Risk Assessment of Participation in the Marin Clean Energy Community Choice Aggregation Program

On Behalf of the City of Benicia

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Contents

Acronyms Used

CARE	California Alternate Rates for Energy
CCA	Community Choice Aggregation
CAISO	California Independent System Operator
CPUC	California Public Utilities Commission
CRS	Responsibility Surcharge
GHG	greenhouse gas
JPA	Joint Powers Authority
kWh	kilowatt-hour
MCE	Marin Clean Energy
MEA	Marin Energy Authority
MRW	MRW & Associates, LLC
NEM	Net Energy Metering
PCIA	Power Charge Indifference Amount
PPA	Power Purchase Agreement
PG&E	Pacific Gas & Electric
PV	Photovoltaic
RPS	Renewable Portfolio Standard
SENA	Shell Energy North America

Executive Summary

Marin Clean Energy (MCE), formerly the Marin Energy Authority (MEA), is a Joint Powers Authority (JPA) consisting of the City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, City of Richmond, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon, and the County of Marin. MCE is considering allowing the City of Benicia to become a member of the JPA and participate in the MCE Community Choice Aggregation (CCA) program.

Benicia retained MRW & Associates, LLC to examine the risks associated with joining MCE and review the "Marin Clean Energy Applicant Analysis for the City of Benicia" as part of its due diligence related to participation in MCE. MRW's scope of work consists of the following tasks:

Risk Assessment. MRW developed an independent assessment of the following:

- Potential risks to City electricity customers including residents and businesses if Benicia joins MCE.
- Potential risks to the City itself including, potential financial issues/obligations if it chooses to join, including but not limited to:
    a. earnings expectations and assumptions of customer base
    b. investments, debt, and reserve goals and strategies,
    c. Utility User Tax collections and remittance, and
    d. Franchise Fees collection and remittance.
    - Planned for and existing MCE service expansions.
- Status of MCE electricity generation projects and debt issued/owed associated with these projects.
- California Alternative Rates for Energy (CARE) customer issues.

Review of MCE Membership Analysis: For this task, MRW reviewed the analyses provided by MCE and assessed:

- reasonableness of assumptions and approaches used in the analysis;
- appropriateness of the analysis undertaken;
- reasonableness and completeness of the conclusions from the analysis including the revenue surplus predicted if Benicia joins; and
- the organizational capacity, stability, and long-term viability of MCE as a business/organization considering its guiding documents and financial statement, including but not limited to:
    a. earnings expectations and assumptions of customer base,
    b. ability to maintain its net metering credit payout program, and
    c. investments, debt, and reserve goals and strategies.

Assess the impact of MCE membership on City solar accounts: For this task, Sage Renewables, a subcontractor to MRW, evaluated:

- Anticipated annual electrical energy costs for transitioning the ten City electrical accounts that currently have solar PV systems from PG&E to MCE.
- MCE's evaluation indicating that approximately $60,000/year may be paid to the City under MCE's Net Energy Metering (NEM) program.
- Ability of MCE to maintain its net metering credit payout program
- Impacts to net-metering solar rates particularly as they relate to AB327.

Participation in MCE does not come without risks. However, remaining a customer of PG&E also involves risks, although those risks may be less easily identifiable. It is up to the policymakers of Benicia to determine if the benefits associated with participation in MCE justify the risks. If Benicia joins MCE, it would allow its citizens and businesses the opportunity to take commodity electric service from MCE. By law, if a customer does not make the conscious choice to opt out from the program and remain with PG&E for commodity electricity service, then they would, by default, become a customer of MCE. The opt-out requirement effectively means that despite the many opt-out notices that MCE is required to send out, some customers could become MCE customers without necessarily intending to do so. This could be a problem because different stakeholders have different values and risk preferences. For example, one customer might be extremely price-sensitive and would not tolerate higher rates for electric service, while another customer might be willing to pay more for electric service in order to obtain power from renewable energy sources.

According to MCE, participation in MCE can provide the citizens and businesses of Benicia with certain benefits. These include:

- Greater levels of power supply from renewable energy sources than offered by PG&E at competitive costs
- Reduced greenhouse gas emissions as a result of participation in MCE
- Alternative power supply opportunities for MCE customers, including self-generation of renewable energy through MCE-sponsored feed-in tariffs
- Development of local renewable resources to supply power to MCE
- Economic development benefits resulting in more jobs and tax revenues
- Rebates to encourage investments in energy efficiency improvements in homes and businesses
- Greater local control over power supply decisions and rate setting.

MRW generally concurs with these benefits, although as will be discussed at length, "competitive costs" may not always be achieved, while other elements, such as local economic development, are difficult if not impossible to quantify.

MRW has identified a wide range of potential risks that the City of Benicia, its residents and businesses (if they do not opt out of service from MCE) would face were it to join MCE. Some of these risks are more significant while others are less so. The types of risks fall into several broad categories:

- Procurement Risks: This broad category of risks relates to the ability of MCE to procure power at reasonable costs, to avoid significant under- or over-procurement, and the future success of MCE at renewing power supply agreements.
- Regulatory Risks: These risks consist of uncertainty in regulatory decisions by the California Public Utilities Commission (CPUC) that could adversely affect the costs that customers have to pay to take service from MCE, such as exit fees paid by customers and bonding requirements for MCE.
- MCE Policy Risks: While all JPA members have a voice on the MCE Board, no single city can control policy. Thus, given Benicia's differing demographic, economic, and business composition relative to Marin County and Richmond, Benicia might find that the interests of its citizens and businesses are not always well served by decisions of the MCE Board.
- Customer Cost Risks: These risks consist of the uncertainty in exit fees, whether MCE can continue to "meet or beat" PG&E's costs of service, how MCE will handle adding different tranches of customers in the future, and the uncertainty in costs that are passed through directly from the CCA's power supplier to customers. This also includes the risk that MCE may not be willing, or able, to provide low-income customers rates that will be no higher than PG&E's.
- City-Specific Risks: These risks relate to risks that Benicia might bear simply by becoming a member of MCE, separate and apart from any risks that it might bear as a customer purchasing power from MCE.

The table on the following page summarizes the risks discussed in greater detail in the body of the report. The table categorizes the risks based on the type of risk (e.g., procurement, customer costs), the entity that bears the risk (citizens or the City) as well as the relative importance of the risk in terms of the impact that it might have on customer costs or viability of the CCA.

While MRW expects that MCE will in general be able to offer competitive prices, the most significant risk is still whether MCE will ultimately be able to provide long-term power supplies at costs that are less than PG&E could provide. Thus, if the City's customers are highly price sensitive, then this risk may be of greater concern and would indicate that the City should place a premium on ensuring the its citizens and businesses are fully informed about the opt-out requirements of MCE.

Based on the legal analysis prepared by the Town of Ross and Davis Wright Tremaine, MRW does not believe that the City would have any financial liability in the event that MCE fails.

Description of Risk	Magnitude or Importance of Risk
Procurement Risks	
Volume Risk: Uncertainty in load can cause under- or over-procurement	Medium
Future Price Risk: MCE cannot procure power for incremental customers at competitive costs	Medium
Expansion of CCA: Can current contract accommodate all new customers?	low
Contract Renewal: MCE cannot procure power at competitive prices at end of current agreement	High
Regulatory and Policy Risks	
Adverse CPUC Decisions: Exit Fees and bonding costs may be higher than expected	Medium
MCE's lack of low-income ratepayer policy	Low
Benicia's interests may not always align with that of other JPA members	Medium
Customer Cost Risks	
PG&E Exit Fees: Who bears risk of changes in exit fees?	High
Uncertainty in Departing Load Fees: How much must customers pay to exit CCA after opt-out period ends?	Low
MCE Pricing Commitment: Will MCE meet or beat PG&E's rates?	High
MCE Pricing Commitment: Will MCE guarantee CARE customers won't pay more with MCE than they would have with PG&E?	High
City-Specific Risks	
Supplier Guarantees: City must provide guarantees to power suppliers	Low
New Generation Guarantees: City must provide support to obtain financing for new generation	Low
Financial liability if MCE fails	Low

With respect to the impact of MCE service on the City's solar accounts, Sage Renewables found:

- The City can expect between $40,000 to $80,000 in annual excess net energy metered (NEM) bill credit payments from MCE for the solar NEM accounts;
- While MCE's policy of paying for excess NEM bill credits will remain in place for at least the short term, it is at higher risk of change over time than other MCE rate policies; and

- The greatest short term risk to the value of solar PV generated energy is PG&E's proposal to limit its solar-friendly A-6 rate to only small commercial customers. This risk exists whether the City remains a PG&E customer or elects to transition solar PV accounts to MCE. (MCE is expected to mirror changes to PG&E's A-6 tariff with changes to its COM-6 tariff).

1. Introduction and Background

Marin Clean Energy (MCE), formerly the Marin Energy Authority (MEA) is a Joint Powers Authority (JPA) consisting of the City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, City of Richmond, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon, and the County of Marin. MCE is considering allowing the City of Benicia to become a member of the JPA and participate in the MCE Community Choice Aggregation (CCA) program.

The City has asked MRW & Associates, LLC (MRW) to provide an assessment of the risks and benefits inherent in joining MCE.

1.1 Background on Marin Clean Energy

MCE is a Community Choice Aggregation (CCA) program. As a CCA program, MCE provides commodity electric service and other energy-related services to its customers. MCE, the first fully functioning CCA in California, has been providing these services to a subset of the customers in its service area since May 2010. Full service throughout all its initial Marin County service area was completed by July 2012. It began service to the City of Richmond in July 2013, and projects to begin service Napa County in February 2015, and to the City of San Pablo in May 2015.

Presently, MCE offers two electric supply products:

1. The Light Green product, which provides electric service that has a greater penetration of California Certified renewable resources (50%) than does the incumbent electric utility, Pacific Gas & Electric (PG&E). MCE contends that this energy supply option is cost-competitive with PG&E's retail rates.

2. The Deep Green product, which provides 100% California Certified renewable resources for a $0.01 per kWh surcharge on top of the charges for the Light Green product.

1.2 Background on Potential MCE Membership for Benicia

After its successful expansion to the City of Richmond, a number of other cities and towns approached MCE about membership. In response, the MCE Board of Directors (MCE Board) adopted Policy 007, which laid out the requirements of new affiliate membership. These include:

1. All applicable membership criteria (listed below) are satisfied;
2. New community is located in a county that is not more than 30 miles from MCE existing jurisdiction; and
3. Customer base in new community is 40,000 or less.

In some circumstances, MCE will consider allowing a special consideration member to join if all membership criteria are met and the community is more than 30 miles from MCE's existing jurisdiction or the customer base in the new community is greater than 40,000.

MCE's membership criteria include:

- Allowing for MCE service in new community will result in a projected net rate reduction for existing customer base;
- Offering service in new community will enhance the strength of local programs, including an increase in distributed generation, and will accelerate greenhouse gas reductions on a larger scale;
- Including new community in MCE service will increase the amount of renewable energy being used in California's energy market;
- There will be an increase in opportunities to launch and operate MCE energy efficiency programs to reduce energy consumption and reliance on fossil fuels;
- New opportunities are available to deploy local solar and other distributed renewable generation through the MCE Net Energy Metering Tariff and Feed-In Tariff;
- Greater demand for jobs and economic activity is likely to result from service in new community; and
- The addition of the new community is likely to create a stronger voice for MCE at the State regulatory level.

The "Marin Clean Energy Applicant Analysis for the City of Benicia" report (MCE Applicant Analysis), dated August 29, 2014, demonstrates compliance with the first criterion. The remaining criteria are qualitative, but we have no reason to believe that Benicia's application would fail any of them.

1.3 Scope of Assignment

The office of Benicia's City Manager approached MRW to conduct an independent third-party analysis of the potential risks to Benicia associated with joining MCE. The Scope of MRW's analysis includes the following:

Risk Assessment: MRW developed an independent assessment of the following:

- Potential risks to City electricity customers including residents and businesses if Benicia joins MCE;
- Potential risks to the City itself, including potential financial issues/obligations if it chooses to join;
- Planned and existing MCE service expansions;
- Status of MCE electricity generation projects and debt issued/owed associated with these projects; and
- California Alternative Rates for Energy (CARE) customer issues.

Review of MCE Membership Analysis: For this task, MRW reviewed the analysis provided by MCE and assessed:

- Reasonableness of assumptions and approaches used in the analysis;

- Appropriateness of the analysis undertaken;
- Reasonableness and completeness of the conclusions from the analysis including the revenue surplus predicted if Benicia joins; and
- The organizational capacity, stability, and long-term viability of MCE as a business organization, considering its guiding documents and financial statement, including but not limited to:
    - Earnings expectations and assumptions of customer base;
    - Ability to maintain its net metering credit payout program; and
    - Investments, debt, and reserve goals and strategies.

In addition, attached to this report as Appendix 2 is a supplement prepared by Sage Renewables addressing the impact of changing electric energy service providers from PG&E to MCE for the ten City electricity accounts that have solar PV systems currently installed.

Appendix 1 summarizes MRW's and Sage Renewables qualifications related to this assignment.

It is important to note that this report cannot attempt to evaluate or quantify all possible benefits and risks to all possible Benicia stakeholders (e.g., residential customers, businesses, municipal accounts) or all associated benefits and risks of remaining on PG&E service. The perspectives of all that might be impacted are too diverse and unforeseeable events can occur. As such, the assessment must be viewed as being only one part of the assessment of participation by Benicia in MCE.

One additional point must be stressed: If Benicia decides to join MCE, the City is merely providing its citizens and businesses with *the opportunity* to take service from MCE: customers have the ability to opt-out from MCE and to remain customers of PG&E. However, customers must take conscious action to remain with PG&E; if they do nothing, they will become customers of MCE. MCE is required, by law, to provide at two notices prior to starting service (post-cards, flyers, etc.) to all potential MCE customers informing them of this opt-out option. After MCE begins service, customers' bills will clearly identify MCE as their power provider. Again by law, customers then have an additional 60 days to opt-out with no consequences. Once a CCA is in place, new electric customers starting service in the CCA's area are automatically enrolled in MCE service. Both PG&E and MCE notify the new customer that they are automatically an MCE customer, and informed that that have 60 days to opt-out of MCE service. Customers may opt out after 60 days of MCE service, but are subject to an MCE charge of $5 (residential) or $25 (non-residential) and cannot return to MCE service for one year.

