Equity in Community Choice Aggregation: A Case Study of Boston's Community Choice Electricity Program

Alicia Zhang

July 2021

A report submitted in partial fulfillment of the Boston University course EE538 "Research for Environmental Agencies and Organizations." A summary of this report will be presented to the National Environmental Justice Advisory Council (NEJAC) during its next meeting in 2022.

Table of Contents

Summary

Community Choice Aggregation (CCA) are programs designed to procure lower rates and 'greener' electricity for municipalities through aggregation of buying power. Wholesale purchasing provides discounts to individual residents and allows low income communities to participate in the 'green transition.' However, as this report details, electricity procurement is not enough in terms of energy justice. CCAs provide opportunities for actions that would address legal barriers, their current structure and organization, and lack of community participation beyond the design phase of the programs. CCAs can and should also focus on community benefits guided by principles of social justice and equity, including energy democracy, clean energy jobs and workforce development, and community resilience alongside affordable energy services and sustainability. Through such measures, these CCAs could contribute to equitable regional economies whilst helping cities transition to zero-carbon economies.

Community Choice Aggregation

Community Choice Aggregation (CCA), also known as municipal aggregation, is a program that allows local entities to procure power on behalf of their residents, businesses, and municipal accounts from a supplier of their choice, while still using their existing utility provider for transmission and distribution services. These entities, usually local governments, aggregate the buying power of individual customers to secure large energy supply contracts that allow both greater control of their energy mix (i.e. a 'greener' generation portfolio) as well as lower rate costs for customers.[1] CCAs use traditional procurement strategies, that is purchasing wholesale power, that individual consumers rarely use because of their complexity, enabling consumers to enjoy discounts long available to businesses and institutions. Some CCAs focus on power purchase agreements for renewable energy, or purchasing Renewable Energy Credits (RECs),[2] to make their supply portfolios "greener" on a year-to-year basis.[3] CCAs are tools for accelerating progress beyond the Renewable Portfolio Standard (RPS)[4] minimum when they provide for the greener options.

As of June 2021, only ten states permit the formation of CCAs: Massachusetts, Ohio, Virginia, California, Rhode Island, New Jersey, Illinois, New York, New Hampshire, and Maryland.

---

[1] "Community Choice Aggregation," *U.S. Environmental Protection Agency*, accessed June 18, 2021, https://www.epa.gov/greenpower/community-choice-aggregation#:~:text=Community%20choice%20aggregation%20(CCA)%2C,service%20from%20their%20existing%20utility.

[2] Renewable energy certificates (RECs) are market-based instruments that represents the property rights to non-power attributes of renewable electricity generation, such as environmental and social benefits. One megawatt-hour (MWh) of electricity that is generated and delivered to the electricity grid from a renewable energy resource is equivalent to a REC.

[3] "Community Choice Aggregation 2.0." *Local Power*, August 2016, http://localpower.com/whitepaperCopyright2011byLocalPowerInc.pdf.

[4] A renewable portfolio standard (RPS) is a regulatory mandate to increase the generation of energy from renewable sources, such as wind and solar. These standards are often revised or updated after a certain number of years.

Table 1: States in the United States with authorized CCA legislation

State	Alternative name for CCA	Year adopted	Enabling statute	Enrollment type	Market structure
Massachusetts	Municipal aggregation	1997	Acts 1997, Chapter 164	Opt-out	Competitive
Ohio	Government energy aggregation	1999	Senate Bill 3, Senate Bill 221 (2007)	Opt-in and opt-out	Competitive
Virginia	Municipal aggregation	1999	Electric Utility Restructuring Act (SB 1269)	Opt-in and opt-out	Regulated
California		2002	Assembly Bill 117, Senate Bill 790	Opt-out	Regulated
Rhode Island	Energy aggregation	2002	House Bill 7786	Opt-out	Competitive
New Jersey	Government energy aggregation	2003	Assembly Bill 2165	Opt-in and opt-out	Competitive
Illinois	Municipal electricity aggregation	2009	House Bill 362	Opt-out	Competitive
New York		2014	Governors' Press Release	Opt-out	Competitive
New Hampshire	Community power	2019	Senate Bill 286	Opt-out	Competitive
Maryland	Community choice energy	2021	House Bill 768	Opt-out	Competitive

