Community Choice Aggregation (CCA)

A Description and Analysis
With Considerations for Colorado

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Executive Summary

Community Choice Aggregation (CCA) is a policy tool that allows local governments to aggregate or group their respective localities together for the purpose of procuring electricity. This allows individual or groups of communities to shop for specific Electricity Service Providers (ESPs) that best meet their energy needs and goals – both environmental and financial.

CCAs become the default provider for customers[1] within their service areas and occupy a niche between regulated and deregulated energy market structures.[2] They offer communities rather than consumers the ability to choose between ESPs and are typically regulated only in specific areas to ensure CCA compliance with existing statutes.[3] This structure is viable because ESPs tend to view CCAs as appealing markets due to their large, consistent, and reliable loads.[4]

The primary benefits of forming a CCA are local control over electricity resources, access to low cost capital for the development of future generation capacity,[5] and increased negotiating power that comes from a large consumer aggregation.[6] CCAs can develop their own generation resources, implement aggressive efficiency and demand-side management (DSM) programs, and can offer specific rate incentives to businesses in order to attract new business development or retain existing large customers. Finally, because existing utility infrastructure remains the property of the incumbent utility, CCAs are able to avoid some of the technical challenges and the legal challenges that have plagued municipalization efforts.

Despite the benefits listed above forming a CCA entails a significant degree of risk. Ensuring that adequate supplies of electricity continue to serve residential and business interests is no small task and requires a high level of expertise to be developed.[7] In addition, CCAs must compete with experienced investor owned utilities (IOUs) when procuring electricity contracts.[8] A failure of the CCA to provide reliable electricity at a competitive rate could result in significant political and economic losses.[9]

The process of forming a CCA varies between states depending on the local statutes. Based on the process that is currently underway in Massachusetts and California, CCA implementation typically consists of preliminary and final feasibility studies, development of a business plan, negotiating and contracting with an ESP, and is

completed with state and local authorization. Voter referendums prior to implementation are often a good indicator of public support. However, requirements regarding public referendums vary between states.[10]

There are currently five states that have existing statutory allowances for CCAs.[11] The Cape Light Compact (CLC) in Massachusetts serves approximately 197,000 customers and has demonstrated successful energy efficiency and DSM programs.[12] Energy savings from these programs is approximately 12 GWh annually at a benefit cost ratio of 2.36.[13] The Northeast Ohio Public Energy Council (NOPEC) is the country's largest CCA and at year end 2005 it served 450,000 customers. NOPEC's primary goal is saving money for its customers. The NOPEC 2005 year end report noted that it has saved customers $46 million from electricity and natural gas sales since beginning operations in 2001. NOPEC and CLC are also actively engaged in consumer advocacy efforts.[14]

The state most actively engaged in developing new CCAs is California. Eleven communities are currently engaged in either preliminary or final phase feasibility studies although none have fully committed to implementation.[15]

CCAs in California face a variety of hurdles to implementation. The first is public and political hesitance towards changes in electricity structures due to California's tumultuous deregulated past.[16] Additionally, feasibility studies indicate electricity rates for CCAs may be slightly higher in the initial 2-4 year transitory period due to payment of the Cost Responsibility Surcharge (CRS).[17] The CRS is a fee that will prevent increases in rates for existing utility customers that will be incurred due to the loss of customer base when CCA customers withdraw from the utility service area.[18]

Despite these hurdles, CCAs in California foresee significant benefits coming from their ability to access low cost capital which will enhance the development of new renewable capacity. Additionally, they see benefits in their ability to implement aggressive efficiency and DSM programs. In a preliminary feasibility study conducted by Navigant Consulting for Marin County, Navigant estimated that even during the initial transitory period prices will be within 5% of the incumbent utilities prices. Navigant also points out that over the long term ratepayers in Marin County will spend an additional $33-$442 million under a no-CCA scenario.[19] San Francisco feasibility studies are

similar, indicating that under best case conditions customers will pay an additional $3.50 per month to move towards the 50% by 2017 renewables goal, but within ten years the savings could be on the order of $51 million with a potential for $700 million in nondiscounted savings over a 30 year period.[20]

CCAs in Colorado would benefit from many of the same structural advantages inherent to CCAs. However, there are some factors in Colorado that would impact feasibility analyses performed here, namely the fact that a much greater percentage of our electricity comes from low cost coal rather than natural gas.

For additional general information see the websites listed below:

http://www.local.org/
This site has good descriptive articles, history and summaries of more detailed documents. However, it is a bit difficult to navigate.

http://www.capelightcompact.org
Offers detailed information pertaining to the Cape Light Compact's current programs and their effects.

http://www.ci.berkeley.ca.us/sustainable/government/CommunityChoice/CCA.html
Details the current status of CCA in Berkeley and includes Berkeley's base case feasibility study as well as general FAQs.

http://www.co.marin.ca.us/depts/CD/main/comdev/ADVANCE/BEST/CCA/CCA.cfm
Details the current status of CCA in Marin County and includes Marin County feasibility studies and general FAQs.

http://sfwater.org/mto_main.cfm/MC_ID/12/MSC_ID/138/MTO_ID/237
Provides general information on CCA in San Francisco and includes San Francisco's draft implementation plan.

http://www.nopecinfo.org/
Describes NOPEC's aggregation; includes annual reports and FAQs.

http://www.lgc.org/cca/
Generally describes CCA; includes the final CPUC rulemaking report.