Even with the opt-out notices, it is likely that some citizens or businesses would become MCE customers effectively without their knowledge or consent. This could be a problem for Benicia's policymakers if the potential benefits and risks of participation in MCE are not consistent with the risk preferences and other goals of the citizens and businesses that become MCE customers by default.

2. Benefits of Participation in MCE

Since its inception, and even prior to delivering its first kilowatt-hour, MEA and then MCE has outlined the benefits it sees to its members of joining MCE and taking service from MCE. This section reiterates and comments upon these benefits.

Some of the primary benefits potentially offered by MCE to Benicia include:

Greater levels of power supply from renewable energy sources than offered by PG&E at competitive costs. It is clear that MCE's policy and supply portfolio is designed to, and will likely achieve, greater renewable penetration than is projected to be achieved by PG&E. It will likely be able to do so at costs comparable to, or less than, PG&E. Currently PG&E does not offer an equivalent "deep green" option. However, it has proposed a Green Option program that would provide 100% renewable power to customers. That program has not been approved by the CPUC and the proposed participation fee will likely be higher than MCE's rates for 100% renewable electricity.

Competition between electric service providers will lead to more competitive rates and prices for Benicia residents and businesses. In theory, competition among suppliers will reduce prices to consumers and offer a wider variety of products in the marketplace. MCE, through its light-green and dark-green products, clearly is providing customers greater choice, but it is uncertain whether it will necessarily result in more competitive rates.

Reduced greenhouse gas emissions as a result of participation in MCE. Again, it is clear that MCE's policy and supply portfolio is designed to, and will likely achieve, a net reduction in greenhouse gas (GHG) emissions associated with electricity supply to its customers. This is because the average GHG emissions from the CCA would 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). However, because PG&E has large amounts of carbon-free (but not necessarily "renewable" according to the Renewable Portfolio Standard (RPS)) generation (large hydroelectric dams and the Diablo Canyon nuclear plant), PG&E's *average* GHG emissions rate may at times be lower than MCE's average emissions, even if MCE has more qualifying "renewable" generation. Even so, as long as fossil fuel is on PG&E's generation margin, which it will be for the foreseeable future, MCE's policies would result in reduced GHG emissions.

Provision of more robust incentives to businesses and residents to sell power back to MCE and thus stimulate the local economy. Both PG&E and MCE offer net energy metering and feed-in-tariffs for small renewables generators. However, the rates paid by MCE to small renewables generators through its feed-in-tariff are greater than those offered by PG&E, and its net energy metering program is less restrictive. To the extent that MCE can maintain this price advantage over PG&E, and do so with lower transaction costs (i.e., fewer "hoops" to jump through), incremental local renewable development should occur, providing local economic stimulus.

Attraction of more green businesses to locate in Benicia and thus increase business-related revenues to the City and create jobs for residents, and the creation of more employment opportunities for Benicia residents and contractors through the CCA power procurement contracts. To the extent that MCE has local purchase preferences and green businesses are attracted to MCE's offerings, incremental economic development in Benicia may occur.

Greater local control over power supply decisions and rate setting. Given that its policies are set by MCE's Board of Directors, MCE would offer greater local control of procurement and rate-making decisions. This is in contrast to PG&E, which not only has a very large service area beyond the general Bay Area but also must comport to specific procurement orders from the CPUC. While the CPUC has some legislatively directed authority over MCE, such as setting resource adequacy or renewable standards applicable to all utilities and CCAs, the CPUC cannot dictate to MCE which power resources it can or cannot use or how to set rates. Furthermore, MCE offers more local control of the energy efficiency and distributed generation (i.e., rooftop solar) programs and policies that its member cities' residents and businesses can participate in. This can be seen, for instance, in MCE's more favorable net energy metering policies. On the other hand, since Benicia would only have a single vote on the MCE Board, it might find that the interests of the City and its residents and businesses are not always well served by Board decisions, especially in cases where Benicia's interests do not align with those of the other MCE members.

3. Risks of Participation

This section presents MRW's assessment of the major risks facing customer groups and the City as a result of participation in MCE. It then examines potential risks faced by City residents if the City joins MCE. It concludes by examining potential risks to the City itself if the City were to join MCE.

The following table summarizes the risks discussed in the following sections. The table categorizes the risks based on the type of risk (e.g., volume, procurement, customer costs), the entity that bears the risk (e.g., citizens or the City) as well as the relative importance of the risk in terms of the impact that it might have on customer costs or viability of the CCA.

Table 1 Risk Summary

Description of Risk	Magnitude or Importance of Risk
Procurement Risks	
Volume Risk: Uncertainty in load can cause under- or over-procurement	Medium
Future Price Risk: MCE cannot procure power for incremental customers at competitive costs	Medium
Expansion of CCA: Can current contract accommodate all new customers?	low
SENA Contract Expiration: MCE cannot procure power at competitive prices at end of current agreement	High
Regulatory and Policy Risks	
Adverse CPUC Decisions: Exit Fees and bonding costs may be higher than expected	Medium
MCE's lack of low-income ratepayer policy	Low
Benicia's interests may not always align with that of other JPA members	Medium
Customer Cost Risks	
PG&E Exit Fees: Who bears risk of changes in exit fees?	High
Uncertainty in Departing Load Fees: How much must customers pay to exit CCA after opt-out period ends?	Low
MCE Pricing Commitment: Will MCE meet or beat PG&E's rates?	High
MCE Pricing Commitment: Will MCE guarantee CARE customers won't pay more with MCE than they would have with PG&E?	High
City-Specific Risks	
Supplier Guarantees: City must provide guarantees to power suppliers	Low
New Generation Guarantees: City must provide support to obtain financing for new generation	Low
Financial liability if MCE fails	Low

3.1 Procurement-Related Risks

In late 2011, MRW provided an assessment of risks to the City of Richmond related to participation in MCE. At that time, MRW identified a number of risks that existed in the agreements and policies of MCE. Since then, MCE has extended its power supply agreement with Shell Energy North America (SENA), entered into numerous PPAs with renewable generating facilities to procure power to satisfy its customer load base, established a Feed-In

Tariff program to purchase power from small renewable generators located in the MCE service area, and begun to establish processes and procedures for resource acquisition after the end of the SENA agreement.[1] This section discusses the status of the major risks that MRW identified in its review for the City or Richmond (although not all are relevant anymore).

3.1.1 Background on MCE's Power Procurement Program

MCE is responsible for procuring sufficient electrical energy, capacity, ancillary services and transmission rights to meet its customers' needs. When MCE began serving customers, MCE outsourced most of these services to SENA under a 5-year agreement. Under that agreement, SENA would provide energy, capacity, ancillary services, scheduling coordination services, and other services to allow MCE to meet its customers' needs and to comply with requirements associated with the State's Renewable Portfolio Standard, the CPUC's Resource Adequacy requirements, the California Independent System Operator's (CAISO's) scheduling requirements, and other requirements. The specific agreement with SENA consisted of an overarching form agreement and a set of "confirmations" that specified the key provisions of the agreement (e.g., price of products, quantities, obligations for under- or over-procurement). The agreement was flexible in that it allowed MCE to substitute its own resources (e.g., power purchased from parties other than SENA) for products formerly purchased from SENA.

MCE's initial rollout consisted of serving a small subset of MCE's customers. After this "Phase 1," MCE expanded the number of customers being served in Marin (i.e., Phase 2a), which was also a small expansion of the load being served by MCE. With the final expansion of MCE's first set of customers (i.e., Phase 2b), MCE was serving all customers in its service territory that had not opted out. It is important to note that Phase 2b did NOT include the expansion to serve City of Richmond. With each expansion, MCE and SENA negotiated amended confirmations to its initial agreement.

Since it started serving customers, MCE has been evaluating different power supply options (consistent with its agreement with SENA). At the present time, MCE has purchase agreements with 23 different entities. These different entities provide a variety of services (e.g., renewable or non-renewable energy, capacity, renewable energy certificates[2]). Some of these arrangements are short-term (e.g., one year) and others are long-term (e.g., more than 10 years). These agreements are discussed in MCE's latest Integrated Resource Plan.[3]

[1] MCE entered into a second amended and restated confirmation with SENA on February 2, 2012. This amended and restated confirmation extended the term of SENA's energy supply obligation and scheduling coordination agreement through the end of 2017. At the same time, MCE entered into a confirmation with SENA to provide capacity through December 31, 2015. Although not mentioned in the Board package, it appears that SENA provides renewable energy through 2016 to MCE under the same confirmations. The purpose of the amended and restated confirmation for energy and scheduling coordination services appears to be to lock in low non-renewable prices through the end of 2017. It is not clear why the capacity confirmation was not extended except that it appears that MCE wanted to have separate agreements for these two services, which is consistent with industry practices. To see the source documents, click on this link.

[2] Renewable energy certificates (RECs) represent the renewable attribute associated with renewable generation. As part of meeting its RPS requirements, MCE is required to "retire" RECs. Once a REC is retired, it cannot be used again to meet RPS obligations.

[3] MCE Integrated Resource Plan, November 7, 2013, pp. 10-12.

3.1.2 Uncertainty in Amount of Power to Procure

Based on the draft confirmation approved by the MEA Board in February 2012, SENA provides full non-renewable requirements to MCE.[4] In addition, SENA provides a pre-specified quantity of renewable energy to MCE.[5] Thus, MCE had to specify the quantity of renewable energy that it would receive from the supplier. In order to ensure that it received adequate renewable energy to meet its obligations, MCE either had to establish some other mechanism whereby its renewable energy requirement would be met or be willing to have SENA purchase renewable energy on a short-term basis and face price uncertainty associated with those incremental renewable purchases. This was a concern because in the event that MCE over-procures, it has to resell its excess supplies into the market (at unknown prices) and could face significant costs (or gains) from those sales. On the other hand, if MCE under-procures, then it needs to purchase power in the future at unknown rates, which could be higher (or lower) than the fixed prices specified in its Agreement when originally signed.

MCE's average retention rate since its initial customer enrollments has been 77%.[6] However, MCE's customer retention rate has increased with the last phase of its rollout to the City of Richmond (about 85%).[7] MCE notes that once a new set of customers is enrolled, the customer base shows considerable stability. Thus, the largest uncertainty regarding participation levels appears to be linked to opt-outs during the initial enrollment period.

While there is still significant uncertainty associated with customer opt-outs[8], this uncertainty may not be as much of a risk to MCE as it was in the past. This is because the renewable portion of the SENA contract, which required specific levels of renewable purchases, is ending at the end of 2015. While MCE might enter into another agreement with SENA or another supplier, MCE notes that it is "continuing a transition from the initial full requirements contract that was used to launch MCE" and that MCE "has put into place a robust renewable energy buying program that now supplies the majority of the MCE renewable energy supplies," and that MCE "is similarly developing an independent buying program for non-renewable energy and capacity."[9] While this program is not in place for non-renewable resources as yet, MCE appears intent on developing this capability, which might give MCE somewhat more flexibility to manage opt-out risk.[10]

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[4] A "full requirements" contract obligates the seller to meet all requirements of the buyer. In the case of SENA's agreement with MCE, it appears that the full requirements obligation is for non-renewable energy. There is likely a price specified for the power supplied under this agreement. However, it is not possible to be certain about this since the key attachments to the confirmations were not included in the Board package.

[5] The quantity is redacted from the draft agreement.

[6] MCE Integrated Resource Plan, November 7, 2013, p. 7.

[7] *Ibid*.

[8] When MCE first started operations, it had assumed a 25% opt-out rate but found that its opt-out rate was actually 20%. The last tranche of customers from Richmond had an opt-out rate of 15%. Thus, while the percentage of opt-outs is decreasing, MCE is still being conservative in its assessment of opt-outs, which means that it could be over-procuring power.

[9] MCE Integrated Resource Plan, November 7, 2013, pp. 7-8.

[10] Under a full requirements agreement, MCE likely has to specify a quantity of energy that it wants to procure and a price for that energy. If its loads are higher than expected, then the supplier (e.g., SENA) would procure power on behalf of MCE and MCE would be obligated to pay market price for that extra power. Similarly, if loads are less than expected, then SENA would have to sell MCE's excess energy and MCE would be a risk for the difference between the contract price and the market price. If MCE were to have its own buying program, then MCE would likely have more flexibility to determine how much or little of its power supply it would need to hedge (i.e., how

3.1.3 MCE's Current Power Supply Agreement May Not be Able to Accommodate the City's (or Other Cities') Loads at Comparable Prices

As specified in the renegotiated contract between MCE and its power supplier (SENA), the power supplier has an obligation to serve all of MCE's non-renewable power requirements services. However, the agreement only specifies a fixed quantity of renewable energy that the power supplier must provide. Thus, there is some uncertainty as to the pricing of power for MCE if it is successful in recruiting Benicia and other cities or counties (such as El Cerrito or Albany) because the confirmation that was signed in 2012 did not anticipate MCE's expansion to other cities or counties.[11] This has not proven to be a problem for MCE, since it has procured a significant amount of renewable energy outside of the agreement with SENA.[12] In fact, MCE's most recent amended and restated confirmation with SENA is supposed to have renewable prices that are much lower than the original confirmation.