Adapted from (Environmental Protection Agency, 2021; Local Energy Aggregation Network, 2021).[5]

Despite the attractiveness of CCAs, there are challenges to its design and implementation: implementation of CCA programs is dependent on enabling state legislation, requirement of successful adherence to various CCA regulations and ordinances, and CCAs entail administrative costs and staff able to implement or contract for the necessary actions. Further, CCA programs in traditionally regulated electricity states[6] may face push-back from utilities or local energy companies that view CCAs as new competition. Lower costs for individual consumers mean a lower revenue stream from the residential sector for utilities; energy companies marketing to individual companies lose business when communities provide a better alternative for them.

In the states with enabling legislation, the local government must hold public hearings and pass a law authorizing the CCA. Participation is open to all residents, businesses, and municipal sites in

[5] Environmental Protection Agency, "Community Choice Aggregation," *Green Power Partnership*, 2021, https://www.epa.gov/greenpower/community-choice-aggregation; Local Energy Aggregation Network, "CCA by State," *LEAN Energy US*, accessed June 30, 2021, https://www.leanenergyus.org/cca-by-state.

[6] In a traditionally regulated retail electricity market, consumers cannot choose who generates their power and thus must purchase their electricity from the utility that serves their area. These markets dominate most of the Southeast, Northwest, and the West (except for Califronia).

the jurisdiction and participation is always voluntary. Most CCAs have opt-out provisions, meaning that when a program begins, all customers in the municipal area are automatically enrolled; however, customers are given advanced notice and are able to remove themselves from the CCA program and can continue to receive electricity from their current supplier. Less common are opt-in provisions, where customers must actively enroll in the program to receive its benefits. Some CCAs have a tiered structure with a standard or default option that customers are enrolled in (unless they opt-out) as well as a 'greener' (i.e. higher renewable energy percentage) option at a higher rate. Prices for electricity under the standard option are often lower than the residential retail price for electricity, due to the collective buying power of entire communities, and sometimes even the programs with higher percentage of renewables are less expensive than the utilities' standard offer (known generally as the Basic Service).

CCAs have the option of doing more than simply providing traditional bulk procurement strategies to the individual consumer. CCAs can also choose to maximize local, clean energy procurement and democratize the increasingly complex electricity market. CCA programs have the potential to expand consumer choices for energy procurement by offering different portfolio mixes that provide the opportunity to foster local 'green' jobs and renewable energy development. Further, although bringing greater economic equity to disadvantaged communities is generally a feature of CCA governance, communities can do more as gaps in CCA design and implementation also can fail to optimize opportunities for greater energy justice.

Energy Justice

Urban climate actions sometimes address environmental challenges using technocratic solutions that may, to varying extent, overlook opportunities to address racial and income inequities,[7] or else have benefits and consequences that are distributed unevenly amongst its communities.[8] While a growing body of research focuses on the feasibility of urban sustainability initiatives and their intersection with justice,[9] less attention has been given to the intersection of justice and carbon reduction or energy programs, i.e. energy justice issues. The Initiative for Energy Justice, a grassroots non-profit that provides law and policy resources to advocates and policymakers to engender a just transition to an equitable and clean energy economy, defines 'energy justice' as:

---

[7] Hardy, R. Dean, Richard A. Milligan, and Nik Heynen. "Racial coastal formation: The environmental injustice of colorblind adaptation planning for sea-level rise," *Geoforum* 87 (December 2017): 62-72. https://doi.org/10.1016/j.geoforum.2017.10.005

[8] Wachsmuth, David, Daniel A. Cohen, and Hillary Angelo. "Expand the frontiers of urban sustainability." *Nature*. 536, no. 7617 (August 2016). https://www.nature.com/news/expand-the-frontiers-of-urban-sustainability-1.20459