Introduction to CCA

Community Choice Aggregation (CCA) is a policy tool that allows local governments to aggregate or group their respective localities together for the purpose of procuring electricity. What this means is that an individual community, or a group of communities with similar energy goals and priorities can join together to purchase large scale electricity contracts. As a result, individual or groups of communities are able to shop for specific Electricity Service Providers (ESPs) that best meet their energy needs and goals – both environmental and financial.

CCA also creates the opportunity for local development of electricity generating capacity using lower cost capital available to public entities. This makes development of new generation resources more economically feasible, thus it may be possible for CCAs to develop new higher cost renewable capacity and obtain a more reasonable payback period.[21] Low cost capital includes bond issued funding, low interest rate municipal loans, and other tax exempt forms of financing. The aggregate can also employ such funds to implement local efficiency and demand-side management (DSM) programs to reduce consumption and further lower energy costs.[22]

Local control over decisions made regarding new generation or DSM programs means that there is significantly greater opportunity for public input regarding how many and what type of new generation sources are built.

CCA is sometimes referred to as "muni-lite" in reference to its increased local control and access to lower cost municipal financing, which are two significant benefits frequently discussed in relation to municipal utilities. However, unlike a municipal utility, a CCA does not own or operate the local transmission and distribution systems, which continue to remain the property of the incumbent utility. The CCA then pays an access fee or tariff to the utility for usage and maintenance of the existing infrastructure.[23]

Historical Context

CCA has arisen as a middle ground in the debate over regulation in energy markets.[24] Many analysts argue that energy is and should be a natural monopoly due to the vital economic role it plays in our society, its large capital costs, and the high value

we have placed on public access to electricity.[25] On the other side analysts argue that because the energy sector is such a vast player in terms of economic, social, and environmental consequences more competition should be introduced into the market.[26] Also pushing the energy sector towards deregulation are variability in pricing between regulated markets and the development of smaller-scale less capital intensive energy technologies, which have created the opportunity for smaller players to emerge in energy markets. However, as shifts towards deregulation have occurred major crises have resulted in some markets, notably California, whose' "Consumer Choice" deregulation model encouraged would-be electricity suppliers to sell on the higher profit margin spot market resulting in dramatic electricity rate shocks. Additionally, under the Consumer Choice model very few customers actually pursued alternative ESPs and the vast majority of customers remained with the default utility provider.[27]

However, the creation of CCAs allows for the development of a viable market that supports a variety of ESPs. It is able to do so because the aggregate demand of a community is an appealing market for electricity suppliers. Large communities or aggregates of small communities provide large, consistent, and reliable electricity sales markets. As a result, ESPs are willing to negotiate for stable long-term contracts rather than opting for the higher risk, higher profit margin spot markets. Additionally, the CCA becomes the default service provider for customers in its area although customers are given the opportunity to opt out if they wish to remain with the incumbent utility. These two conditions dramatically mitigate the potential for the types of crises observed in California.[28]

General CCA Benefits

One of the primary advantages of forming a CCA is that it allows for increased control over local electric rates. In addition, their appeal to ESPs gives CCAs increased leverage in negotiations of electricity contracts and their associated retail rates. Aggregated communities can also access energy market consultants and specific market expertise that can help these communities locate, engage, and negotiate with suppliers that offer a more desirable product in terms of capacity, price, or mix of traditional and renewable energy resources.[29]

CCAs allow for an immense degree of local creativity in determining how a particular community will meet its energy needs. Communities can lobby their local representatives for all types of energy programs: developing large scale renewables, increasing the extent of distributed generation, or developing effective energy efficiency and DSM programs. What's more is that local debate can occur that allows for the most effective programs to be implemented based on the resources available in a specific geographic region.[30] Finally, local participation can allow for a particular community to spur economic growth by developing electricity pricing incentives to attract or retain specific business or industry.[31]

One of the most crucial advantages of CCAs is illustrated by a California Energy commission pilot project. This project suggests that CCA capital costs, or the costs associated with borrowing money, were approximately 5.5% versus 12.9% for investor owned utilities (IOUs).[32] Thus, development of traditional or renewable generation capacity is more economically feasible because of low cost municipal financing. Communities that have implemented CCA or are seriously considering implementing CCA see access to lower cost capital as one of the vital aspects that make CCA an appealing policy tool. This condition affords cities like San Francisco the opportunity to pursue aggressive demand-side management programs, and develop their own renewable energy generation using either large-scale wind projects and/or small scale distributed generation projects placed on the rooftops of high demand consumers.[33] In a similar vein, aggregates such as the Northeast Ohio Public Energy Council (NOPEC) are planning to utilize this lower cost financing to increase traditional fossil-based generation capacity.[34]