3.1.4 Term of Power Supply Agreement

The MCE agreement with SENA for non-renewable and renewable energy has been extended until 2017 and 2016, respectively. As discussed above, it does not appear that MCE plans to enter into another full requirements arrangement with a power supplier after the end of the SENA agreement. Whether or not MCE enters into another agreement with SENA or another full requirements supplier, there is still some uncertainty over the price of power that MCE will pay to supply its customers after 2017, since MCE's "Net Open"[13] position goes from 56 GWh in 2017 to 1,001 GWh in 2018 (i.e., from total energy contract coverage of 96% in 2017 to 19% in 2018).[14] If other cities or counties join MCE, then the Net Open position will be even larger in 2018. The pricing of the power needed to cover this Net Open position is unknown. Thus, there is some uncertainty regarding the ability of MCE to "meet or beat" PG&E's price when it is time to renew the MCE power purchase agreement (PPA). This is because the price for market-based non-renewable energy (which is what MCE will be purchasing to satisfy its Net Open position) is highly dependent on volatile natural gas prices. PG&E's power supply portfolio has a significant amount of generation that is not linked to natural gas prices (e.g., its hydroelectric system and its nuclear generation).

3.1.5 Approach for Providing "Green" Power

MCE uses a variety of approaches for providing a power supply that has a lower carbon footprint than PG&E. It purchases physical certified renewable power (that helps MCE meet its RPS

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much of its supply would have fixed price). Unlike with a full requirements agreement, this quantity could change over time as market conditions evolve.

[11] The confirmation was amended in February of 2012 explicitly to serve Phase 2b of MCE's load. This was several months before Richmond requested to join MCE. Thus, it is clear that the 2012 amended and restated confirmations did not anticipate the expansion of MCE.

[12] In MCE's 2013 Integrated Resource Plan, MCE had a total of 282 GWh of renewable resources, of which a total of 175 GWh were attributable to SENA. The remainder of MCE's renewables in 2013 (i.e., 107 GWh) were attributable to agreements entered into outside of the SENA agreement. By 2015, MCE projects that SENA will supply only 140 GWh out of MCE's total renewable requirements of 307 GWh.

[13] The "Net Open" position is the difference between the expected load and the amount of energy that is either under contract or to be generated by MCE. Thus, a small Net Open position means that almost all of the expected load will be served by existing agreements. Conversely, a large Net Open position means that MCE does not currently have agreements in place to serve much of its expected load.

[14] MCE Integrated Resource Plan, November 7, 2013, Appendix A, p. 23.

obligations), it purchases carbon-free power (e.g., power from large hydroelectric facilities that is not eligible to meet MCE's RPS requirements), and unbundled renewable energy certificates (RECs), which may or may not help MCE meet its RPS obligation in the long-run. This approach is reasonable. However, customers should be aware that purchasing RECs to "supply" renewable energy is not exactly the same as purchasing physical renewable energy. When MCE purchases RECs, it also must obtain "null energy," which is typically not renewable. There is nothing unusual about this approach but Benicia may wish to make this distinction clear.[15]

3.2 Regulatory and Policy Risks

This section addresses two areas. First, there are the risks to the CCA and its customers of changes in State policies, in particular the regulatory decisions made at the California Public Utilities Commission (CPUC). Second, there are the risks to the JPA member cities and their residents and businesses associated with MCE policies. We raise this second risk area because while all JPA member cities have a voice on the MCE Board, no single city can control policy. Thus, given Benicia's differing demographic, economic and business composition relative to Marin County, Benicia's needs and policy preferences might not be fully addressed in MCE Board decisions.

3.2.1 Departing Load Fee

MCE has entered into a number of long-term PPAs for renewables, and per its integrated resource plan, intends to enter into more PPAs in the next few years. Furthermore, to undertake any future construction programs, MCE will issue debt (as is typically the case for other utilities). MCE developing its own resources or entering into long-term PPAs means it would have fixed debt service obligations to pay for its renewable resources.

When MCE customers choose to leave MCE's service after the end of the opt-out period, then either the departing customers must pay a fee to MCE or the electric rates for remaining customers could increase. MCE's current fee for returning back to PG&E service is $5 for residential customers and $25 for commercial customers. This fee would be only applicable to customers who did not opt out during the four month opt-out window and then subsequently, at some later date, chose to take electric service from someone other than MCE.[16]

The current fee covers MCE's administrative costs to return the customer to PG&E service. In the future this could include fixed MCE costs that otherwise would have to be borne by the remaining MCE customers. (PG&E's exit fee charged to CCA customers covers such costs).

3.2.2 CCA Bonding Obligation

Pursuant to CPUC Decision 05-12-041, a new CCA must include in its registration packet evidence of insurance or bond that will cover such costs as potential re-entry fees, i.e., the cost to PG&E if the CCA were to suddenly fail and be forced to return all its customers back to PG&E

[15] RECs are essentially an accounting mechanism. They can either be combined with physical generation (i.e., Bundled RECs) or can be separated from the physical power and used for RPS compliance (i.e., Unbundled RECs). Under California's RPS law, MCE can only use a limited number of Unbundled RECs for RPS compliance. However, there is no limitation on the use of Unbundled RECs for other purposes (e.g., to "green" non-renewable power).

[16] Also note that if an MCE customer returns to PG&E service after the end of the opt-out period, that customer would not continue to pay Exit Fees to PG&E; they would only have to pay Departing Load Fees to MCE.

bundled service. Currently, a bond amount for CCAs is set at $100,000, which has already been met by MCE.

This $100,000 is an interim amount. In 2009, a Settlement was reached in CPUC Docket 03-10-003 between the three major California electric utilities (including PG&E), two potential CCAs (San Joaquin Valley Power Authority and the City of Victorville) and The Utility Reform Network (TURN) concerning how a bonding amount would be calculated. The settlement was vigorously opposed by MCE and San Francisco, and never adopted.

Since then, the issue of CCA bond requirements has not been revisited by the CPUC. If it is, the bonding requirement will likely follow that set for Energy Service Providers (ESPs) serving direct access customers. This ESP bond amount covers PG&E's administrative cost to reintegrate a failed ESP's customers back into bundled service, plus any positive difference between market-based costs for PG&E to serve the unexpected load and PG&E's retail generation rates. Since the ESP bonding requirement has been in place, retail rates have always exceeded wholesale market prices, and thus the ESP's bond requirement has been simply the modest administrative costs.

If the ESP bond protocol is adopted for CCAs, during normal conditions, the CCA Bond amount will not be a concern. However, during a wholesale market price spike, the MCE's bond amount could potentially increase to millions of dollars. But the high bond amount would likely be only short term, until more stable market conditions prevailed. Also it is important to note that high power prices (that would cause a high bond requirement) would also depress PG&E's exit fee and would also raise PG&E rates, which would in turn likely provide MCE sufficient headroom to handle the higher bonding requirement and keep its customers' overall costs competitive with what they would have paid had they remained with PG&E. Per Section 3.4, MCE JPA member entities would not be individually liable for any increase in the bond amount.

3.2.3 Meaning of MCE's Commitment to "Meet or Beat" PG&E Rates

MCE has stated that one of the benefits for customers is "Costs at or below PG&E."[17] In discussions with MRW, MCE has clarified that this is based on the *projected* overall costs of MCE versus forecast of PG&E's tariffed generation rate. In other words, the following inequality must occur for MCE to sign the Agreements:

MCE Power Supply Costs + Customer Exit Fees + MCE Overhead $\leq$ PG&E Gen Rate[18]

At current rates, the total MCE cost of service (including the exit fees) is less than the PG&E generation rate. However, as discussed later, this has not always been the case, nor is it guaranteed to be so in the future.

3.2.4 CARE (Low-Income) Rate Policies

To protect low-income households against escalating electricity bills, the CPUC froze rates for the California Alternate Rates for Energy (CARE) program at July 2001 levels. Currently the effective CARE discounts now range from 35% in the lowest residential rate tier up to 52% in Tier 3. While ongoing Commission action is moving to adjust its rate design to narrow this gap,

[17] E.g., MEA presentation, October 2009, p. 12.
[18] MEA Power Supply Costs, Customer Exit Fees, MEA Overheads, and PG&E Gen Rate are all forecasted values in early February 2010.

CARE customers will continue to receive significant discounts relative to other residential customers.

The CARE discounts are administered through the "Conservation Incentive Adjustment"(CIA) element of PG&E's residential tariffs. The CIA rate element is paid by all residential customers in PG&E's service area, no matter if PG&E or MCE provides their power. This means that the absolute discount amount (in ¢/kWh) is independent of whether the customer is served by MCE or PG&E. However, if MCE's residential generation rate plus the exit fee[19] rate is greater than PG&E's generation rate, the CARE customer on MCE could end up paying slightly more than they would had they taken service from PG&E. MCE can address this issue by either recouping any incremental amount from its remaining customers or use any cash reserves to ensure that CARE customers pay no more than they would have under PG&E service.

Additional CARE issues this from the customer perspective are discussed in Section 3.3.3.

3.2.5 Timing and Rates for Customers Taking Service in Later Phases of MCE's Development

MCE initially procured power for its 8,000 Phase I customers in May 2010. It has since successfully added three additional blocks of customers: 5,000 Marin County accounts were added in August, 2011; the remainder of the Marin County accounts (32,650)in July 2012, and the City of Richmond (74,000 accounts) in July 2013. This experience demonstrates that MCE can expand its customer base without adverse impacts.

Furthermore, per Board Policy 007, MCE will not accept additional memberships unless it results in lower rates for the current members. This would preclude MCE from adding members at power prices higher than its existing power cost. What this means is that the risk of higher rates from additional members is very low, but that the timing of additions is more uncertain: if a community desires to join MCE but the prevailing power markets do not allow for it to do so at a net benefit for the current MCE members, it cannot do so until power market conditions change.

3.2.6 Planned For And Existing MCE Service Expansions

In July 2013, the City of Richmond became the first municipality outside of Marin County to receive power from MCE. MCE will further expand its program to municipalities outside of Marin County in the near future, with plans to begin delivering power to Napa County in February 2015, and the City of San Pablo in May 2015. Presently, several other municipalities outside of Marin County are also considering membership in MCE. Like the City of Benicia, the City of El Cerrito has also taken formal steps to consider joining MCE's service territory in 2015.[20] The City of Albany has also taken formal steps to join MCE, and was approved to begin the membership analysis process by the MCE Board at the same time as Napa County in February of 2014.[21] However, Albany postponed its efforts to join MCE due to the possibility

[19] In PG&E's Tariff the Exit Fee is the Power Charge Indifference Amount (PCIA).
[20] Comments of Marin Clean Energy Regarding California Compliance Plan for U.S. EPA Proposed Carbon Pollution Emissions Guidelines, Marin Clean Energy, September 23, 2014, p. 2.
[21] Board of Directors Meeting Agenda, Marin Clean Energy, February 2014, p. 8.

that the county in which it resides, Alameda County, may vote to form its own CCA program, described in greater detail in the sections below.[22]

Presently, two municipalities have publicly revealed that they are in the preliminary stages of considering membership in MCE. San Mateo County, for example, has requested information from MCE on how to join Marin's program, but has not yet passed local legislation to further explore membership.[23] The City of Arcata has also expressed the possibility of joining MCE,[24] as an alternative to Humboldt County's Redwood Coast Energy Authority's potential CCA program.[25]

Municipalities That Have Decided Against Joining MCE. In recent years, the City of Berkeley and the City and County of San Francisco (CCSF), have each considered joining MCE but ultimately decided against it.

Berkeley considered enrolling in MCE after it failed to succeed in forming a CCA with Oakland and Emeryville. Efforts to form a program to include these three cities culminated in September 2008, with the publication of a business plan outlining the proposed CCA.[26] In November of 2008, the Emeryville City Council voted to terminate further CCA activities due to the high costs associated with program planning and the lack of City funds to pay for it.[27] Oakland and Berkeley Staff also recommended that their respective city councils reject further efforts to form a CCA, due to concerns regarding higher customer costs, and payment and credit guarantees for the formation of a new agency.[28] Despite Staff's recommendations, however, Berkeley and Oakland continued with the next phase of CCA studies, with the Berkeley Energy Commission (BEC) completing a study in June 2010 to inform the Berkeley City Council on the potential benefits and risks of a joint CCA between the two cities.[29] The report concluded that the CCA would face potential challenges maintaining rate parity with PG&E if attempting to offer customers electricity with a greater share of renewable generation. Increased rates may lead customers to opt-out of a CCA, making it difficult for the City to recoup its share of pre-implementation expenditures and start-up costs, ranging from $200,000 to $3.3 million. BEC found that risk associated with start-up costs would be minimal to the City if the CCA was able to retain most of its customers in the first five years.[30] Overall, however, the report noted that it was difficult to determine the extent of rate parity and financial risks in practice, because at the time of publication, MCE had just started delivering power. The report did cite MCE's success in securing a contract with SENA to supply more renewable electricity at rates equal to PG&E in its

[22] *Ibid*.
[23] Board of Directors Meeting Agenda, Marin Clean Energy, July 3, 2014, p. 16.
[24] Memorandum re: Update on Community Choice Aggregation, Arcata City Council, December 19, 2013.
[25] Comprehensive Action Plan for Energy, Humboldt County, September 2012, p. 11.
[26] East Bay Cities Community Choice Aggregation Business Plan, Prepared by Navigant Consulting, Inc., September 2008.
[27] Progress Report – December 2008, Memorandum to Mayor and City Council from City of Emeryville City Manager Patrick D. O'Keeffe, December 2008, p. 1.
[28] Memo to Berkeley Energy Commission from City of Berkeley Secretary, October 22, 2008; and Memo to Oakland Office of the City Administrator from the Public Works Agency, December 16, 2008.
[29] Potential Benefits and Risks of Implementing Community Choice Energy, City of Berkeley Energy Commission, June 28, 2010.
[30] Potential Benefits and Risks of Implementing Community Choice Energy, City of Berkeley Energy Commission, June 28, 2010, pp. 3-4.

first year of operation as an early indication that such practice was possible among CCAs.[31] The report stated that overall, the greatest financial risks of a CCA would be related to securing the debt necessary for the construction of CCA-owned electricity generation facilities.[32] Efforts for a CCA in Oakland quickly extinguished due to city council issues associated with the Great Recession taking precedent over CCA formation.[33]

Berkeley continued to consider CCA, with the City Council passing a resolution in January 2012 demonstrating Berkeley's intent to explore CCA with MCE, and East Bay Municipal Utility District (EBMUD), which provides water and/or wastewater services to several East Bay cities.[34] However, in December 2012, the EBMUD Board of Directors voted to discontinue further exploration of a CCA, due to concerns regarding EBMUD's fiscal health, credit rating, and financial reserves.[35] After EBMUD decided not to pursue CCA, Berkeley postponed efforts to join MCE or form its own program.