[9] Agyeman, Julian. "Toward a 'just' sustainability?" *Journal of Media & Cultural Studies*. 22, no. 6 (August 2010): 751-756. https://doi.org/10.1080/10304310802452487; Gould, Kenneth A. and Tammy L. Lewis. *Green Gentrification: Urban sustainability and the struggle for environmental justice*. (New York: Routledge, 2017); Fujita, Kuniko. "Urban justice and sustainability." *The International Journal of Justice and Sustainability*. 14, no. 5 (May 2009): 377-385. https://doi.org/10.1080/13549830902903641; Pearsall, Hamil and Joseph Pierce. "Urban sustainability and environmental justice: evaluating the linkages in public planning/policy discourse." *The International Journal of Justice and Sustainability.* 15, no. 6 (July 2010). https://doi.org/10.1080/13549839.2010.487528

> […] the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system. Energy justice explicitly centers the concerns of communities at the frontline of pollution and climate change ("frontline communities"), working class people, indigenous communities, and those historically disenfranchised by racial and social inequity. Energy justice aims to make energy accessible, affordable, clean, and democratically managed for all communities.[10]

Energy justice thus shifts the paradigm from considering energy in an economics framework, to one in which every individual is entitled to receiving energy and participating in the decisions regarding energy development and distribution, energy security, and climate change. Additionally, energy justice considers how decisions might affect individuals now and in the future. Potential justice implications include communication issues such as language barriers in regard to customer understanding of the CCA program, financial barriers for low-income customers, and lack of participation in the design and implementation of a CCA program among marginalized communities. Energy justice must be considered in order to ensure not simply a 'green' transition, but also a just transition towards a carbon neutral economy in which everyone can participate and equitably reap the benefits.

Boston's Community Choice Electricity Program

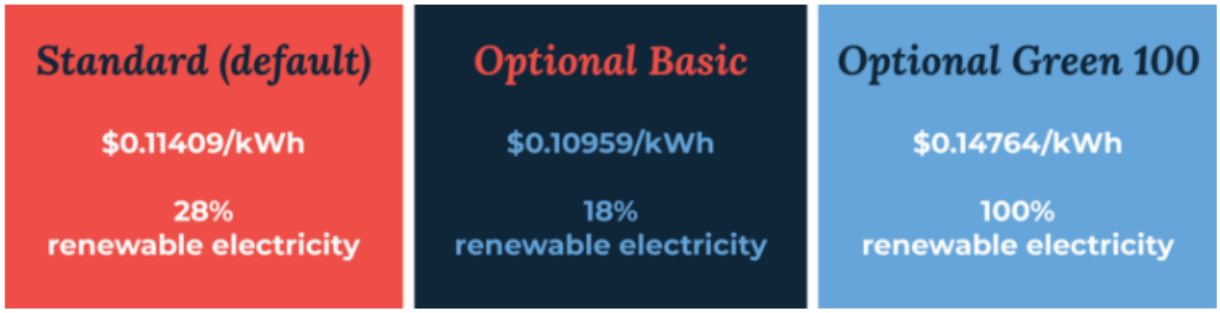
The Community Choice Electricity (CCE) program in Boston is part of the city's 2019 Climate Action Plan[11] to reach its carbon neutral goals by 2050, and which began to be implemented at the end of 2020. As opposed to a "regulated electricity market," in which utilities own and operate all electricity, Massachusetts has a "deregulated electricity market." This market allows for the competitors to buy and sell electricity by permitting market participants to invest in power generation plants and transmission lines. Retail electricity suppliers then set a price for the customers. The "deregulated electricity market" can be beneficial to customers as it allows them to compare rates and services of various competitive suppliers and allows them to engage in different contract structures. However, individuals rarely have the resources or motivation to study and understand the electricity market. As a result, individual customers simply accept the utilities' basic service, allowing the utility to choose the power source for them. Further, choice among individual, residential consumers can also be opportunities for competitive, for-profit electricity suppliers to prey upon unaware individual customers. Prior to the launch of CCE, Eversource, the electric utility provider for Boston, provided *both* supply and distribution services. CCE, however, takes over the procurement of the electric supply, although Eversource still oversees the distribution of electricity.

