gave initial approval to a five-year contract with Shell Energy North America to provide 100 percent renewable power to San Franciscans willing to pay a premium for renewable energy. This section describes some of the policy considerations and risks the Board of Supervisors considered in their decision.

10.8.1 Customer Cost Risks

Due to the fluctuations in the price of electricity, the cost difference between existing PG&E rates and CleanPowerSF rates will vary. As of September 18, 2012, the SFPUC estimated that CleanPowerSF customers would pay a rate of \$0.1281 per kWh for electricity generation or \$0.0558/kWh (77.2 percent) more than the current price of \$0.0723/kWh paid by PG&E’s San Francisco customers. The average San Francisco electric utility consumer would pay about \$17.99 more per month, an increase of

23.3 percent, by enrolling in CleanPowerSF. As of December 2012, CleanPowerSF is proposing higher rates than originally anticipated in September.

10.8.2 Supplier Guarantees and Financial Risks

Under the contract, the City of San Francisco must guarantee Shell the purchase of an average electric load of 30 MW, the equivalent of approximately 90,000 residential ratepayers, or approximately one-quarter of the City's 375,000 residential ratepayers. The SFPUC would be liable to compensate Shell for up to \$15 million for any actual audited losses incurred by Shell in the event that the City is unable to enroll a sufficient number of CleanPowerSF customers.

Also, if the City were to cancel CleanPowerSF at a point when CleanPowerSF was operating according to contract terms but before the end of the proposed five-year contract period, the City would be liable for Shell's actual audited losses.

10.8.3 Competition to CleanPowerSF

The public opinion research firm FM3 reported to the SFPUC that there was sufficient interest and support for CleanPowerSF among San Francisco ratepayers for the program to be successful. After FM3 conducted its market research, PG&E announced a separate Green Energy Program, which would give San Francisco customers an opportunity to support 100 percent renewable energy, in direct competition to CleanPowerSF and at a cost that is expected to be less than CleanPowerSF.

PG&E's Green Energy Program is still subject to state regulators, and although the two programs are not completely comparable, according to the SFPUC, the PG&E program would make it substantially more difficult for CleanPowerSF to enroll and maintain a sufficient number of participants to guarantee its sustainability.

10.9 JPA or Electric Utility Institutional Models

There are a number of risks depending if the CCA is formed as a JPA or as an Electric Utility.

For the JPA model, risks include the following:

- **JPA formation time-consuming:** Forming a JPA takes a considerable amount of time. Experience at the District and with MEA has shown that forming a JPA may take years.
- **Equitable representation:** Member agencies will need to determine the most equitable method to establish the voting share for the JPA. For example, if the

voting share is based on the number of accounts, the District would have a very small voting share compared to the larger cities such as Oakland and Berkeley. However, basing the voting share on energy use may be more equitable for the District but less equitable for smaller cities like the City of Albany.

- **Cumbersome decision-making process:** Competing priorities and unequal voting shares among member agencies will slow down the decision-making process. In addition, conflicting priorities among member agencies will further slow down the decision making.

For the Electric Utility model, risks include the following:

- **Greater financial risk:** There is a significant financial risk to the District and water/wastewater ratepayers, especially those cities that do not participate in the CCA. If the District were to establish a CCA, customers in cities not participating in the CCA (e.g., San Ramon) maybe exposed to CCA losses even though their residents are not participating in the CCA.
- **Funding and staff resources:** There are significant start-up and operating costs associated with a CCA. The District has not budgeted for nor staffed for the operation of a CCA. Furthermore, District Policy 4.10 states that new enterprises will not deplete District staff resources.
- **Challenges associated with starting a new electrical enterprise:** East Bay CCA will require the District to hold a general election for the customers to approve the formation of the CCA and provide the necessary funding.
- **Cost associated with starting a new electrical enterprise:** MRW & Associates estimated start-up costs to be approximately \$1.6 - \$3.2 million to cover staffing and professional services, marketing and communications, data management, and PG&E service fees, as well as miscellaneous overheads. In addition, another \$12 to \$22 million in working capital would be needed to cover lag between the purchase of wholesale renewable electricity and receipt of bill payments from the CCA customers.