In February 2014 at the request of the Alameda County Board of Supervisors, the Berkeley and Oakland climate action coalitions prepared a CCA feasibility study for Alameda County.[36] In June 2014, the Alameda County Board of Supervisors approved funding ($1.3 million) for a technical study on CCA program development.[37] If Alameda County continues to pursue a CCA, Berkeley, Oakland, and Emeryville would be among the cities that would be serviced by the program.

CCSF also considered joining MCE after it initially failed to form its own CCA program. Efforts to form a San Francisco CCA began in June 2007, when the CCSF Board of Supervisors passed an ordinance adopting a CCA program, Revenue Bond Plan, and Draft Implementation Plan.[38] In December 2011, the San Francisco Public Utilities Commission (SFPUC), the agency administering the City's CCA program, CleanPowerSF, approved a PPA between CleanPowerSF and SENA to provide the program's customers with renewable energy for over 4.5 years.[39] However, at a voting meeting held in August 2013, the SFPUC voted 3-2 against approving CleanPowerSF's proposed not-to-exceed customer rates, due to their high cost.[40] In response to the SFPUC's denial of the program's not-to-exceed rates, SFPUC President Art Torres, with Commissioners Courtney and Caen, commented that CleanPowerSF was not as environmentally friendly as it could be and that there remained unresolved labor issues. He encouraged the City to explore alternatives to the program.[41]

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[31] Potential Benefits and Risks of Implementing Community Choice Energy, City of Berkeley Energy Commission, June 28, 2010, p. 26.
[32] Potential Benefits and Risks of Implementing Community Choice Energy, City of Berkeley Energy Commission, June 28, 2010, pp. 3-4.
[33] BondGraham, Darwin, When Will We Go Green?, *East Bay Express*, May 30, 2012.
[34] Resolution No. 65,586-N.S., Berkeley City Council, January 12, 2012.
[35] Meeting Minutes, EBMUD, December 11, 2012.
[36] East Bay Community Choice Energy, Berkeley Climate Action Coalition, Community Choice Working Group, Oakland Climate Action Coalition, and Clean Energy & Jobs Oakland Campaign, February 2014.
[37] Board of Directors Meeting Agenda, Marin Clean Energy, July 3, 2014, p. 16.
[38] Ordinance No. 07-0501, City and County of San Francisco Board of Supervisors, June 12, 2007.
[39] CleanPowerSF Not-to-Exceed Electric Generation Rates Staff Report and Resolution, SFPUC, August 13, 2013.
[40] Riley, Neal J., "PUC fails to set rates for CleanPowerSF," *SFGate*, August 13, 2013,
[41] Ibid.

In April 2014 San Francisco Mayor Ed Lee, who had publicly opposed CleanPowerSF, released a draft budget in which he proposed to allocate the funds set aside by the SFPUC for the CCA to GoSolarSF, a separate program supported by Lee that provided incentives for property owners to install solar panels.[42] In May 2014 the CCSF Board of Supervisors approved an ordinance to study the feasibility of implementing a CCA program in San Francisco through joining MCE.[43] The ordinance was returned unsigned by Mayor Lee shortly thereafter.[44]

3.3 Potential Risks Faced by the City's Electric Consumers

As discussed above, there were and continue to be several risks that customers of MCE face. These are discussed below.

3.3.1 MCE May Be Unable to Procure Power for its Incremental Light Green Customers at Prices that Meet or Beat PG&E

In 2010, MCE successfully procured power for its Light Green customers at costs that allow those customers to have total energy bills that are less than they would have paid had they remained PG&E customers. However, at that time, PG&E's rate design for residential customers resulted in high usage customers having very high average electric rates. Thus, MCE was able to target the specific customers in its Phase I efforts that had very high rates. MCE has not been able to use this strategy since that first phase. PG&E rate design changes in 2011 resulted in a "flattening" of PG&E's generation rate for residential customers, meaning that high usage customers no longer pay higher—sometimes much higher—generation rates than low-usage residential customers. (Note that MCE essentially competes against PG&E's generation rate.) This risk is discussed in detail in Section 4.1, below.

3.3.2 Uncertainty in Exit Fees

Assembly Bill 117, which established the CCA program in California, included a provision that states that customers that remain with the utility should be "indifferent" to the departure of customers from utility service to CCA service. This has been broadly interpreted by the CPUC to mean that the departure of customers to CCA service cannot cause the rates of the remaining utility "bundled" customers to go up. In order to maintain bundled customer rates, the CPUC has instituted an exit fee, known as the "Power Charge Indifference Amount" or "PCIA" that is charged to all CCA customers. The PCIA is intended 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.

Even though there is an explicit formula for calculating the PCIA, forecasting the PCIA is difficult, since many of the key inputs to the calculation are not publically available, and the results are very sensitive to these key assumptions. For PG&E, the PCIA has varied widely; for example, at one time the PCIA was negative.

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[42] Lagos, Marisa, "SF board to consider deal on clean-energy plan," *SFGate*, June 12, 2014.
[43] Meeting Minutes, CCSF Board of Supervisors, May 20, 2014, p. 3.
[44] Legislation 140415, CCSF Board of Supervisors, May 29, 2014, available at: https://sfgov.legistar.com/LegislationDetail.aspx?ID=1736467&GUID=D4E08EB6-F58A-42AA-BA0D-DFE4756E26B5

MCE's current policy is that customers bear the financial risk associated with the level of exit fees they will pay to PG&E. Thus, for a customer taking MCE service to be economically better off (i.e., pay less for electricity), the sum of the MCE charges plus the PCIA must be lower than PG&E's generation rate. As noted above this has not consistently been the case for MCE residential customers.

MCE has intervened vigorously at the CPUC to minimize the size and scope of PG&E's exit fees. For example in 2009 is co-sponsored testimony in Rulemaking 07-05-025 which revised the PCIA to better account for renewable portfolio standard requirements. It has also petitioned the Commission to open a Rulemaking to reconsider all exit fees and participated the last two "ERRA" proceedings in which the annual exit fees are set. MRW expects MCE to continue to have an active presence at the CPUC, advocating for lower and more limited exit fees.

3.3.3 CARE Customer Issues

As mentioned in Section 3.2.4, current MCE policy does not ensure that CARE customers will not pay more under MCE than they would had they taken service from PG&E. The table below shows the generation rates offered by PG&E and MCE for a standard residential CARE customer. MCE's generation rate for residential customers (including those on CARE service) are 1.6¢/kWh less than PG&E's rates. However, MCE's rate does not include PCIA, a rate element that is applicable only to CCA customers. When adding in the PCIA, currently 1.1¢/kWh, the low-income customer taking service from MCE would still be paying a rate below that offered by PG&E. Thus, given current rates, low-income customers are better off with MCE. However, that has not always been the case. When MRW conducted an analogous analysis in 2011 for the City of Richmond, the rates in place at that time would have resulting in CARE customers (using 400 kWh per month) paying approximately $100 more per year on MCE service than on PG&E service. However by the time Richmond joined MCE in 2013, PG&E's generation rates were greater than MCE's rate plus exit fee, so the issue of CARE customers paying higher bills under MCE was made moot.

Given current rate trends, MRW expects CARE customers to pay less for power with MCE in 2015 than they would with PG&E. Nonetheless, given MCE's current policies, there is no guarantee this will be the case in all years.

Table 2. CARE Rate Comparison (current tariffs), ¢/kWh

	PG&E Schedule EL-1	MCE Schedule RES-1	Difference
Generation Rate	9.5	7.9	(1.6)
PCIA (Vintage 2014)	n/a	1.1	1.1
Total	9.5	9.0	(0.5)

Issue: Other Customers Subsidizing CARE Customers

If MCE changes its policy and decides to ensure that MCE's net CARE rate is no higher than PG&E's CARE rate, then in years when the MCE rate plus exit fee is greater than PG&E's generation rate, MCE would need either to marginally raise rates for the other MCE customers, or use its reserves to finance the MCE CARE customers. A question that would likely be raised would be, how willing are MCE's ratepayers in other jurisdictions to subsidize low-income customers in Benicia, and vice versa? MRW does not know the answer to this question but we believe that it could present a political and public relations challenge for Benicia officials as well as MCE.

3.3.4 Regulatory Changes Adversely Affect MCE Customers

Regulatory changes could make MCE's power costs uncompetitive with PG&E. As discussed elsewhere, the CPUC establishes exit fees that customers of MCE have to pay. Such decisions have occurred in the past (e.g., MCE and others advocated strongly in opposition to PG&E's effort to flatten its generation rate, but these efforts proved unsuccessful). Also, as discussed above, the CPUC could adopt bonding requirements that would significantly increase the cost of security bonds for MCE, which would also tend to undermine the ability of MCE to provide electricity to its customers at a rate that meets or beats PG&E's rates.

3.4 City's Potential Financial Obligations to MCE

The City, as a consumer of electricity, faces many of the risks discussed above. However, the City also may face other risks as a participant in MCE. This section discusses those potential risks.

3.4.1 Need for City to Provide Backstop Support to MCE Power Suppliers

When MCE was originally established, it needed to fund its startup activities. At that time, it had no customers and no credit rating. Thus, MCE had to borrow funds from third parties, including the County of Marin and a number of individuals. However, shortly after it began operations, MCE was able to acquire a line of credit from River Bank, which it used to consolidate its prior start-up loans. Given its successful debt management, increase in operating reserves, and ability to enter into PPAs without member backstop support (see Section 4.3), MRW does not foresee MCE needing to rely on the City's credit as a backstop future power supplies. Also, the JPA would insulate City's from having to use their credit in any transaction between MCE and a power supplier (see legal analysis prepared by Davis Wright Tremaine).

3.4.2 Lenders Requiring MCE Members to Provide Balance Sheet Guarantees for Generation Assets

During MRW's 2010 review of the risks associated with participation in (then) MEA it asked MEA staff about the potential risk of cities needing to (or being forced to) provide balance sheet support to allow construction of generation assets that are owned by MEA. At that time, MRW received assurances that such balance sheet support from MEA members would not be required. This was reiterated by Executive Director Weisz at the September 27, 2010 Novato City Council meeting, where she went on to explain that the JPA structure itself protects the JPA's members from debts incurred by the JPA.

In general, this is a legal issue and is beyond the scope of MRW's assessment. However, MRW notes that the Town of Ross's city attorney, Hadden Roth, investigated Ross's liability should it join MCE. His conclusions were:

> …that the Town's general fund will not be responsible for any financial obligations of MEA unless the Ross Town Council first specifically agrees in writing to assume the liability. This protection is provided under both the JPA agreement and State law.[45]

Therefore, MRW understands that no liability could be placed on Benicia simply by being a member of the JPA. This is consistent with the legal analysis prepared by Davis Wright Tremaine for the City of Benicia.

3.4.3 Contingency for Dissoving MCE

Chapter 11 of MCE's Revised Implementation Plan outlines a contingency for program termination. In general, MCE cannot terminate service without a majority of the Member' governing bodies (e.g., boards of supervisors or city councils) explicitly passing an ordinance or resolution to terminate MCE. The MCE Board would then vote on termination (based on the weighted voting shares described above). If the MCE Board approved termination, the Board would disband per the provisions in the JPA agreement.

If possible, MCE would provide PG&E and the CPUC one year notice that it was intending to cease service and return its customers to PG&E. Customers would receive notice six months and sixty days prior to being returned to PG&E service.

In the event of an unplanned collapse of MCE, all its customers would return to PG&E with no break in service. I.e., customers are at no risk of not having electricity due to the failure of MCE. Furthermore, consistent with the discussion in Sections 3.4.3 and 3.4.3 above, neither Benicia nor any other MCE member would be liable for any debts MCE might have upon its unexpected demise.

3.4.4 Impacts on Utility Franchise Fee and Tax Collections and Remittances

PG&E's Electric Rule 23, Section B.16 explicitly states that "CCA customers shall continue to be responsible to pay all applicable fees, surcharges and taxes as authorized by law. PG&E shall bill customers for franchise fees as set forth in Public Utilities Code Sections 6350 to 6354."

Franchise fees are payments that a public utility makes to a city of county government for the nonexclusive right to install and maintain equipment on the government's right of ways. For PG&E, this includes the right to install and maintain equipment such as power poles on city sidewalks or gas pipelines underneath city streets. Franchise fees are generally calculated as a fraction of retail sales, typically on the order of a few percent.

Since PG&E's retail sales to CCA customers does not include the generation component of rates, a special adjustment must be made to ensure that a city participating in a CCA receives its fully due franchise fees. For PG&E, this is accomplished through Electric Schedule E-FFS. This

[45] Minutes to the Special Meeting Of The Ross Town Council, January 12, 2010.

schedule adds 0.06-0.07¢/kWh, which is the equivalent Franchise Fee amount of the value of the power being provided by a CCA such as MCE. Thus, Benicia will receive the same amount of franchise fees under MCE service than it would under PG&E service.