The consumer advantage of low cost financing is two-fold. First capital cost savings can be passed on to the customers. Secondly, the development of new generation by the CCAs provides a more direct link between energy production and consumption; thus rates are reduced by lower transaction costs and the elimination of retail middlemen.[35]

Additionally, proponents of CCA cite that it offers advantages over traditionally regulated utilities because as government entities CCAs are not necessarily driven by a profit motive.[36] Finally, CCAs are also noted to be able to stabilize electricity rates due

to their ability to negotiate stable long-term contracts, their ability to diversify their own generation resources, and their potential to develop fossil-fuel free renewable generation.[37]

Challenges and Risks

Despite all these appealing attributes, CCAs entail a large degree of risk. The single largest risk is that the formation of CCAs will result in higher electricity rates than those offered by utilities.[38] Depending on details of the contract, procurement of long-term contracts by CCAs can provide price stability by placing the risks of fuel price fluctuation on the ESP. However, contracts that are structured in this manner also offer a significant profit potential for the ESP if prices for traditional generation fuels drop after contracts are finalized.[39] In addition, if demand-side management programs do not create the planned-for drops in energy consumption, or if demand exceeds the supply forecasted by the CCA, it could be forced to meet higher demands by purchasing electricity on the volatile spot market.[40] In addition, if CCAs fail to negotiate the lower rates that they plan for, or if they receive no bids in their Request for Proposal (RFP), they may be forced to remain with the incumbent utility.[41] Finally, many communities (e.g. San Francisco and Marin County) have goals of attaining 50% or more of their electricity consumption by 2017 from renewable resources. However each of these communities will have to acquire the expertise for these projects, and this relatively high penetration of renewable energy resources could potentially increase the effects of intermittency problems, in turn requiring additional costs for back-up and storage.[42]

As mentioned before, the CCA becomes the default service provider for customers in its service area. However, because customers are given opportunities to opt out of the CCA, an aggregate that has higher retail rates than those of the incumbent utilities could potentially lead to a disastrous cascade of events in which consumers opt out of the CCA en masse, in turn forcing rates to increase evermore until the CCA is no longer able to fulfill its negotiated contracts. This is an increased risk for CCAs because ratepayers bear 100% of the risks associated with being actively involved in the energy market, whereas in the case of IOUs not only do both ratepayers and stockholders bear the risks but these risks are regulated by the Public Utilities Commission.

Due to the potentially detrimental impacts of en masse opting out, CCA rulemaking has involved the discussion of disincentives for opting out, such as an exit fee. In addition, communities such as Berkeley, CA will put the CCA up for a public vote prior to implementation.[43] Finally, it is also worth noting that the more common mindset is similar to that of Dawn Wiesz from Marin County who feels that the worst case scenario is not realistic and cites feasibility studies that have shown that prices will likely only be slightly higher, if at all.[44]

Additionally, CCAs face a handful of technical and legal issues that must be well-managed in order to provide high levels of service. Two especially crucial challenges are: organizing and analyzing load data and administering the bidding and negotiating process. A CCA that is unable to deliver the correct balance of power to its customers either because of an inability to properly judge loads or an inability to secure viable electricity contracts that are in line with consumer values (i.e. price, capacity, or inclusion of renewables) will simply not be sustainable.[45] Finally, it is worth noting that when procuring contracts, CCAs will be competing with experienced and well-connected utility companies that are not new to the process of procuring low cost reliable electricity.[46]

One final risk that is more specific to the California CCAs but could potentially implicate other regions as well is competition over access to renewable generating sites. Based on the current state of renewable energy technologies, the most cost-effective means of meeting the aggressive renewables goals that many CCAs hope to achieve is via wind power. However many of the valuable wind sites in California are already in use and have been fitted with the latest, most efficient technologies. As a result if CCAs hope to develop local large scale wind projects, competition over sites could become a problem.[47]

Energy Sector Structural Changes Associated With CCA

There are currently five states that either have CCAs presently operating or allow for the implementation of CCAs: Massachusetts, New Jersey, Rhode Island, Ohio, and California.[48] At present, the most active state pursuing the formation of new CCAs is California which with significant focus could implement their first CCA, the City and County of San Francisco, in the first quarter of 2008. The most significant change that

must occur to allow for CCAs is the formation and passage of state-level legislation that specifically allows for the creation of CCAs.