11.0 BENEFIT AND RISK SUMMARY

The primary issues surrounding the formation of an East Bay CCA are funding and governance. To further define the options and reach agreement on forming a CCA requires the active involvement and commitment of resources from the interested cities regardless of the organizational structure. To accomplish this, an agreement between the interested parties in the form of a Memorandum of Understanding would provide the framework to make decisions regarding a CCA and commit the agencies to provide necessary resources to complete studies in a timely manner. Given the scope of the effort and associated risks, an equal share of costs and responsibility is appropriate.

This report outlines the benefits and risks associated with starting a CCA. The table below summarizes the common benefits and risks of an Electric Utility operated CCA and a JPA operated CCA, as well as the benefits and risks specific to each institutional model.

Organizational Structure	Benefits	Risks
<p>Electric Utility and JPA (common benefits and risks)</p>	<p><u>Environmental</u></p> <ul style="list-style-type: none"> ▪ Lower GHG emissions <p><u>Financial</u></p> <ul style="list-style-type: none"> ▪ Local control over rate setting, energy programs and policies ▪ Energy generation/conservation financing programs (FiT, residential renewable energy and efficiency rebates) ▪ Increased customer choice <p><u>Local</u></p> <ul style="list-style-type: none"> ▪ Local economic benefits (potential job creation, local energy program development) ▪ Increased use of local renewable energy 	<p><u>Regulatory</u></p> <ul style="list-style-type: none"> ▪ Increased compliance requirements (RPS, EPS and RA) <p><u>Financial</u></p> <ul style="list-style-type: none"> ▪ Financial risk due to inaccurate forecasts, inaccurate revenue forecasts, and greater than expected opt-out rates ▪ Cost uncertainty (e.g., changes in departing load fees, exit fees, changes in transmission and distribution tariffs, future law and regulatory changes, start-up and implementation costs unknown) ▪ Financial cost if CCA program terminated or if an insufficient number of customers sign-up for the program ▪ Complex and costly organizational structure ▪ Competition from PG&E (Green Energy Option) ▪ Higher customer rates <p><u>Other</u></p> <ul style="list-style-type: none"> ▪ Well-funded competition from IOUs in the market ▪ Inexperience with providing utility services in a non-monopoly environment ▪ Parties have little experience in the energy sector ▪ Increased complexity to District

Organizational Structure	Benefits	Risks
		power purchases if District chooses not to sign up its accounts because of lower cost energy options (e.g., WAPA, PG&E, and PWRPA)
Electric Utility	<u>Financial</u> <ul style="list-style-type: none"> ▪ Potential District hydropower use <u>Other</u> <ul style="list-style-type: none"> ▪ District experience with energy generation and power sales 	<u>Financial</u> <ul style="list-style-type: none"> ▪ Greater financial risk to the District and water/wastewater ratepayers ▪ Funding and staff resources ▪ Challenges associated with creating a new electrical enterprise and using District generation ▪ Cost associated with implementing a new electrical enterprise <u>Other</u> <ul style="list-style-type: none"> ▪ No expertise with power purchasing
JPA	<u>Financial</u> <ul style="list-style-type: none"> ▪ Shared financial risks and liability ▪ Financial firewall between member agencies and the CCA ▪ Shared financing for start-up and ongoing operating costs ▪ Increased funding opportunities with more participating agencies ▪ Eliminate need for redundant personnel and systems ▪ Economies of scale 	<u>Other</u> <ul style="list-style-type: none"> ▪ JPA formation time-consuming ▪ Difficulty with providing equitable representation among CCA participating agencies ▪ Complex decision-making process (e.g., setting rates) because of competing priorities among member agencies ▪ Member agency priorities which may be in conflict with each other

12.0 ALTERNATIVE DIRECTIONS FOR THE DISTRICT

The District is successfully implementing its existing energy and sustainability policies. The District's Board of Directors may decide to direct staff to continue the implementation strategies currently underway and described in the District's strategic plan and budget, or may provide direction to staff to expand efforts. Two broad options are discussed below:

Continue to Focus on Internal Renewable Energy Generation and Greenhouse Gas Reductions

The District could review Policy 7.07, Renewable Energy, which focuses on developing renewable energy projects as part of the District's ongoing infrastructure management effort and caps investment costs at \$200,000 per year indexed to inflation. The goals for renewable energy creation and GHG emission reductions could be modified and/or the investment cost cap could be changed. This would provide renewed guidance to staff to make cost-effective investments in renewable energy and reductions in GHG emissions. This could include purchasing green power through CCAs operating in the District's service area or through PG&E.