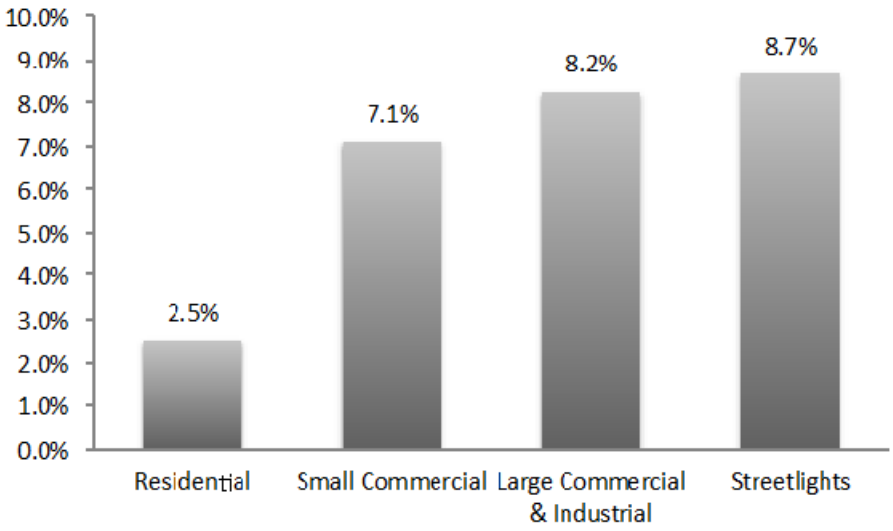
On behalf of the City, PG&E also collects a utility users tax equal to 4% of the PG&E bill, which PG&E remits directly to Benicia. Because PG&E would remain responsible for billing customers under MCE service, it would remain the responsible party for collecting and remitting Benicia's utility users taxes. This is the case for Richmond, where PG&E continues to calculate, charge customers and remit that city's utility users tax. To the extent that MCE customers' total bills are different than they would be under PG&E service, the utility users tax would also be different. For example, MCE estimated that based on current rates, Benicia's residents and businesses would save $1.6 million per year with MCE service. This would translate into a reduction in the utility users tax of $64,000. However this would be partially offset by an estimated annual savings of $42,000 from municipal electric accounts being served by the lower-cost MCE.

A potential second order financial impact on the City would be changes to its property tax revenues. Given MCE's commitment to net energy metered solar, renewable purchase from its Feed-In Tariff and locally-sourced power, MCE membership is more likely to increase property tax revenues (by increasing the tax base) than not.

4. Review of MCE Rate Comparison and Applicant Analyses

The MCE rate comparison spreadsheet analysis developed by MCE for the City estimates savings of $1.6 million for Benicia customers from joining the CCA. This amounts to 6.5% savings off the generation portion of Benicia customers' PG&E bills, with much higher levels of savings for non-residential customers (8%) than for residential customers (1.5%). Based on this analysis, nearly all customer types would be expected to benefit from joining the CCA,[46] with the largest direct benefiters being Benicia businesses, industries, and municipal accounts (Figure 1). MRW reviewed the key assumptions and methodology used in the rate comparison analysis to evaluate the reasonableness of these benefit projections.

Figure 1: Rate Savings under MCE Analysis, by Customer Class[47]



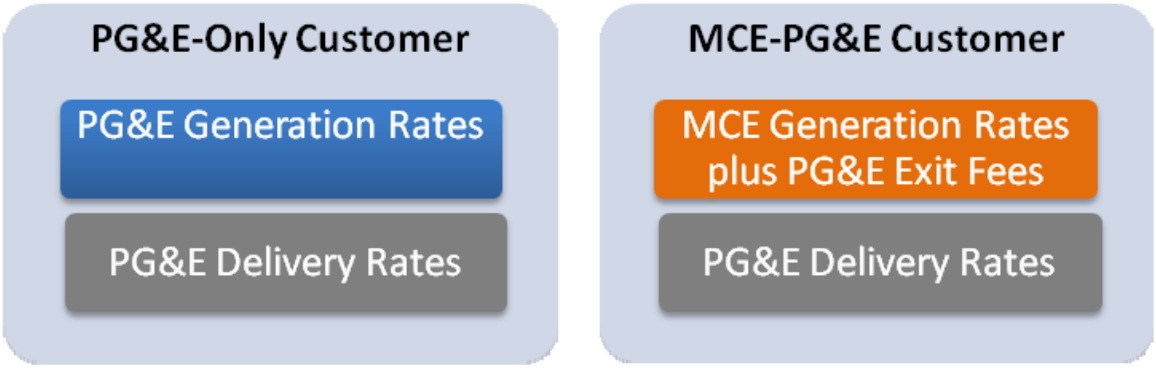
MRW additionally reviewed the MCE Applicant Analysis, dated August 29, 2014. The primary purpose of the analysis is to assess whether Benicia's membership in MCE would reduce rates for existing MCE members, as is required for membership eligibility. The analysis for the City of Benicia does make this determination, finding that the added customer base from Benicia would likely reduce MCE rates by 3%. MRW reviewed this analysis to evaluate the likelihood of such rate reductions and implications for the rate comparison analysis.

[46] Only the traffic control accounts were found to have higher rates under the CCA.
[47] Savings percentages are with respect to the generation portion of the electric bill only.

4.1 MCE Rate Comparison Analysis

MCE customers are all joint customers of both PG&E and MCE, with PG&E providing delivery services at the same rate as provided to PG&E-only customers and MCE providing generation services at its own rate. In addition to these two rate components, MCE customers must pay an exit fee to PG&E. All three components combine to make up the electricity bill for MCE customers (Figure 2).

Figure 2: Comparison of Electricity Charges for PG&E-Only Customers and for MCE-PG&E Customers



The rate comparison analysis developed by MCE provides a snapshot, high-level comparison of the annual electricity bills for Benicia residents and businesses under PG&E-only service versus under MCE-PG&E service. The comparison considers PG&E's generation rates compared to the combination of the MCE generation rates and the PG&E exit fees that are assessed on MCE customers. Since the delivery rates are the same regardless of whether the customer joins MCE, this rate component is not considered. Consideration of only the generation rates and exit fees is appropriate for this analysis.

The rate comparison was developed using average rates from August 2014 for each class of customers. For some commercial and industrial customers or residential customers on a time-of-use tariff (E-6), actual average rates vary depending on electricity usage patterns and may differ substantially from the class average rate.[48] For these customers, who represent a large share of the anticipated savings, MCE's rate comparison provides only an estimated result. Since these estimates are based on average rates specifically in MCE's service area of Marin County and the City of Richmond, they are likely, on average, to be reasonable approximations of the actual rates paid by Benicia's customers. To the extent that actual rates differ from the average rates used in the analysis, the overall level of savings could be either higher or lower than the 6.5% savings estimated by MCE but is likely to be roughly in that ballpark. Customers would need to

[48] For most residential and some small commercial customers, rates do not vary by usage pattern, and the average rates are equal to customers' actual rates. These customers comprise one-quarter of electricity usage in Benicia. For remaining customers, rates vary by usage pattern.

evaluate their own savings potential based on their particular usage patterns.

This 6.5% savings estimate is specific to August 2014 rates. The MCE rate comparison does not indicate whether August 2014 was a typical rate period or whether these savings can be anticipated going forward. This is an important consideration because PG&E's rates typically change several times a year, and MCE's rates change at least annually, so the relationship between PG&E's and MCE's rates changes frequently.

4.1.1 Key Factors

Key factors influencing PG&E's rates in the short term are the availability of water for hydroelectric generation and the costs of natural gas and renewable power. In the longer-term, a significant uncertainty with regard to PG&E's rates is the future of the Diablo Canyon nuclear plant. If the plant is shuttered when its licenses expire in 2024 and 2025 (or sooner), the nuclear power is likely to be replaced with more expensive gas-fired and renewable power. If PG&E instead pursues a 20-year license extension for the plant, PG&E will be required to complete expensive plant upgrades in order to meet compliance requirements.

On the MCE side, power procurement costs are largely driven by the costs of gas-fired and renewable power. Currently, MCE meets nearly 80% of its resource needs with conventional power, which is nearly all gas-fired power.[49] While MCE plans to reduce its dependence on natural gas-fired power over time, MCE's Integrated Resource Plan for 2013-2022 shows that this will be a slow process, with a 72% dependence on conventional power remaining at the end of the ten-year plan.[50]

MCE customers are also obligated to pay exit fees to PG&E. In the long-term, these fees should fall, as the contracts and power plants that they support are removed from the exit fee assessment. In the short-term, however, year-to-year variability in either direction should be anticipated based on the price of natural gas and other factors.

Given all of the factors that drive rate changes, it cannot be stated with certainty that the relationship between PG&E and MCE rates observed in August 2014 will continue year-to-year; however, it is reasonable to expect that MCE rates will on average remain competitive with PG&E's.

For 2015 in particular, it is reasonable to anticipate rate savings under MCE because PG&E's generation rates are slated to increase by an estimated 9% in 2015 compared to August 2014.[51] Some of this rate increase is due to the California drought, which has severely constrained the availability of water for PG&E's hydroelectric plants. While MCE relies on some hydroelectric

[49] MCE's power mix is made up of about 80% conventional power and also 50% renewable power. This adds up to 130% because about 30% of power deliveries are made up of conventional power that has been assigned Renewable Energy Certificates. These power deliveries are classified by MCE as renewable but they do not reduce MCE's dependence on conventional resources. (Renewable Energy Certificates link the renewable attribute of renewable resources that are typically outside of California and not connected to the California electricity grid to physical power deliveries that are made to MCE customers, typically from conventional resources.)

[50] Marin Clean Energy. Integrated Resource Plan Annual Update, November 2013, page 23.

[51] PG&E's average generation rate in August 2014 was 9.185 cents per kWh, and PG&E's current estimate of its January 2015 generation rate is 9.992 cents per kWh. PG&E Advice Letter 4450-E-A, July 22, 2014, Attachment 2A and Advice Letter 4484-E, August 29, 2014, Table 3.

plants for its power, we do not expect MCE's rates to be affected by the drought to the same extent as PG&E because MCE has most of its resources under fixed-price contracts through 2017.[52]

In subsequent years, the availability of rate savings will likely be driven by water availability, the price of natural gas, and the prices of renewable contracts entered into by MCE compared to those entered into by PG&E. MCE's rates are likely to generally remain competitive with PG&E's, but there are risks of higher costs under MCE in some circumstances. For example, while the Diablo Canyon plant is operational and exit fees are still high, an unexpected spike in natural gas prices could increase MCE's rates above PG&E's rates. There is little risk of this through 2017 because MCE has contracts in place to supply about 95% of its gas-fired power requirements at fixed prices through this time.[53]

The longer-term risk depends on MCE's procurement choices after termination of its contract with SENA. According to MCE's Integrated Resource Plan, MCE will typically enter into contracts for conventional power and for natural gas that are either short term or medium term, meaning terms of less than five years.[54] Medium-term fixed-price contracts would provide security against short-term spikes in natural gas prices; however, MCE's Integrated Resource Plan does not specify the extent to which it will pursue such contracts and does not mention plans for financial hedging or other mechanisms to cushion rates from potential medium-term or long-term natural gas price increases. Since MCE's current contract with SENA is a fixed-price contract, it is reasonable to anticipate that MCE is sensitive to gas price variability and will develop plans to cushion rates from this variability; however, this cannot be determined with certainty because MCE's procurement plans for the period following expiration of the SENA contract in 2017 are still under development. In addition, it would not be reasonable to expect MCE to fully hedge against a long-term sharp increase in natural gas prices. This situation, which is not currently anticipated in the coming decades given shale gas supply estimates, would put more upward pressure on MCE rates than on PG&E rates.

MCE appears to have a long-term strategy to reduce this risk by increasing its procurement of renewable resources and reducing its dependence on natural gas-fired power. However, unless MCE significantly ramps up its procurement of renewable resources and/or Diablo Canyon is retired early, MCE is likely to remain more heavily dependent than PG&E on natural gas for the next few decades. This does place additional price risk on MCE, which, in the event of an extended period of high natural gas prices, could mean that MCE's rates will be higher than PG&E's. This risk is counterbalanced to some extent by the risk to PG&E from low water years and from nuclear plant outages, and, should MCE choose to do so, it could be partially managed through contractual choices. Moreover, the risk of higher costs under MCE declines over time as exit fees fall off. In the long run, with exit fees reduced to zero and Diablo Canyon retired, it is reasonable to expect that electricity bills through MCE will generally be lower than under PG&E.

[52] Renewable energy certificates are excluded from this assessment as they typically cost just a small percent of the cost of physical power and therefore pose much less price risk than physical power requirements.
[53] Marin Clean Energy. Integrated Resource Plan Annual Update, November 2013, page 16.
[54] Ibid, page 20.

4.1.2 Rate Comparison Conclusions

The MCE rate comparison provides a reasonable estimate of rate savings under August 2014 rates, but it does not provide a good indication of how rates under MCE will compare with rates under PG&E going forward. MCE rates, PG&E rates, and exit fees will increase and decrease in the coming years at different rates, driven by different factors, so it cannot be determined whether MCE will continue to provide a rate benefit to Benicia customers in all years. However, given the current estimate of a 6.5% benefit under MCE, and considering the various pressures influencing PG&E and MCE rates as well as the long-term exit fee trends, it is reasonable to anticipate that MCE rates will generally remain competitive with PG&E's in the long-term, though not necessarily in each and every year and not necessarily at the same rate identified in the MCE rate comparison.

The MCE rate comparison was developed assuming full participation by all Benicia customers in the CCA. MRW additionally tested the results under scenarios with high levels of opt-outs. MRW found that applying a 50% opt-out rate to non-residential accounts reduces the Benicia-wide savings rate from 6.5% to 5.6% and that applying a 50% out-out rate to residential customers increases the Benicia-wide savings to 7.1%. MRW also found that should the city's largest customer choose to opt out of the CCA, substantial savings (5.5%) are still anticipated for remaining customers. Given these results, MRW concludes that while opt-outs could either increase or decrease the average savings for remaining customers, depending on which customers opt out, average savings are likely to remain robust for remaining CCA customers even if significant numbers of opt-outs occur.

4.2 MCE Applicant Analysis

The MCE Applicant Analysis found that MCE's rates would likely fall by 3% with the addition of Benicia customers to the CCA. If this rate decrease does occur, the rate savings for Benicia customers will increase by more than estimated in the rate comparison, all else being equal. MRW evaluated the Applicant Analysis to determine whether these rate savings should be anticipated.

The MCE Applicant Analysis is based on an estimate of the revenues from Benicia customers compared to the costs to serve these customers during the fiscal year that begins April 2015. The key assumptions are as follows:

1. **Benicia load served by** MCE: The analysis assumes a 20% opt-out rate, which is a reasonably conservative assumption. The analysis appropriately takes into account that first year loads will be lower because of the gradual transfer of accounts to MCE service over the course of April 2015 and assumes that 76% of the total electricity usage in Benicia will be served by MCE in this year.