Being a new policy tool, the allowance for CCAs requires a significant degree of rulemaking to determine how CCAs will meet the existing statutory requirements and function within the existing energy sector. This process is complex because a new set of regulations must be developed. Additionally, this process must be completed prior to CCA implementation, and in practice rulemaking must be completed prior to specific, in depth, feasibility studies. Generally speaking, CCAs occupy a place between municipal utilities which have virtually no regulations and investor owned utilities (IOUs) which are regulated in virtually every facet. In addition CCAs are typically required to comply with existing state Renewable Portfolio Standards (RPS).[49]

In California, the regulations dealing with CCAs are primarily specific to two areas. The first is that the California public utilities commission (CPUC) must regulate the impacts of the CCA on existing utility operations and rates.[50] To achieve this goal the CPUC has created a fee paid by all CCA customers called a Cost Responsibility Surcharge (CRS). The CRS is paid to the incumbent utilities so that existing generation related costs are not shifted onto the remaining customers in an incumbent utility's service area. This is viewed as a necessary regulatory tool because it allows for customers that are not a part of the CCA to continue being served without added costs inflicted by a large number of customers who no longer contribute to capital costs and operations and maintenance costs of the incumbent utilities. However, the CRS is not a static regulation. The CRS is reevaluated every two years and is subject to a cap developed by the CPUC.[51]

Secondly the CPUC must "regulate the services that the utility provides to the CCA and its customers."[52] As a result of this statute the primary mechanism the CPUC developed is a tariff system or pricing scheme for services that provided by incumbent utilities such as: load data, transmission and distribution services, new customer and customer switching rules, metering, service agreements, call center fees etc. Additionally, it was determined by the CPUC that CCAs will become the default electricity supplier for all customers within the CCA service area at the time of implementation unless customers choose specifically to opt out of the CCA. CCAs do not however, become the

service providers for business or institutions that are currently served by Direct Access (DA) providers as a result CCAs are forced to compete with DA services in order to access the revenues currently received by DAs.[53]

Logistics of Creating a CCA

Creating a CCA is a time consuming and expensive process because a thorough and complete cost benefit analysis must be performed before forming a CCA.[54] Complicating this task is the forecasting of prices and future utility rates which are highly susceptible to the volatility of the natural gas market.[55] In addition, providing an opportunity for increased local involvement and determination in the aggregates organization and contract procurement adds a diversity of opinions and requires additional time.[56]

The size of the CCA has a significant impact on the timetable for the formation of a CCA. Organizers prefer to have a larger aggregation because it offers a more attractive customer in procuring electricity contracts and therefore offers greater leverage in contract negotiations. However, the addition of multiple communities can be especially difficult as each individual actor may have their own specific goals that will have to be brought into accord with the other actors. Finally, the political support for changes in the utility structure must be created which can also be a time-consuming and expensive aspect of the process. [57]

The logistics of creating a CCA vary from state to state depending on the specific statutes and regulations regarding CCAs. Discussed below is the process of formation in Massachusetts and in California. This illustrates the process as it is progressing in two different stages. Massachusetts was the first state to pass legislation allowing for CCA formation and became the first state to implement a CCA in 1997. The Cape Light Compact, a consortium of 21 towns and two counties was originally a pilot project and has laid the groundwork in Massachusetts for the future formation of CCAs.[58] Presently in California, no CCAs have been formed. Progress in California has been limited by hesitance on the part of local politicians and governments to make major changes in the California electricity environment based on their previous experiences with deregulation.[59] In addition, the California Public Utilities Commission (CPUC) only

recently finalized its rulings regarding the formation of CCAs.[60] However, it is expected that after successful CCAs have been implemented in California the process will become more straightforward and streamlined.[61]

As noted above, the formation process in Massachusetts is notably more detailed and organized than in California. Massachusetts first implemented a CCA in 1997 and has developed a guide for potential CCAs to employ in the various stages of the process. The process is summarized here:[62]

1. Entities must conduct a municipal vote to verify constituent interest in an initial phase feasibility and cost benefit analysis
2. The next step is the most detailed--local government entities consult with the Division of Energy Resources (DOER) to create an implementation plan. This process consists of:
    a. Decisions made regarding how the CCA will be organized (independently or as an aggregate of multiple entities), how the CCA will communicate with ratepayers to determine their desires, as well as how to communicate ratepayer rights and responsibilities
    b. Specific regulations, tariffs, and legislative statutes are assessed and taken into consideration
    c. Market and demand analysis is performed
        i. Load analysis: demands and profile
        ii. Extent and type of resources needed
        iii. Investment necessary to achieve goals
    d. Timetable is established
    e. A feasibility plan is conducted
        i. Assessment of benefits and costs
        ii. Provides background to establish goals and services expected from electricity suppliers
        iii. Includes: supply analysis (usage, load diversity, electricity service and price data), engineering evaluation, market and contract issues, political and legal issues, findings and recommendations

iv. Very important during this stage to obtain local input from constituents; point is to provide opportunity for power supply to match public demands (i.e. prices, savings, stability, pricing options, annual billing options, cleaner or not, bundling of services); dealing with customer exits and opting out

f. Creating the aggregation plan
    i. What are the consequences
    ii. What is the purpose (e.g. universal access, reliability, equitable treatment)
    iii. How will it work: organizational structure, O&M, funding, termination, notification and enrollment, rights and responsibilities of participants
    iv. Budgetary resources
    v. Pricing information
    vi. Consumer education

g. Issuing an RFP
    i. Define needs
    ii. Develop the RFP
    iii. Describe the soliciting organization and needs