Further Investigation of CCA Models for the East Bay

Participation in a CCA for the East Bay would expand the District's scope of responsibilities beyond its current mission. The report describes benefits and risks to the District of both institutional models. The benefits include furthering the District's greenhouse gas reduction goals and supporting the District's policies related to water conservation and use of renewable energy. Since the District has developed expertise in renewable power generation over several decades, another potential benefit is building on this foundation. The District can also leverage its expertise in other aspects of utility management, such as customer service, risk management, and public outreach.

A key risk is that the District does not have experience in providing utility services in a competitive marketplace. The report presumes that an East Bay CCA would rely heavily on contracted expertise for startup and operations. Another important risk element is the potential fiscal impact of a CCA on the District. At the present time the District is facing increasing demands on resources for infrastructure maintenance and water sales are projected to remain lower than historical averages for the next several years.

If the District pursues further study of an East Bay CCA, it would be essential for staff to have clear direction on the goals and objectives of the District's involvement. Prior to initiating discussions with interested cities, the District would need to develop a set of principles to guide staff in further research and potential negotiations. The District would also expect its resource investments of staff time and research funding to be met with similar levels of investment by all parties interested in evaluating the governance models, customer benefits, costs, and level of interest, and financing alternatives. A joint effort

among the interested parties could be accomplished under a Memorandum of Understanding with each party contributing to the costs and resources. The study cost could include hiring a consultant to fully analyze the governance models and the cost of forming a CCA, to quantify the potential liability of operating a CCA, and to assist in community outreach and market assessment. Similar efforts by other agencies have cost \$250,000 to \$500,000.

13.0 NEXT STEPS

Provide direction to staff on whether the Board of Directors wants staff to continue focus on internal renewable energy and GHG reduction and review the current goals for that effort, or whether further study of the District's participation in procuring and marketing renewable energy for local residents and businesses through an East Bay CCA is warranted at this time.

REFERENCES

City and County of San Francisco, Community Choice Aggregation Implementation Plan and Statement of Intent, March 2010.

City and County of San Francisco Board of Supervisors Agenda Packet, September 18, 2012.

City of Berkeley, Staff Report, Potential Benefits and Risks of Implementing Community Choice Energy, City of Berkeley Energy Commission Final Report, June 28, 2010.

City of Richmond, Staff Report on Community Choice Aggregation – Marin Energy Authority from Bill Lindsay, City Manager to Mayor McLaughlin and Members of the City Council, June 5, 2012.

Coalition of California Utility Employees, Protest of the Coalition of California Utility Employees to PG&E's Application 12-04-020, May 24, 2012.

ICF Consulting, East Bay Municipal Utility District Renewable Energy Facilitation Plan: A Strategy for EBMUD to Promote Renewable Energy, May 23, 2003.

LEAN Energy, Open Letter Responding to PG&E's Green Option, May 22, 2012
<http://archive.constantcontact.com/fs076/1109945123586/archive/1110108836682.html>

Local Power, Inc., Community Choice Aggregation Program Report Submitted to San Francisco Local Agency Formation Commission, February 2009.

Marin Energy Authority, Marin Clean Energy Presentation to the City of Richmond, October 25, 2011 <http://www.ci.richmond.ca.us/DocumentView.aspx?DID=7917>.

Marin Energy Authority, Joint Powers Agreement, December 19, 2008.

Marin Energy Authority, Revised Community Choice Aggregation Implementation Plan and Statement of Intent, December 3, 2011.

Marin Energy Authority, Financial Statements Years Ended March 31, 2012 and 2011 with Report of Independent Auditors, June 29, 2012.

MRW & Associates LLC, Risk Assessment of Participation in the Marin Clean Energy Community Choice Aggregation Program on Behalf of the City of Richmond, October 20, 2011.

Navigant Consulting, Inc., Community Choice Aggregation Base Case Feasibility Evaluation, East Bay Municipal Utility District, December 2004.

Navigant Consulting, Inc., Community Choice Aggregation Demonstration Project Bay Area Consortium Base Case Feasibility Analyses Overview, March 2005.