All Eversource Basic service customers (that is, those who do not already receive their electric supply from a competitive power supplier) are automatically enrolled into the CCE program. The City informed residents about this enrollment several months prior to its launch via letters sent through mail and offered informational webinars. CCE is an opt-out program, meaning that

[10] Baker, Shalanda, Subin DeVar, and Shiva Prakesh. "The Energy Justice Workbook." *Initiative for Energy Justice* (December, 2019). https://iejusa.org/wp-content/uploads/2019/12/The-Energy-Justice-Workbook-2019-web.pdf
[11] City of Boston. *Climate Action Plan: 2019 Update.* October 2019. https://www.boston.gov/sites/default/files/embed/file/2019-10/city_of_boston_2019_climate_action_plan_update_4.pdf

residents who do not wish to remain part of the program can switch back to their previous electric supplier with no fees or penalties. CCE offers three products:

Figure 1: Renewable electricity options offered to Community Choice Electricity customers. Source: City of Boston[12]



Enrolled residents are placed on the Standard (default) product, which provides renewable energy that is 10% above the states' current mandatory minimum of 18% renewable energy obtained through the purchase of Massachusetts Class I Renewable Energy Certificates. Residents have the option to 'opt-down' to the Optional Basic product, which has a lower rate than the Standard option and a renewable electricity percentage equivalent to the mandatory minimum. However, the rate of the Optional Basic product is lower than that offered by Eversource to its Basic service customers. Finally, residents also have the option to 'opt-up' to the Optional Green 100 product in which 100% of electricity is sourced from renewable electricity, although the rate is higher than the Standard product, as well as the Eversource Basic service product. According to a City of Boston official interviewee, approximately 96% of the CCE customers remain enrolled in the Standard option, while approximately 2% have 'opted-down' and approximately 2% have 'opted-up.'

Prior to the launch of the CCE program, in December of 2018, the City assembled a Municipal Aggregation Working Group of local experts and advocates (such as the Applied Economics Clinic), community leaders, and residents. This Working Group met on a monthly basis to help shape the design and implementation of the CCE program, such as the alternative ways that the program can acquire green energy. Additionally, the Working Group helped develop six principles that guide the CCE program:[13]

1. Strengthen consumer protection
2. Offer affordable and stable electric rates
3. Reduce carbon emissions
4. Increase renewable energy generation
5. Support local renewable energy
6. Commit to environmental justice

[12] "Community Choice Electricity," *City of Boston*, accessed June 18, 2021, https://www.boston.gov/departments/environment/community-choice-electricity.
[13] Ibid.

Although the necessity to address justice concerns are included in the principles, elaboration of how this goal would be met is not easily found in public documents. In order to fulfill this aspiration, it is necessary to identify potential problems, recognize historic inequalities, and to develop specific recommendations for actions to prevent or mitigate injustices. A plan for realizing the goal of environmental justice in the implementation of the CCE program would set forth in detail how environmental justice communities are defined, where potential injustices may arise in the CCE program, and how such injustices are addressed. The City of Boston's website does explain that the sixth principle exists because of certain realities: "We recognize that pollution and climate change cause more harm to socially vulnerable communities. The program aims to deliver benefits and economic opportunities to these communities." Through interviews, this report examines CCE's community inclusiveness in decision-makings, attention to equitable outcomes, and plans to effectively communicate the program's details to various residents.