3. This plan is then reviewed by municipal citizens (a vote is allowed for plan approval)
4. Electricity purchasing plan is completed with the selection of a qualified supplier
5. Aggregator submits the plan to the Department of Telecommunications and Energy for certification; prior to certification the DTE conducts a public hearing
6. Demand-side management plan is completed; filed with DTE; subject to public hearing and DTE approval
7. Contracts are executed and monitored
8. Education of consumers about the CCA continues

In California, the process is similar. However, because the rulemaking for CCAs was only recently completed, there is not as descriptive of a procedure in California. The

process is still developing in California, and as a result certain issues--such as whether or not to have a public referendum prior to implementation--are decided by the individual communities. The process outlined below is a description based on a projected timeline for potential implementation in San Francisco and is as follows:[63]

1. Phase 1
    a. Preliminary feasibility study and review of feasibility study
    b. Determination of potential viability of a CCA
2. Phase 2 (Part 1)
    a. More case-specific feasibility study
    b. Rigorous verification of phase 1 economic assumptions
    c. Testing of risk tolerances (are they applicable?)
    d. Creating a detailed business plan including: quotes from potential suppliers, identifying specific renewable generation projects, revenue projections, collection procedures, marketing plan, and financing plan
    e. Expert legal advise regarding legal burdens and their associated risks (i.e. impacts on general funds, ability to issue bonds for financing
    f. Market studies to identify constituent enthusiasm and expectations
3. Phase 2 (part 2)
    a. Creating the implementation plan
    b. Submit implementation plan to Board of Supervisors (BOS)
    c. Submitting Implementation plan to CPUC with certification proceeding
        1. CPUC certification is a procedural process that recognizes the formation of the CCA and ensures that the CCA has an adequate electricity supply
4. Phase 3
    a. Implementation of CCA
    b. Thresholds are in place during phase 1&2 to determine whether to proceed or not; phase 3 is effectively the formation of the CCA

One important aspect for the successful formation of CCAs is acceptance or support from the incumbent utilities. Incumbent utilities have shown a significant ability to stifle and halt community municipalization efforts,[64] and thus it is important to have these stakeholders on board when considering CCAs. Because utility infrastructure and capital remains the property of the incumbent utility, they are generally less hostile to CCAs than municipalization efforts. In California, this condition is significant because utilities are regulated such that profits do not come from electricity generation itself but through the distribution, hence maintaining ownership of distribution infrastructure allows incumbent utilities to maintain this critical revenue stream and they also receive the CRS to continue coverage for capital and O&M costs. As a result, incumbent utilities tend to be relatively neutral towards CCAs. [65]

Existing CCAs and their Impacts: Two Case Studies

The Cape Light Compact (CLC), located in Massachusetts, was first organized in 1997 as an aggregate of the 21 different towns that make up Cape Cod, Martha's Vineyard, and Barnstable and Dukes counties. The CLC was formed to "represent and protect consumer interests in a restructured utility industry."[66] The CLC board consists of one representative from each town and a representative of each county that are served. The CLC represents approximately 197,000 electricity customers. Board meetings are open to the public, receive extensive local publicity, and are designed to ensure that customers are able to participate in the proceedings. CLC provides a variety of services such as: consumer advocacy, aggregate supply contract negotiations, energy efficiency programs, and energy education programs. The general goals for CLC include:[67]

1. Equal access to electricity
2. Equal sharing of economic savings for persons in the service area
3. Acquisition of the lowest priced electricity rates
4. Enhancing consumer protections and benefits
5. Promoting demand-side management and energy efficiency
6. Promoting environmental protection and utilization of renewable energy resources

7. Carrying out their services in a transparent manner with full consumer accountability
8. Employing the powers and advantages of a municipality to achieve these goals

Over the past five years the CLC has operated and carried out especially notable energy efficiency programs. Moreover, it has developed demand-side management programs and energy education programs. Administrator Maggie Downey comments that the CLC is a valuable forum for providing these programs because "the CLC is able to provide the technical, energy, and professional support on complex issues that the towns previously lacked staff to address." The CLC 2005 report on these programs indicates that the energy efficiency and demand side management programs have been and continue to be highly cost effective offering a benefit cost ratio of 2.36. Total annual energy savings across sectors is 12 GWh with a projected lifetime energy savings 119 GWh. Demand side savings for 2005 were observed to be somewhat lower on the order of -2.5% summer savings and -7.5% winter savings. Nevertheless, decreased demand did result.[68]

Another program CLC administers is the Cape Light Compact Green program which allows customers to purchase either 50 or 100% of their electricity from renewable resources including hydro, landfill gas, wind, and solar. 25% of the proceeds from this program are specifically devoted to development of new renewable generation. Currently about 1% of CLC customers utilize this opportunity.