2. **Revenue from Benicia customers**: The MCE rate comparison analysis was based on MCE's serving 100% of Benicia's electricity usage. The MCE Applicant Analysis finds that the revenue from serving 76% of Benicia's electricity usage will be 74% of the revenue identified in the rate comparison analysis. This appears reasonably conservative.

3. **Costs to serve Benicia customers**: The MCE report identifies two cost components: (i) power supply costs of $12.5 million and (ii) billing and other costs of $330,000. The

power supply cost estimate is equivalent to $60.50 per Megawatt-hour, which is a reasonable estimate given current market prices. The billing and other costs are equivalent to $26 per customer to cover customer billing, customer service support, and PG&E service fees. MEA's financial statement for 2014 shows the equivalent of less than $14 per customer for Staff Compensation,[55] which likely covers customer service support and other functions. The financial statement additionally shows nearly $50 per customer for General and Administration and for Contract Services. These costs cover some cost categories that are likely to increase with each new customer, such as PG&E billing fees of $0.44 - $1.05 per account,[56] but more substantial costs that are not likely to grow on a one-to-one basis with the added customer base, such as costs for power solicitations and contract negotiations, for representation at the California Public Utilities Commission and in Sacramento, and for account auditing, legal counsel, office space, and communication and information technology equipment. Using reasonably conservative estimates of 20% of these costs and 100% of the staff compensation costs increasing on a one-to-one basis for each new customer yields an incremental cost of $24 per new customer. MCE's estimate of $26 per customer therefore appears to be reasonable.

MCE's analysis excludes one-time costs associated with the Benicia expansion, which are estimated at less than $350,000.[57] Had these costs been included, the analysis results would not have materially changed.

Based on these assumptions, MCE calculated revenue of $16.6 million from Benicia customers and a cost of $12.8 million to serve these customers, providing a net surplus to MCE of $3.8 million. MCE concludes that this surplus will allow MCE rates to be 3% lower than they would be without Benicia customers. This conclusion is reasonable given MCE's current revenue base. It should be noted, however, that, to MRW's knowledge, while for the purpose of the analysis MCE assumes that this revenue surplus would be used to reduce MCE's overall rates, MCE is not obligated to use this revenue surplus to reduce rates and has not committed to doing so.[58] MCE could instead use the funds to expand services, increase MCE staff salaries, or for other uses. As a result, while MRW finds this analysis to be reasonable, MRW does not feel it is appropriate to rely on these savings in estimating bill impacts from joining MCE.

4.3 Organizational Soundness (Long-Term Viability)

In considering the organizational soundness and long term viability, MRW examined how the JPA was structured (do members have an appropriate voice in governance?), MCE's operational management, MCE's finances to date (including debt), and MCE's projected revenues and costs.

[55] Marin Clean Energy. Financial Statements: Years Ended March 31, 2014 and 2013 with Report of Independent Auditors, page 7.
[56] PG&E Electric Schedule E-CCA, October 2014, Sheet 6.
[57] These are predominately MCE costs. The PG&E-related fees are $8,000 for a single mass enrollment with a 20% opt-out rate, plus $4,000 for each additional enrollment. PG&E Electric Schedule E-CCA, October 2014, Sheet 2.
[58] MCE's Applicant Analysis appears to take care to avoid making such a commitment. For example, the report states, "The surplus is assumed to offset a share of MCE's fixed costs and can be used to reduce overall MCE rates" (p. 5). It does not state that the surplus will (or would) be used to reduce overall MCE rates.

4.3.1 The Marin Clean Energy Joint Powers Agreement

The MCE JPA stipulates that MCE be governed by a Board of Directors. Each member town, city or county to the JPA appoints one director to the Board. Thus, Board Members of the original MCE members have no more inherent power than those of members added later, such as Benicia. The Operating Rules and Regulations specify the reasons for which an individual Director can be removed, but only for cause. The member that appoints a director has the right to remove him/her at any time, and has the responsibility to fill any vacancy within 90 days. Thus if Benicia joins MCE, it will need to determine how it will select a MCE director and make that selection in a timely manner. The appointing city is also responsible for compensating a director for their work. A majority of the directors appointed to the MCE Board are required to be present for a vote to take place. The Board has the authority to conduct all of the business and activities of MCE in accordance with the rules of the organization. The Board also elects a chair and vice-chair from amongst themselves.

When voting on matters relating to the CCA Agreement, each member's voting share is determined as follows:

- Each director has a pro rata voting share equivalent to [1/total number of directors] x 50%
- A director has an Annual Energy Use voting share equal to [the appointing party's Annual Energy Use/Total Annual Energy Use] x 50%
    - For the first 5 years following the Effective Date of the formation of MCE, a party's Annual Energy Use is the total kilowatt-hours (kWh) used within the respective party's jurisdiction.
    - After the 5th anniversary of the Effective Date, a party's Annual Energy use is the total kWh used by accounts within a Party's respective jurisdiction that are served by MCE.
    - The Total Annual Energy Use is the sum of all party's Annual Energy Use

Adding Benicia's 2013 Annual Energy Use of 272,731,094 kWh to MCE's existing 2,368,744,329 kWh Total Annual Energy Use would result in approximately a 5.2% Annual Energy Use voting share and approximately a 3.1% pro rata voting share, for a total voting share of roughly 8.3%.

To reach an affirmative decision, all directors voting in the affirmative have a total voting share exceeding 50% of the total voting share, unless a higher threshold is specified. If a vote requires a higher threshold, than at least two directors must vote in the negative to disapprove the matter.

When voting on general administrative matters and programs not involving the CCA, each director has one vote, unless otherwise specified. When voting on programs not involving the CCA that require financial contributions, the program shall be approved only by a majority vote of the full membership of the Board. Parties who vote against the program have the right to opt-out of the program. The Board will provide written notice to all members 45 days prior to considering the program that require financial contributions in a board meeting.

4.3.2 Marin Clean Energy Management Structure

The MCE Board's primary duties are to establish program policies, set rates, and provide policy direction to the Executive Officer. The MCE Executive Officer has the general responsibility for program operations.

The current Executive Officer is Dawn Weisz. Ms. Weisz has been the Executive Officer since MCE was formed and in fact was involved in the establishment of MEA, going back to as early as 2004. Answering to the Executive Officer are Directors of six departments: Public Affairs, Electric Supply, Energy Efficiency, Legal and Regularly, and Internal Operations.

Through its prior reviews of MEA and MCE and through its experience in California electricity regulation and market analysis, MRW has found that the key personnel at MCE to be more than competent. First, Ms. Weisz, as Executive Officer, not only successfully ushered MCE into existence but also led the organization as it expanded beyond its initial membership. MRW has also found Ms. Elizabeth Kelly, the Legal Director, to be a knowledgeable and proactive advocate for MCE at the CPUC. Mr. John Dalessi, a consultant to MCE, successfully negotiated the initial contracts with SENA and continues to administer MCE's competitive solicitations for power supply and renewable energy. The fact that since 2012 MCE has had lower costs than PG&E is at least partially attributable to Mr. Dalessi.

4.3.3 Current Financial Position of Marin Clean Energy

MRW reviewed the last 3 years of MCE's audited financial statements along with MCE's 21014 Revised CCA Implementation Plan[59] and Addendum No. 1 to that plan.[60] Per the audited financial statements, MCE's net position (total assets minus total liabilities) has improved each of the past three years. The change in net position is summarized in the table below:

Table 3. MCE Net Position

Fiscal Year	Net Position ($)
2011	318,838
2012	3,917,925
2013	7,912,874
2014	9,558,036

Furthermore, MCE has expanded service each year, which has resulted in an increase in cash and receivables, as well as trade liabilities. In July 2013, MCE expanded into the City of Richmond, and grew its customer base from 90,000 to 125,000. This resulted in higher accounts receivables, but has also led to more spending on energy procurement. Net accounts receivables and accrued revenues increased from 2013 to 2014, as did accounts payables, accrued cost of electricity and user taxes/energy surcharges from other governments.

[59] To account for the addition of Napa County, dated July 18, 2014.
[60] To account for the addition of the City of San Pablo, dated September 16, 2014.

MCE incurred no new debt in Fiscal Year 2014[61] and continued paying down its existing debt. The total notes payable to banks decreased from $3,083,746 to $2,024,308.

One issue identified in the financial statements is that the operating margins have been decreasing as the company expands. The past three years of operating revenues, expenses, income and margins are summarized in the table below.

Table 4. MCE Operating Income (Fiscal Year)

	2014	2013	2012
Operating Revenues ($)	85,561,759	52,579,310	22,918,843
Operating Expenses ($)	83,731,036	48,429,076	19,210,349
Operating Income ($)	1,830,723	4,150,234	3,708,494
Operating Margin	2.14%	7.89%	16.18%

It should be noted that actual revenues in the table above are for the 12 months ending on March 31st of the year indicated, and projections as provided in the Updated MCE Implementation Plan are for calendar years. Therefore, while MCE only increased its Net Position by $1.83 million between April 1, 2013 and March 31, 2014, MCE's latest projection indicates that they expect to increase its net position by $5.27 million during the 2014 calendar year.[62]

There are two reasons why MCE's operating margin dropped in FY 2014 and why it is reasonable to expect MCE's financial performance to improve over the rest of the 2014 calendar year. Both are related to the City of Richmond joining MCE in August 2013. First, there is a one to two month lag between when MCE receives payments from customers after when it has pays its procurement amounts. The expansion of service to Richmond required MCE to use additional working capital to account for this lag. Second, adding Richmond to MCE increased commercial sales by 50%.Commercial sales are subject to seasonal rates, with higher rates from May through October and lower rates from November through April. However, procurement costs are not seasonal. Therefore, MCE must procure electricity to supply Richmond at "full cost" for 5 winter months (November through March) while charging commercial customers lower winter rates. Had Richmond been a customer for an entire 12 months, this factor would have balanced out.

4.3.4 Projections

The MCE financial projections in its Updated Implementation Plan Addendum reflect costs and loads through 2019 or 2021 (depending upon the table) and include only the additional load associated with Napa Country and the City of San Pablo. The loads associated with these two new members are not on the same scale as the City of Richmond. The MCE's total energy requirements grew by 93% between the 2012 and 2013 calendar years, from 603 GWh to 1,166 GWh, most of which is attributable to Richmond joining MCE.

From 2013 to 2021 MCE projects the total energy requirements to grow by 47% total, increasing

[61] April 2013 through March 2014.
[62] September 14, 2014 Implementation Plan Addendum, p. 10.

to 1,714 GWh (See Table 5, below).[63] This increase occurs in the first two years when service begins for Napa and San Pablo. In 2016 and beyond, no increase in retail sales is projected, and in fact due to distributed generation and energy efficiency, MCE projects net decreases in total load requirement. This is not unreasonable, as retail demand has been relatively flat in California over the past decade, and MCE intends to aggressively pursue both solar distributed generation and energy efficiency.

Table 5

Marin Clean Energy
Energy Requirements
(GWH)
2010 to 2019

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MCE Energy Requirements (GWh)										
Retail Demand	91	185	570	1,110	1,294	1,592	1,658	1,658	1,658	1,658
Distributed Generation	0	-1	-1	-5	-12	-16	-22	-24	-26	-26
Energy Efficiency	0	0	0	-6	-6	-4	-8	-11	-15	-15
Losses and UFE	5	11	34	66	77	94	98	97	97	97
Total Load Requirement	96	196	603	1,166	1,353	1,666	1,726	1,721	1,714	1,714

Table 6, below, shows MCE's historic (2013) and projected (2014-2021) annual revenues and costs.[64] Consistent with its load projections, revenues and costs both grow markedly from expansion from 2013 through 2016. After 2016, MCE is projecting no changes to revenues (indicating no change in rates or perhaps a very slight increase to account for slightly lower net loads resulting from energy efficiency and solar installations). Administrative and General costs, which constitute less than 10% of MCE's overall cost of operations, are projected to increase with expansion (although not at the same rate as the cost of energy), and then grow at 1.7% (approximately inflation).

In 2017 MCE projects a 0.4% decrease in the cost of energy and a more significant decrease, 5.75% ($ 7 million), in 2018. The only explanation for the significant drop in 2018 is the end of the SENA procurement contract. Thus, MCE is implicitly assuming that it will be able to replace the SENA power at prices that are on average approximately 5% less than that provided by SENA. While this drop is not explained in its current Integrated Resource Plan (See Section 3.1), MRW understands that an updated Integrated Resource Plan will soon be available (i.e., November 2014) which may explain the drop. Even if MCE can replace the SENA power at the same price (and not a discount) and the cost of energy to MCE remains flat at the 2017 level, net surpluses would still persist.

[63] Per September 14, 2014 Implementation Plan Addendum, p. 7.
[64] September 14, 2014 Implementation Plan Addendum, p. 10.