Interview

To understand potential justice implications of the CCE program and methods of resolving them, I interviewed eight persons who either were (1) involved in the design and implementation of CCE or (2) a member of a non-profit and/or grassroots organization who conduct work regarding CCAs. The interviewees included the following:

- Two City of Boston officials who worked on CCE (Community Choice Electricity Outreach Coordinator & Energy Efficiency and Distributed Resources Finance Manager)
- Two participants in CCE's Municipal Aggregation Working Group
- Executive Director of Green Energy Consumer Alliance
- Clean Energy Director of MCAN
- Researcher at the Applied Economics Clinic
- Community Outreach Coordinator at Sierra Club (MA Chapter)

Interviews were held over video call, phone, or via email, depending on the availability of the interviewee. The open-ended interview questions were asked based on the interviewee's role in CCE. For example, the Community Choice Electricity Outreach Coordinator was asked questions regarding community education, misconceptions about CCE, competitive suppliers, etc. while the Energy Efficiency and Distributed Resources Finance Manager was asked questions regarding rate variability, opt-out rates, low-income assistance, etc. However, there was overlap in the types of questions asked.

Themes

Across the interviews, several themes related to equity emerged:

1. **Community outreach and engagement is crucial.**
   Although the City is mandated to hold public hearings and pass a law authorizing CCA, the *active invitation* of diverse groups of participants and the extent to which they can engage in the decision-making process has important ramifications on the

design and implication of the program. In Boston, the City's Environment Department formed the Municipal Aggregation Working Group that helped ensure that the CCE program reflected community priorities, as exemplified by the resulting six principles. Various stakeholder organizations, such as City departments, energy and climate groups like Boston Climate Action Network (BCAN),[14] Mothers Out Front,[15] and Ceres,[16] and residents offered their perspectives and insights.

Community engagement does not and ought not to end at the design stage. Although participating groups may represent different groups and communities' interests, individual residents' understanding of the program may still differ due to their own socioeconomic circumstances, beliefs, and levels of awareness. Program misconceptions can arise amongst marginalized communities due to socioeconomic disparities (e.g. language barriers, educational levels, access to information, etc.). Particularly, low-income, minority, and English as a Second Language (ESL) communities may not be aware of or may not understand the CCE program, or even how their electricity is procured and distributed. Further misconceptions arise from groups who do not believe that the government should be involved in electricity procurement, or who have a general mistrust of the government. A sustained effort is necessary to counter these tendencies. On the one hand, approximately 14,000 low-income consumers out of approximately 36,000 are not enrolled, a number that might be smaller with greater effort. However, as pointed out by an interviewee, this group remains small and thus not severely influential.

Individuals often receive competitive offers in the mail, or even face door-to-door sellers. Such offers sound attractive but are often far less advantageous to the consumer as the rates are actually higher than those offered by a utility supplier or municipal aggregation program. More than one interviewee cited this problem as a likely cause of opting out of the CCE, and the Massachusetts Attorney General has established a concerted effort to prevent fraud that the Attorney General has found to be a widespread problem. (See 3. below). Community education is thus essential and must cater to the diverse communities of the municipality. In Boston, informational webinars were offered frequently and at different times of the day (e.g. during the day and at night), to allow greater access and participation. Further, webinars were offered in the top ten most spoken languages in Boston, as well as in ASL. Accompanying documents, like those posted on the City's website or the informational letters distributed through postal mail, are also offered in these languages.

Community education and pressure from grassroots can provide support to politicians, who are often reluctant to approve CCA programs due to fear of backlash

[14] BCAN (a chapter of the Massachusetts's Climate Action Network-MCAN) is a climate justice grassroots organization that organizes Boston residents to identify and address climate concerns relevant to Boston's residents.
[15] Mothers Out Front is a national movement comprised of mothers in the United States who work to protect their children and communities from the impacts of climate change.
[16] Ceres is a nonprofit organization headquartered in Boston, MA that seeks to transform the economy in both just and sustainable manners.

from constituents if electric rates increase. Additionally, politicians face pressure from electric utility companies, who compete against CCAs as retail suppliers. Both pressures create a risk adverse system, which may prevent the establishment of an optimal CCA program. Support from constituents and community groups may mitigate politician's fears for supporting both the creation of CCAs and further renewable energy projects down the line.