Finally, consumer and public advocacy programs have afforded some savings at different points during the CLC's history. CLC has negotiated contracts specifically for municipal governments and schools that saved $375,000 and $165,000 respectively. [69] At different points CLC has also maintained retail rates below that of their competitors.[70] Additionally, CLC is actively seeking funding opportunities through the Massachusetts Renewable Energy Trust to evaluate future renewable energy potential.[71]

Despite these successes, CLC has not achieved all of its goals. The CLC has not succeeded in the development of its own renewable energy generation nor has it achieved high enough penetration of green energy customers to secure long-term renewable electricity contracts. CLC has made significant attempts to secure these types of

renewable resources. However, they have been stifled by liability exposure and a lack of legal authority to pursue specific opportunities. Nevertheless, in September 2006 CLC issued a report detailing its current exploration of mechanisms by which they could fulfill this goal of procuring long-term renewables contracts and/or pursuing development of their own renewable energy sources.[72] CLC pricing is currently slightly above that of their competitors. However, CLC administrator Maggie Downey explained that under Massachusetts regulations traditional utilities are subsidized such that their prices are maintained at an artificially low level, and removal of this subsidization is currently CLC's primary advocacy goal.

The second case study of existing CCAs to be addressed is the Northeast Ohio Public Energy Council (NOPEC). NOPEC was formed in 2001 after Ohio legislation in June of 1999 allowed for the creation of aggregate electricity purchasers. NOPEC represents a markedly larger geographic area (116 communities) than the CLC and serviced approximately 450,000 customers as of 2005 year's end, making it the largest public aggregation in the country.[73] Similar to the CLC, NOPEC is organized such that one elected representative from each member community makes up the general assembly. Thus, the voters are the ultimate authority over the CCA. Nine board members are elected by the representatives from within the general assembly.[74]

The fundamental goal of NOPEC is to "save money for the residents and businesses in its member communities."[75] In addition, NOPEC strives to achieve price stability for its customers and serves as a public lobbyist advocating for regulations and policies that allow for increased fairness and accessibility of aggregate purchasing power in the Ohio energy market. NOPEC is primarily focused on the benefits it can gain from being a mass purchaser of services. As a result, it also supplies natural gas to its customers and maintains aspirations of providing an array of widely used services including cable television and internet.[76]

NOPEC has been quite successful in achieving its goal of saving money for its customers. The year end 2005 report states that approximately $46 million ($33 per customer per year) has been saved merely by utilizing aggregate purchasing power to negotiate electricity and natural gas rates for its customers. Additionally, NOPEC

emphasizes that these savings have come without any public spending, as there are no energy efficiency, education, or demand-side management programs.

NOPEC has future goals of constructing its own generation facilities in order to allow direct purchasing of electricity, which will presumably save additional financial resources by eliminating transaction and retail costs.[77] NOPEC has also participated in the development of small scale renewable energy education by helping to sponsor the Solar Schools Program and providing some funding for a 26 KW solar array, the first retail solar installation in the state.[78]

However, NOPEC is relatively uninterested in many of the opportunities that other communities advocate as benefits of forming CCAs such as: increasing electricity that comes from renewable resources or as a valuable mechanism for pursuing demand-side management and energy efficiency programs.[79] Incidentally though, NOPEC did achieve significant reductions in carbon dioxide emissions and other pollutants from 2001 to mid-2005 because their supplier during this time was *Green Mountain Energy*, an ESP that generates very high percentages of its electricity from natural gas.[80] However, due to contract difficulties in mid 2005 NOPEC is no longer being supplied by *Green Mountain Energy*[81] and has been forced to shift its load back to suppliers whose primary electricity comes from coal and nuclear power. As a result NOPEC is no longer able to claim lower carbon dioxide emissions.[82]

CCA in California: Potential Impacts and Implications

The state with the most significant activity occurring in regards to CCA is California. As of August of 2006, 16 different communities were exploring the possibilities of forming CCAs, while 11 of these--including City and County of San Francisco, Marin County, Berkeley, Emeryville, Chula Vista, and Oakland--are actively engaged in conducting preliminary feasibility studies and/or phase II feasibility analysis and business plan creation.[83] Presumably the next step for these communities is to formalize the implementation plan, obtain authorization from the local government authorities and CPUC certification, and implement the CCA. However, while each of these communities has devoted significant resources to studying feasibility, none has fully committed to implementation[84].