Table 6

Marin Clean Energy
Summary of CCA Program Phase-In
(January 2013 through December 2021)

CATEGORY	2013	2014	2015	2016	2017	2018	2019	2020	2021
I. REVENUES FROM OPERATIONS ($)									
ELECTRIC SALES REVENUE	79,097,747	100,075,912	128,617,779	134,185,719	134,185,719	134,185,719	134,185,719	134,185,719	134,185,719
LESS UNCOLLECTIBLE ACCOUNTS	(395,489)	(500,380)	(643,089)	(670,929)	(670,929)	(670,929)	(670,929)	(670,929)	(670,929)
TOTAL REVENUES	78,702,259	99,575,532	127,974,690	133,514,790	133,514,790	133,514,790	133,514,790	133,514,790	133,514,790
II. COST OF OPERATIONS ($)									
(A) ADMINISTRATIVE AND GENERAL (A&G)									
STAFFING	1,386,303	1,825,000	1,993,875	2,053,691	2,115,302	2,178,761	2,244,124	2,311,448	2,380,791
CONTRACT SERVICES	4,457,964	4,611,420	5,020,551	5,161,916	5,205,681	5,250,760	5,297,190	5,345,014	5,394,272
IOU FEES (INCLUDING BILLING)	584,729	660,114	790,328	815,506	839,971	865,170	891,125	917,859	945,394
OTHER A&G	302,806	373,125	398,084	409,388	421,030	433,022	445,374	458,096	471,200
SUBTOTAL A&G	6,731,802	7,469,659	8,202,838	8,440,500	8,581,984	8,727,713	8,877,813	9,032,416	9,191,658
(B) COST OF ENERGY	69,284,393	85,644,745	114,772,479	120,618,621	120,116,426	113,197,511	115,189,890	117,238,282	119,307,184
(C) DEBT SERVICE	1,195,162	1,195,162	1,151,494	671,149	447,432	-	-	-	-
TOTAL COST OF OPERATION	77,211,357	94,309,566	124,126,812	129,730,270	129,145,842	121,925,224	124,067,703	126,270,698	128,498,842
CCA PROGRAM SURPLUS/(DEFICIT)	1,490,902	5,265,966	3,847,878	3,784,520	4,368,948	11,589,566	9,447,087	7,244,092	5,015,948

MRW is also skeptical that the cost of energy to MCE would experience no net increase from 2016 to 2021 (albeit with some year-to-year decreases and increases). Nonetheless, in considering these projections, one must keep in mind the following:

1. MCE has rate setting authority. Thus, if in a particular year the cost of energy increases, the Board may either change rates so as to collect those costs or fall back onto its reserves.
2. MCE's rates must be ***comparable*** to PG&E's ***in the long term***. If the cost of energy to MCE increases markedly due to say an increase in gas prices, then PG&E would also experience a similar increase in its cost of energy. This would allow MCE to increase its rates without necessarily harming its price position relative to PG&E.
3. Similarly, as seen in its early years (2010 and 2011), MCE need not beat PG&E's prices at all times. A short period where MCE's prices are marginally above PG&E (i.e., a few percent) would not likely result in a detrimental loss of load from customers migrating back to PG&E service.

The incremental load from Benicia joining MCE would increase both the revenues and cost of energy proportionally. Assuming that MCE could serve the Benicia load at the same average cost as it serves its already established load (a condition for Benicia's membership in MCE), then the positive operating surplus should be maintained.

4.3.5 MCE Debt

MCE's debt comes from 3 major sources. Prior to the 2010-11 fiscal year, MCE received $540,000 in interest free loans from Marin County and $750,000 from three individuals at a

5.75% interest rate. This was to be paid back by August 1, 2011, which it was. In April 2010 MCE received a $1.45 million from the River City Bank, with interest computed at the greater of 2% plus the Base Commercial Loan Rate (3.25% at date of agreement) or 5% per year. In January 2011 MCE took out a new $2.3 million loan from River City Bank, at a 5.25% interest rate. This loan also retired the previous loan from the bank. In July 2012 MCE received another $3 million loan from River City Bank, repayable by October 2017 at a 4.5% interest rate. MCE currently owes $3.093 million of principal, and $3.326 million total.

4.3.6 Conclusions Concerning Long-Term Viability

MRW finds the governance structure of the MCE JPA to be reasonable. All member entities are represented on the Board, with key voting provisions reflecting both the number of members and the size of each member. The current management is experienced and competent.

The finances of MCE are, to date, sound. Quickly after startup, MCE was able to acquire a line of credit so as to consolidate its private startup debt. It has consistently increased its net position and operating reserves. While its cost of power beyond 2017 may be optimistic, given the positive operating margins shown in its projections as well as the Board's ratemaking authority, MRW sees no red flags in its financial projections.

5. Conclusions

MRW has identified various benefits and risks associated with the City's participation in MCE. The most significant benefit is local control over ratemaking, power procurement and energy efficiency/solar policies. The most significant risk is whether MCE will ultimately be able to provide long-term power supplies at costs that are less than PG&E generation rates. Thus, even though MRW believes that MCE will be able to offer competitive rates, if the City's customers are highly price sensitive, then this risk may be of concern On the other hand, if the City's residents and businesses are more concerned about local control and the level of renewable resources used to generate their electric supply, then such an assessment is less important.

MRW found the MCE Member Analysis to be accurate but limited as it was based on a snapshot of current MCE and PG&E rates and did not attempt to project either into the future.

With respect to solar issues, Sage Renewables found:

- The City can expect between $40,000 to $80,000 in annual excess net energy metered (NEM) bill credit payments from MCE for the solar NEM accounts;
- While MCE's policy of paying for excess NEM bill credits will remain in place for at least the short term, it is at higher risk of change over time than other MCE rate policies; and
- The greatest short term risk to the value of solar PV generated energy is PG&E's proposal to limit its solar-friendly A-6 rate to only small commercial customers. This risk exists whether the City remains a PG&E customer or elects to transition solar PV accounts to MCE. (MCE is expected to mirror changes to PG&E's A-6 tariff with changes to its COM-6 tariff).

It is beyond the scope of this assessment to quantitatively assign either potential costs or probability of occurrence to the risks identified here. In addition, this assessment does not identify or attempt to quantify all potential benefits associated with participation in MCE. Benicia's policymakers will need to weigh and balance the potential risks and benefits of participation in MCE given the risk and policy preferences of Benicia's citizens and businesses.

Appendix 1: MRW and Sage Qualifications

MRW & Associates

Established in Oakland, California in 1986, MRW early on built a solid reputation for delivering local insights on power and fuel markets in the western United States as well as intervening successfully in legislative and regulatory proceedings on clients' behalf. Today, MRW continues to deliver high-quality market insights, analysis, and client support on a national and international level. The company has undertaken engagements in more than twenty different states, including nearly every state in the western U.S. The company maintains a strong focus on California markets and regulatory structures. The location of the company office in Oakland, California, facilitates our active participation in proceedings at the CPUC, the California Energy Commission, and the CAISO.

MRW's client base includes major financial institutions, private power developers, consumer advocates, power marketers, municipalities, Fortune 500 industrial companies, commercial end-users, natural gas pipelines and storage service providers, regulatory agencies, and other strategic players in the energy sector. MRW's team of professionals include specialists in renewable energy, power market modeling, financial analysis, regulatory processes, utility rate design, legislative analysis, commodity procurement, energy use analysis, contract negotiations, transmission planning and pricing, and strategic planning.

On related CCA matters, in the spring of 2005, Navigant Consulting, pursuant to a California Energy Commission grant, issued a series of CCA feasibility studies for the County of Marin and the cities of Berkeley, Oakland and Emeryville. A similar report was issued for the Kings River Conservation District a few months later. The basic reports were nearly identical, differing only in how the customer and load characteristics of each jurisdiction affected the various data tables. MRW, along with JBS Energy, provided an independent third-party review of these studies on behalf of the studies' recipients. The reviews focused on the reasonableness of the analytical approach and assumptions used by the reports' authors, identifying areas that were either unreasonable or would need updating if a particular jurisdiction were to investigate CCA formation in greater detail. The review also identified key risks that would have to be addressed, including such factors as regulatory risk (i.e., impact of changes to PG&E rate design) and environmental compliance costs. As a result of these third-party assessments, Navigant ultimately made significant changes to the preliminary feasibility studies.

In late 2008, MRW conducted an independent review of the reports and documents associated with Marin County's Community Choice Aggregation efforts. This review focused on the "Marin CCA Business Plan" (April 2008), PG&E's comments on the Plan, and responses to Marcus' and PG&E's comments. MRW's review concentrated on two main areas: the factors that were most important making a CCA financially viable and the major risk factors that would affect potential participants in the CCA. These included:

- the reasonableness of the power procurement strategy proposed in the Plan;
- the reasonableness of the procured power costs forecast in the Plan;
- hedging and risk management activities proposed in the Plan;
- underlying natural gas and wholesale power price projections;

- the consistency of rate and procurement costs with those underlying gas price projections;
- the reasonableness of the Plan's estimates of the non-bypassable charges including the CCA Cost Responsibility Surcharge (CRS);
- the depth and appropriateness of any sensitivity analysis; and
- the forecasts of utility rates (and rate designs) against which the CCA's rates would compete, including the consistency of assumptions underlying the utility rate projection and the CCA rate projection.

In late 2009, the County and City/Town Managers again retained MRW to review the draft service agreements that MEA was proposing to enter into with Shell Energy North America. This review concentrated on identifying the risks to MEA, the Cities, Towns, and the County that were not sufficiently addressed in the MEA-Shell agreement, and provided suggested changes and amendments to the agreements to mitigate those risks. Many of MRW's suggestions were subsequently incorporated in the final contract. The primary authors of this assessment are Mark Fulmer, William Monsen, and Laura Norin.

In late 2010, the office of Richmond's City Manager retained MRW to conduct an independent third-party analysis of the risks associated for Richmond to join the MEA. The Scope of MRW's analysis included:

- Determining potential risks to City residents and businesses if Richmond joins the MEA, in particular, the rate risk to the community
- Determining potential risks to the City itself if it chooses to join the MEA
- Commenting upon the Dalessi Management Consulting load and resource requirement analysis
- Provide qualitative comments on any materials MEA provides to Richmond

MRW presented its at a Richmond City Council meeting and where Mr. Fulmer and Mr. Monsen responded to questions from City staff and Council members.

Mark Fulmer is a Principal at MRW & Associates, LLC, with over twenty years of experience in the energy industry. Much of this work has been in the regulatory arena, advising customers, trade groups, municipalities, utilities and state public utility commissions on resource planning, energy efficiency and rate matters. He has submitted testimony before FERC and utility commissions in Arizona, California, Hawaii, New Mexico, Pennsylvania, Rhode Island and Washington, as well as supporting testimony in ten other states and Canadian provinces.

With respect to CCA matters, Mr. Fulmer was the lead author of a CCA feasibility assessment in Southern California Edison's service area and contributed to the peer reviews of the CCA feasibility studies for Marin, Berkeley, Oakland, Emeryville and the Kings River Conservation District. He also served as an expert witness before the California PUC on behalf of the City and County of San Francisco on CCA matters, including the rules under which CCA would operate and the fees that PG&E would be allowed to charge CCAs for the various services the utility would have to provide. In 2009, Mr. Fulmer was one of three witnesses sponsored jointly by the Marin Energy Authority, the City and County of San Francisco, and the Direct Access parties in the CPUC proceeding addressing the correct calculation of the Cost Responsibility Surcharge for departing load (CCA and DA) customers.

Mr. Fulmer holds a Master's Degree in Engineering from Princeton University, where he

conducted graduate research at the Center for Energy and Environmental Studies, and a Bachelors' Degree in Engineering from the University of California, Irvine.

William A. Monsen, a Principal with MRW & Associates, LLC, has been providing technical and economic analysis for the energy industry for more than 30 years. He is an expert in utility resource planning, retail power procurement, power market evaluations, due diligence for power generation projects, and independent power issues. He has helped municipalities and other end-users understand present and future consumption needs and reduce energy costs through competitive commodity procurement and efficiency improvements.

With respect to CCA matters, Mr. Monsen was the Principal in Charge for detailed peer reviews of the CCA feasibility studies forRichmond, Marin, Berkeley, Oakland, Emeryville and the Kings River Conservation District. He also led MRW's work in reviewing Marin Energy Authority's business plan and draft service agreements that MEA was proposing to enter into with Shell Energy North America. He also provided professional review on behalf of the City and County of San Francisco of the proposed contracts between the city and a potential (but eventually rejected) supplier for their proposed CCA and was a co-author of the Southern California CCA feasibility study MRW conducted in 2008.

Mr. Monsen holds a Master's degree in Mechanical Engineering from the Solar Energy Laboratory at the University of Wisconsin-Madison and a Bachelor's degree in Engineering Physics from the University of California at Berkeley.

Sage Renewables

Sage Renewables is an independent renewable energy consulting and project development firm that provides expert, customized professional consulting services across the public and private sectors. Sage recently completed a comprehensive evaluation of City of Benicia's solar PV systems under contract to the California Energy Commission (CEC) through the Energy Partnership Program. The evaluation included site analysis to verify that all PV systems were built to contract, were performing as designed and that workmanship is appropriate. Sage also worked with the City to evaluate and model existing and expected financial performance of the PV systems, and to identify an appropriate Operations and Maintenance (O&M) contractor to provide necessary ongoing system support. Sage also performed PG&E tariff modeling to confirm that the Pool and Pump Station 2 accounts were configured with the correct PG&E tariff. Through this work, Sage gained an intimate knowledge of the City's solar PV systems and formed a strong working relationship with City staff.

Sage has developed custom modeling tools to evaluate financing, renewable resources, and project sizing and design, and we own industry standard equipment and software for assessing resources in the field.

Sage's key personnel are our three founding Principals. Each Principal has extensive experience working with public agencies from small rural special districts, to large, multi-campus CA K-12 public school districts, to city and county governments. We work as a team to provide expert energy efficiency services, site evaluations, production, financial and environmental analyses, and renewable energy project development and asset management services.

Tom Williard is Principal and CEO of Sage Renewable Energy Consulting and has worked in the renewable energy industry since 2001. Prior to founding Sage, Tom was a Principal at energy consulting firms Sustainergy Systems and System Design. In 2005, Tom co-founded Solmetric, Inc., where he was Director of Research and Development for the initial SunEye product. Tom has expertise in modeling tool development, renewable energy finance, hardware and software engineering and growing engineering organizations and early stage companies. Previously, Tom spent twenty years in the electronics industry as a management consultant, senior technologist, and senior hardware and software engineer for a number of imaging and communications companies, most recently as Director of Software Engineering at Ascend Communications, establishing and managing engineering centers around the world. Tom takes an active role in his community, having served on several boards and foundations in Marin County, CA, and as an elected Trustee of a CA public school district for seven years.