Navigant Consulting, Inc., East Bay Cities Community Choice Aggregation Business Plan, September 2008.

Pacific Gas & Electric Company, Green Option Press Release, April 24, 2012
http://www.pge.com/about/newsroom/newsreleases/20120424/pge_announces_new_green_energy_program_to_give_electric_customers_more_renewable_options.shtml

PG&E, Application of Pacific Gas and Electric Company (U 39E) to Establish a Green Option Tariff Application 12-04-020, April 24, 2012.

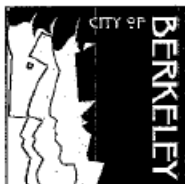
PG&E, PG&E 2010 Electric Power Mix,
<http://www.pge.com/myhome/edusafety/systemworks/electric/energymix>, April 10, 2012

PG&E, Greenhouse Gas Emission Factors Info Sheet, April 8, 2011
http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf.

R.W. Beck, Potential Roles as an Electric Utility Final Report, February 2002.

Sonoma County Water Agency, “Report on the Feasibility of Community Choice Aggregation in Sonoma County” prepared by Sonoma County Water Agency, County of Sonoma General Services, Dalessi Management Consulting, and MRW & Associates, October 10, 2011.

The Utility Reform Network, Protest of the Utility Reform Network to PG&E’s Application 12-04-020, May 24, 2012.



City Clerk Department

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NOV 13 2012

SECRETARY'S OFFICE

November 15, 2012

East Bay Municipal Utility District
Board of Directors
P.O. Box 24055
Oakland, CA 94623

RE: Community Choice Aggregation

At its meeting of November 13, 2012, the Berkeley City Council voted to send two letters to the East Bay Municipal Utility District (EBMUD) Board of Directors: 1) presenting the City's recommended basic principles regarding an East Bay community choice aggregation (CCA); and 2) identifying questions and issues that EBMUD should consider in its analysis of CCA.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mark Numainville".

Mark Numainville, CMC
Acting City Clerk

Enclosures: Letters (2)

Cc: Neal De Snoo, Secretary, Energy Commission
Christine Daniel, City Manager



CITY OF EMERYVILLE

INCORPORATED 1856

1333 PARK AVENUE
EMERYVILLE, CALIFORNIA 94608-3517

TEL: (510) 596-4300 FAX: (510) 450-7831

General Manager

APR 16 2012

Date: April 10, 2012

To: EBMUD Board of Directors
c/o Board President John Coleman
375 Eleventh Street
Oakland, CA 94607-4240

From: Mayor Jennifer West
City of Emeryville
1333 Park Ave
Emeryville, CA 94608

Subject: Community Choice Aggregation Presentation and Follow-Up Request

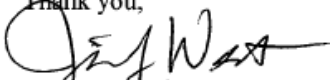
Dear Board President Coleman,

Thank you for your letter and the presentation by Board Vice-Chair Andy Katz at our Council Meeting on March 6, 2012.

Although we previously looked into Community Choice Aggregation and concluded in 2008 that it was not viable for our City, we remain interested in what EBMUD is studying at this time.

Please keep us informed as the feasibility analysis progresses.

Thank you,



Mayor Jennifer West
City of Emeryville

cc: Patrick D. O'Keefe, City Manager
Alexander R. Coate, EBMUD General Manager



MAYOR JEAN QUAN
CITY OF OAKLAND

May 23, 2012

Mr. Alex Coates
General Manager
East Bay Municipal Utility District (EBMUD)
375 11th Street
Oakland, CA 94607

Dear Mr. Coates:

I am writing to inform you that the City of Oakland is interested in exploring with other East Bay cities and with EBMUD the possibility of forming a Community Choice Aggregation (CCA) partnership.

Oakland City Council adopted an ambitious Climate Action Plan and has shown support for considering CCA partnership in the past. I see this as an opportunity to create green jobs in the region and welcome the opportunity to explore implementing CCA with an established local utility company.

Thank you very much for your consideration of this matter. I look forward to future discussions with EBMUD.

Sincerely,

Jean Quan
Mayor

cc: Berkeley Mayor Tom Bates
Richmond Mayor Gayle McLaughlin
EBMUD Board of Directors

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