The legislation allowing for creation of CCAs in California was passed in the fall of 2002. Many communities began analyzing CCA feasibility shortly after that point. However, a variety of factors have impacted the rate at which these analyses have progressed. Funding for feasibility studies is on the order of $200-300 thousand and has largely been supplied by the general funds of the local communities; however, the California state energy commission and US Department of Energy have also supplied grants to fund a portion of the consulting fees.[85]

One major hurdle that communities have had to confront is political and public hesitance regarding new regulatory schemes in the California energy sector. Due to the tumultuous history of deregulation there, California politicians and the public have been cautious about fully endorsing CCAs. Hence, public support is somewhat variable between communities, and some communities plan on allowing a public referendum prior to implementation of a CCA to ensure broad based support.[86]

An additional hurdle faced by CCA organizers in California is how to address the risk that CCA rates could be slightly higher than those of the incumbent utilities for the first 3-4 years following implementation. This condition is primarily a result of the fact that CCA ratepayers will be paying the cost responsibility surcharge (CRS) that has been imposed by the PUC.[87] In addition though, pricing schemes will be affected by transfer costs, the CCAs ability to negotiate with electricity suppliers, the broader dynamics of the wholesale energy market, development of new renewable energy resources, and the changes and evolution of the regulatory environment. [88]

As discussed previously, the real danger associated with increased electricity rates or rates that are higher than the incumbent utilities' is that customers will choose to opt out of the CCA to obtain lower rates. However a variety of strategies including the imposition of an exit fee have been discussed to mitigate this condition. Nevertheless, the issue of consumer price sensitivity is especially important in California because many communities like San Francisco and Marin County are planning extensive development of renewable energy resources. Thus, with such high capital expenditures these communities will be especially susceptible to customer opt-outs.[89]

A final significant hurdle in California, as mentioned before, is competition over renewable generating resources. Both Marin County and San Francisco have aspirations

of achieving 50% renewable energy supplies by 2017; thus the development of new renewable generation is a vital aspect of their CCA goals. Nevertheless, because of California's aggressive RPS, virtually all actors in the state's electricity sector, including the regulated utilities like PG&E, are scrambling to secure enough renewable energy supplies to comply with the state RPS. As a result of this competition incumbent utilities have actually been somewhat pleased to see communities consider withdrawing from their service areas because this reduces the total supply of renewables they must procure to meet the state RPS[90]. One potential means of mitigating the effects of this competition is to allow for broad or widely inclusive wind resource regions from which communities could draw wind resources; however, this will likely be dealt with by individual implementation plans.[91]

Despite these hurdles, the impetus driving most communities in California that are pursuing CCAs is the increased local control over future energy supplies, and their ability to dramatically increase the percentage of renewables in their energy supplies by accessing low cost municipal financing.[92] In addition, they also recognize the benefits of administering aggressive energy efficiency and DSM programs and, like the CLC, view the aggregate administration as a valuable network for organizing such programs.[93] The feeling of advocates in San Francisco was summarized by Michael Hyams as the condition that individuals can either spend resources merely advocating for renewables or they can form a CCA and start building renewables. Finally, advocates also cite the increased leverage in negotiating contracts, the increased accountability that comes from public elections of CCA administrators, and the ability to develop and support distributed generation projects.[94]

The primary basis for pursuing CCAs in Marin County and the City and County of San Francisco is to "meet or beat" the current pricing and green attributes of these two regions' electricity supply. Both entities have goals of achieving prices competitive with the current incumbent utility (PG&E) and obtaining 50% of the electricity sold in these areas from renewable resources.[95]

The results of the preliminary Marin county feasibility study indicate that their renewables goal could be achieved with only a marginal impact on retail rates. Despite the fact that current renewable energy purchasing is roughly 40% more expensive than

conventional generation prices, Navigant Consulting estimated that "for each additional 1% of the energy mix purchased from renewable resources, there would be a 0.1% overall rate impact,"[96] without producing power from their own resources. However, depending on the price of natural gas, there is a potential for prices to exceed those of the default utility provider during the first 3-4 year transition period. To mitigate the effects of initially higher prices Navigant suggests phasing in the program, offering a green pricing program to cover the added cost of securing additional renewable resources, negotiating contracts that shift future savings to the initial year period, and marketing the rate stability aspect offered by the CCA.

Despite the potential for higher initial rates, Navigant estimated that even during the early period after implementation, prices would be within 5% of PG&E's rates and they would be relatively stable in relation to PG&E rates. As well, it is notable that under a no-CCA scenario everyone loses. The estimated costs to ratepayers under the no-CCA scenario through 2024 are estimated to range from $33 million to as high as $442 million, roughly a 5% increase in costs.[97]

In San Francisco the situation is similar. Again, it is recognized that prices during the initial 2-3 years could be above those of PG&E. Given the best case scenario, average residential customers would pay approximately $3.50 more per month to move forward on the goal of achieving 50% renewables by 2017. However, after a 10 year period it is estimated that San Francisco's goals can be achieved and that the savings will be on the order of $51 million with a potential for saving $700 million, nondiscounted, over a 30 year period.

In the San Francisco case, it is noted that these calculations will vary somewhat depending on the rates the city will develop to target specific business or residential sectors, the exact supply mix that is settled on and the constraints placed on where the supply can be obtained from, the volume of customers who opt out, the ability of the city to obtain large commercial customers, the strength of bond sales, volatility of natural gas prices, and the success of executing the implementation plan.[98]

Presently, neither of these two communities have fully committed to implementing a CCA. In both cases, there is significant public support from environmentalists and others engaged with energy issues in those regions. However, both

communities are still weighing the potential benefits and risks. San Francisco is significantly further along in the process. The major task San Francisco must address is finalizing its implementation plan--namely, issuing an RFP, receiving bids, and then choosing amongst those bids. In a best case scenario San Francisco could potentially implement by the first quarter of 2008.[99]

Does CCA have a Role in Colorado?