Brent Johnson, PE, LEED AP, is Principal and co-founder of Sage Renewable Energy Consulting. Brent has 15 years of experience as a Civil-Environmental Engineer, with five years in the renewable energy sector. During his time at Sage, he has developed custom financial and energy modeling tools and managed all aspects of renewable generation projects including feasibility studies, system design, project bids and construction, commissioning, and environmental credits management. Brent has worked on over 100MW of renewable projects encompassing a number of technologies such as solar PV, solar thermal, wind, fuel cells, and hydropower. His previous experience, both in the US and overseas, has included design of large municipal facilities, computer modeling, construction management, operational support, and CEQA permitting. Through this experience, he has overseen all aspects of project development, from concept to commissioned facilities, including serving as a construction manager on a complex, $170M multi-year linear project.

Brent holds an M.S. in Civil-Environmental Engineering from UC Berkeley, is a registered Professional Engineer (PE) in California and has his LEED certification from the US Green

Building Council. He currently services as a director for his local water and fire district.

David Williard, LEED, Principal and co-founder of Sage Renewable Energy Consulting, David has nine years of experience in the energy and green building industries. David's work has included commercial and residential energy auditing, energy code compliance, green materials specification, renewable energy system design and implementation, greenhouse gas emissions inventory and monitoring, greenhouse gas emissions reduction plans, environmental site assessment, renewable resource assessment, and renewable energy project management. Additionally, David has participated in extensive field projects with an emphasis on environmental assessment and GIS mapping utilizing GPS systems. He has experience coordinating with city and county government agencies and other organizations through his work. In February 2005, David founded Sustainergy Systems Consulting & Design, which became Sage Renewables in August 2009.

David holds a B.S. in Civil Energy Management and Design from Sonoma State University and has his LEED certification from the US Green Building Council.

Appendix 2: Sage Renewables Assessment of the Risks to the City's Net Energy Metered Solar Accounts

Task 3 Executive Summary

Project Overview

Sage Renewables, as subcontractor to MRW & Associates, evaluated the impact of changing electrical energy service providers from PG&E to MCE for the ten City electricity accounts that have solar PV systems currently installed. City of Benicia's contract with MRW, Task 3, listed the follow evaluations to be performed:

- Anticipated changes in annual electrical energy costs and credits;
- MCE's evaluation indicating that approximately $60,000/year may be paid to the City under MCE's Net Energy Metering (NEM) program;
- Ability of MCE to maintain its net metering credit payout program;
- Impacts to net-metering solar rates particularly as they relate to AB327.

To perform this evaluation Sage reviewed City of Benicia's PG&E historical electricity usage source data for PV system sites and MCE's Rate Comparison spreadsheet for accuracy and completeness. Sage performed tariff analysis modeling on four separate PV system electrical accounts to confirm MCE modeling and determine the impact of switching to MCE on overall electricity cost including the purchase of residual energy. This modeling was based on tariff information from MCE[1] and PG&E[2], in addition to historical electricity usage information for the sites.

Sage also evaluated AB-327, the CPUC Proposed Decision R.12-11-005 concerning NEM grandfathering, and PG&E's 2014 General Rate Case II that is currently being litigated at the CPUC. Sage spoke with representatives of MCE, City of Benicia, PG&E and Crossborder Energy (lead consultants for SEIA in the PG&E 2014 General Rate Case Phase II litigation) in the course of researching these issues.

High Level Findings

1. City of Benicia can expect between $40,000 to $80,000 in annual excess NEM bill credit payments from MCE for the solar PV NEM accounts given current usage patterns and tariff rates. PG&E does not pay for annual excess bill credits.
2. MCE's policy of paying for excess NEM bill credits will remain in place for at least the short term, but is at higher risk of change over time than other MCE rate policies.
3. The greatest short term risk to the value of solar PV generated energy is PG&E's proposal to cap the A-6 tariff to 75kW peak demand proposed in their 2014 General Rate Case (GRC) Phase II. This risk exists whether the City remains a PG&E customer or elects to transition solar PV accounts to MCE. MCE is expected to mirror changes to PG&E 2014 General Rate Case (GRC) Phase II6 tariff.
4. City of Benicia should be able to change energy providers from PG&E to MCE and vice versa without jeopardizing the 20-year NEM 1.0 transition (grandfathering) period of existing systems.

Findings are discussed in detail in the next section.

[1] MCE tariff information: http://www.mcecleanenergy.org/wp-content/uploads/MCE%20Commercial%20Rates.pdf
[2] PG&E tariff information: http://www.pge.com/tariffs/tm2/pdf/ELEC_SCHEDS_A-6.pdf

Task 3 Findings

1. **Anticipated changes in annual electrical energy costs and credits to solar PV accounts with MCE:**

   MCE's tariffs closely mirror PG&E tariffs in structure and pricing. This is done to allow for ease of billing, to comply with CPUC requirements and to allow easy comparison of MCE vs. PG&E electricity rates. MCE endeavors to provide energy with higher renewable content below the cost of similar tariffs from PG&E. Because the tariffs are very close, anticipated annual electrical energy costs between MCE and PG&E will be similar.

   MCE diverges significantly from PG&E in offering to monetize excess NEM bill credits at the end of each 12-month true up period, and by providing a $0.01/kWh premium for excess solar PV energy exported to the grid**3**. PG&E does not monetize excess NEM bill credits or pay a premium for exported energy; any excess bill credits are lost at the end of the true up period. Excess bill credits from City of Benicia's solar PV NEM accounts are the primary source of energy cost savings from MCE vs. PG&E. PG&E's slightly higher A-6 generation rates can provide greater value for solar PV produced energy if the PV systems are nearly offsetting the annual electrical bill with no annual excess bill credits. The analysis performed on 2013-2014 usage data showed that three of the ten City PV accounts did not have excess bill credits at the end of the year. Two of those accounts would save money vs. MCE, but one of the accounts, the Pool, would cost more vs.MCE due to the lower annual offset. The relatively higher cost of PG&E energy at the Pool offset savings at the other two sites.

2. **MCE's evaluation indicating that approximately $60,000/year may be paid to the City under MCE's Net Energy Metering (NEM) program:**

   MCE's modeling is correct for the PG&E data that was available to MCE. Sage recovered missing PG&E data for the analysis period and confirmed MCE's modeling using proprietary tariff modeling tools. Sage also ran the models with two years (~2013 and 2014) of PG&E data for Pump Station 3 to find the impact of significantly less usage at that site in 2014. Note that changes in usage for Pump Station 3 were largely associated with ongoing drought conditions. We anticipate that Pump Station 3 usage would be similar to 2013 in years with normal or above precipitation. Calculated NEM excess bill credit payments are as follows:

   - MCE annual NEM bill credit payment (2013 usage data): $59,743
   - Sage annual NEM bill credit payment (2013 usage data): $58,574
   - Sage annual NEM bill credit payment (2014 usage, Pump Station 3): $81,665

   See Appendix A, B and C for detailed modeling results.

3. **Ability of MCE to maintain its net metering credit payout program:**

   The main risk to MCE's policy of NEM excess bill credit monetization is potential cost to other MCE ratepayers. MCE has a stated goal of providing energy costs at less than PG&E's rates with greater renewable content. If MCE is no longer able to meet that goal due to changes in

[3] See Premium Benefits section: http://www.mcecleanenergy.org/business-solar/

legislation, energy procurement and/or management costs, the NEM excess bill credit monetization policy could be at risk. A related risk is that as MCE's NEM customer base grows, monetization of excess bill credits may at some time become a significant cost, causing changes to the policy. Given that the $0.01 per kWh of excess generation policy is not found in MCE's NEM tariff and that their NEM bill credit cash out is a significant departure from PG&E policy, there is a higher risk of change compared to other MCE pricing policies.

According to MCE staff, there are no plans to modify MCE's monetization of excess bill credits policy. Given that MCE is reasonably solid financially, and that their current policy explicitly limits the size of PV systems that can be installed relative to past load, there is little short term risk of this policy changing.

4. Recent and anticipated legislation affecting NEM and solar tariffs:

a. AB-327 (2013/Perea)

AB-327[4], signed into law in October, 2013, directed the CPUC to create a new NEM tariff/policy (NEM 2.0) that replaces the current NEM 1.0 tariff/policy and removes the limitation on NEM aggregate size of NEM accounts. NEM 2.0 policy is to be finalized by the CPUC by December 31, 2015 and implemented on January 1, 2017 at the latest. The CPUC has not issued any proposed rulings or guidance concerning NEM 2.0, but they have issued a Preliminary Ruling that addresses grandfathering of existing NEM 1.0 customers, discussed in Finding 4.b.

b. CPUC Proposed Decision R.12-11-005

CPUC Proposed Decision R.12-11-005[5] states that existing NEM 1.0 customers will be allowed to maintain NEM 1.0 tariff policy for 20 years following interconnection and permission to operate (PTO) the energy generating system. This grandfathering policy is referred to as the NEM transition period. How this policy would be affected by transition from PG&E to MCE is discussed below in Finding 5.

c. PG&E 2014 General Rate Case Phase II

In PG&E's 2014 GRC Phase II[6], PG&E proposed capping the solar-friendly A-6 tariff to maximum customer demand of 75kW. This change would lower the current A-6 demand cap from 499kW and would result in many small and medium scale PG&E commercial NEM customers with solar PV systems becoming ineligible for the A-6 tariff, forcing those accounts to move to A-10 or E-19 tariffs. The result would be significant loss of value from the energy generated by the solar PV systems affected as the A-10 and E-19 tariffs both would add demand charges and offer lower time of use energy charges compared to the A-6 tariff. This change would impact approximately seven of the ten solar PV installations owned by City of Benicia. Note that this risk exists whether the City remains a PG&E customer or elects to transition solar PV accounts to MCE.

[4] AB-327 (2013-Perea, chaptered): https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140AB327

[5] CPUC Proposed Decision 12-11-005, NEM grandfathering: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K245/89245777.PDF

[6] https://www.pge.com/regulation/GRC2014-Ph-II/Testimony/PGE/2013/GRC2014-Ph-II_Test_PGE_20130816_284307.pdf

The issue of A-6 tariff demand cap is currently being litigated at the CPUC. Hearings are being held in October, 2014 and briefs should be available in November, 2014. A Proposed Decision on the issue is anticipated in early-mid Q1 2015, with a Final Decision late Q1 2015.

At this time it is unclear how this will be resolved, but there is significant risk that the value of solar PV generated energy for accounts using PG&E's A-6 tariff will be diminished somewhat.

Sage spoke with Justin Kudo, Manger of Account Services at MCE, about this scenario to determine MCE's response to future changes in PG&E's A-6 tariff. MCE, while supportive of the solar-friendly A-6 tariff, would likely follow PG&E's lead by matching significant changes to A-6 such as capping eligibility at 75kW peak demand with changes to their COM-6 tariff.

5. **Impacts to net-metering solar rates particularly as they relate to AB327:**

An important consideration is whether changing City of Benicia's solar PV accounts from PG&E to MCE or vice versa during the NEM transition (grandfathered) period will affect eligibility for grandfathering of NEM 1.0 accounts. Changing energy providers will not affect NEM 1.0 grandfathering for two reasons:

a. City of Benicia's solar PV accounts would remain PG&E accounts. If City of Benicia selects MCE to provide electricity, the accounts remain PG&E accounts. PG&E continues to manage and bill the accounts, but the energy (called generation) portion of the electrical bill will be routed to MCE.

b. CPUC Proposed Decision 12-11-005, Section 5.3.2, Transferability of Transitional Treatment – Conclusion, states[7]:

> "…systems that qualify to remain on their pre-existing NEM tariff for the transition period will remain eligible for the complete transition period if transferred to a new owner, operator, or utility account at the original location."

Task 3 Appendices

Appendix A: MCE Annual NEM Excess Bill Credit Payment Estimates

Appendix B: Sage Annual MCE Excess Bill Credit Payment Estimates

Appendix C: Sage Annual MCE Excess Bill Credit Payment Estimates, 2014 Pump Station 3

[7] See Section 5.3: http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M089/K245/89245777.PDF

Appendix A:

Detailed MCE Annual NEM Excess Bill Credit Payment Estimates

Rate Comparison Summary

MCE Approx. Annual Solar Refund to Benicia : $59,742.81

Summary		
Location	Annual Total	Total Credit
City Hall	-$816.68	$816.68
Community Center	-$5,824.95	$5,824.95
Community Park	-$3,572.78	$3,572.78
Corporation Yard	-$6,827.35	$6,827.35
Fire Station	-$155.92	$155.92
Pump Station 1	$879.77	$0.00
Pump Station 2	$8,802.49	$0.00
Pump Station 3	-$17,572.85	$17,572.85
Swimming Pool	$12,851.72	$0.00
Water Treatment Plant	-$25,073.12	$25,073.12

Appendix B:

Sage Annual MCE Excess Bill Credit Payment Estimates

Rate Comparison Summary

SAGE Annual MCE Bill Credit Payment : $58,573.64

Summary		
Location	Annual Total	Total Credit
City Hall	-$916.98	$916.98
Community Center	-$5,824.95	$5,824.95
Community Park	-$4,985.09	$4,985.09
Corporation Yard	-$6,827.35	$6,827.35
Fire Station	-$155.92	$155.92
Pump Station 1	$879.77	$0.00
Pump Station 2	$8,802.48	$0.00
Pump Station 3	-$17,572.85	$17,572.85
Swimming Pool	$12,851.72	$0.00
Water Treatment Plant	-$22,611.62	$22,611.62

Appendix C:

Sage Annual MCE Excess Bill Credit Payment Estimates, 2014 Pump Station 3

Rate Comparison Summary

SAGE Annual MCE Bill Credit Payment : $81,665.17

Summary		
Location	Annual Total	Total Credit
City Hall	-$915.98	$915.98
Community Center	-$5,824.95	$5,824.95
Community Park	-$4,985.09	$4,985.09
Corporation Yard	-$6,827.35	$6,827.35
Fire Station	-$155.92	$155.92
Pump Station 1	$879.77	$0.00
Pump Station 2	$8,802.48	$0.00
Pump Station 3	-$40,664.38	$40,664.38
Swimming Pool	$12,851.72	$0.00
Water Treatment Plant	-$22,611.62	$22,611.62