Because CCA is a policy tool that molds the structure of the energy sector and how towns and communities participate in the development of future energy supplies, many of the benefits and risks that exist in other states like Massachusetts, California, and Ohio would be the same here in Colorado. One significant implication that will affect the results of potential feasibility studies here in Colorado is the mix of generating resources that currently supplies Colorado. Colorado electricity is fueled significantly more by coal than natural gas. Hence, differences in pricing between natural gas based generation and coal based generation make it difficult to relate potential savings in Colorado to those that were observed in the California feasibility studies. Additionally, feasibility studies must account for the condition that Colorado's heavy reliance on coal makes it vulnerable to future carbon emission caps or taxes.

Additionally, one must consider the political climate that exists in a state prior to pursuing CCAs. The specific goals one hopes to achieve through CCAs will have a dramatic impact on the perceived feasibility and viability of a potential CCA. As was noted in Ohio, even when renewables were not a significant focus of the CCA a successful CCA was possible. However, it becomes markedly more difficult, as was observed in California, when the goal is to achieve both cost savings and a dramatic increase in the usage of renewable generating resources. Another potential political factor in Colorado is that a significant portion (40%)[100] of the state is already served by Rural Electric Cooperatives and Municipal utilities and thus already has access to some of the benefits CCAs offer, such as local control and access to lower cost financing.

Nevertheless, many of the fundamental advantages that are applicable in both Ohio and California are also applicable in Colorado. Even the Rural Electric Associations and Municipal Utilities could potentially benefit from the increased buying

power that comes with a larger aggregation. In addition, local control over energy development would give individual communities the ability to pursue those policies that reflect the specific values of their communities, whether they are price driven or renewables driven. As well, CCAs in Colorado would also have access to the same lower cost financing available to other CCAs. Additionally, it is worth noting that Colorado does not suffer from the lack of potential wind power sites; thus competition for low cost renewables would only result from access to transmission rather than access to the wind resource itself.

The road to implementing CCAs in Colorado is obviously limited by the fact that Colorado does not have a statutory allowance for CCAs. However, assuming that Colorado may someday pass an allowance for CCAs, the process for creating CCAs could probably be modeled after those established in Massachusetts and California. In addition, as there are other states further along in the regulatory and implementation process, Colorado communities would have the significant advantage of hindsight in determining the most streamlined and efficient mechanisms for implementation of CCAs.

Future analysis of CCA in Colorado should be primarily geared towards exploring the potential for a statutory allowance for CCAs and establishing a path forward to create this specific allowance. In addition, more in depth analysis of existing CCAs and their specific contexts could also be helpful. Therefore, future CCA research in Colorado should include:

- Exploration of specific community leadership interest in CCA responsibilities
- Studying the extent to which the public would like to change Colorado's energy supply and/or increase its level of participation in the state's energy decisions
- Measuring the current legislative interest in modifying Colorado's energy sector structure
- Assessing the degree to which communities would like to pursue development of their own electricity generation facilities
- More in-depth study of existing CCAs and continued analysis of the California communities that are currently pursuing CCA

Subsequently, communities could begin performing preliminary feasibility analyses in order to obtain the general costs and benefits that may be associated with CCAs in Colorado. Finally, communities could perform aggregation specific feasibility analysis and begin formulating business plans, issuing RFPs and negotiating contracts.

Despite the groundwork that has been laid by communities in other states, the specific timeline and costs of implementing a CCA should not be underestimated. Even in a city such as San Francisco that has a highly engaged and vocal community of environmentalists who strongly support and advocate for the implementation of a CCA, the timeline has been extended due to the need for additional analysis. What's more is that even after all the resources that have been expended in California, so far no communities have actually committed to the implementation process.

Conclusion

Despite the fact that CCA is a relatively new policy tool it appears that it has significant potential to be valuable for communities that desire to take an active role in determining their energy future. While some of the benefits afforded to CCAs are similar to those of a municipal utility, the condition that the CCA does not own or operate transmission and distribution eliminates a vital technical and legal challenge to the formation of locally controlled and locally driven energy procurement. In addition, as shown by NOPEC, a large aggregation is a force to be bargained with in negotiating with ESPs. Finally, access to low cost capital could have significant impacts on the economic viability of all types of new generation capacity, notably high cost renewables, making it more feasible for communities like San Francisco, Marin County, and others to develop the generation capacity that best reflects local resources and values, both financial and environmental.

Forming a CCA does entail risks though. Incumbent utilities have high levels of technical expertise and business savvy and have successfully served our society for many years. Competing with utilities is no small challenge for local governments, and if in fact a CCA is unable to compete with the incumbent utility the potential losses economically, socially, and politically are large.

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