2. **Trade-off between offering lower rates and offering higher renewable energy options.**
   During the design phase of CCE, there was slight conflict over whether to offer 100% renewable electricity option as the standard (default) product at a rate above Eversources' Basic rate, or whether to offer a lower percentage renewable electricity option but at a lower price. Although some environmental and energy groups called for the former, the City was mindful of the financial barriers a more expensive option may pose, especially to low-income households, and which may lead to higher than expected and desired opt-outs. Such financial barriers are more acute in Boston than in other municipalities with CCA programs, and thus must be strongly considered; the rate of poverty in Boston (18.9%) is much higher than in other nearby municipalities who also offer 100% renewable energy, such as Lexington (9.4%) or Newton (4.3%).[17] Further, the City reasoned that altruistic customers or those who seek a 'cleaner' energy mix rather more so than affordability, would be more likely to go for a 100% renewable energy option, eliminating the need for an in-between product. Thus, the City decided to offer two different products: the standard product with a renewable electricity percentage that is still higher than that mandated by law, and a 100% renewable electricity option that is voluntary. However, because the cleanest option is substantially more expensive than the utilities' Basic rate and the default CCE service, the option of significantly increasing green energy use seems out of reach for the low-income population, unless other avenues are undertaken to receive lower rates (See "Recommendations").

3. **Caution against competitive suppliers.**
   Several interviewees pointed out that competitive electricity suppliers often target low-income communities as they are more likely to sign contracts with these suppliers. Due to the 'deregulated electricity market' structure in Massachusetts, the presence of competitive electricity suppliers may divert customers away from the CCE program. The Massachusetts' Attorney General's Office has found much fraudulent activity amongst competitive suppliers. In a 2018 report[18] and its succeeding and updated 2021[19] report, Massachusetts' Attorney General's Office released reports that found that Massachusetts residential consumers paid competitive electric suppliers between $76.2 million to $176.8 million per year. Over the course

[17] U.S. Census Bureau Quickfacts, *U.S. Census*, accessed June 21, 2021, https://www.census.gov/quickfacts/fact/table/US/PST045219.
[18] "Are Consumers Benefiting from Competition?: An Analysis of the Individual Residential Electric Supply Market in Massachusetts," *Massachusetts Attorney General's Office*, March 2018.
[19] "Are Consumers Benefiting from Competition?: An Analysis of the Individual Residential Electric Supply Market in Massachusetts (2021 Update)," *Massachusetts Attorney General's Office*, March 2021.

of five years (July 2015-June 2020), the total net losses due to bad electricity deals are $426 million for Massachusetts residents. Both the 2018 and 2021 reports also found that low-income households are more likely to sign-up for competitive supply and are more likely to be charged higher rates.[20]

4. **CCA can provide opportunities for future projects that would grant more access to clean energy for low-income households (e.g. community solar), but prospects are uncertain due to current financial and regulatory constraints.**
Boston has developed innovative proposals for building on the CCE, to increase local green energy and benefit low-income customers, which require approval by the state's Department of Public Utilities (DPU). For example, the City planned to work with a solar developer on a community solar project. The state's SMART (Solar Massachusetts Renewable Target) regulations provide financial incentives for community if 60% or more of its generated electricity benefit low-income customers; however, the developer must find and contact low-income customers on its own. Due to the data collection activity done by CCE, the City is able to find these low-income customers for the solar developer. The project would benefit all those involved – the solar developer, the customers who would get credit on their bills, and the CCE program. However, although the project was supported by the Environment Secretary, the Chairman of the DPU filed a cease and desist letter (Docket 19-65)[21] stating three reasons: (1) uncertainty whether the City was permitted to receive such financial incentives (2) although the project was to serve low-income customers, the project cannot discriminate among customers in a rate class and (3) even if authorized, the project was not included in the original CCE plan, thus an amended plan must be filed with the DPU.

   Such a blockage is worrisome as it signals that future programs may be hindered. Although the City has challenged the order (filed in August 2020),[22] the City has not yet received a final determination. If approval is not received, the City may take this matter to court, but it is uncertain how long the City must wait before it is able to take the issue to court. The management of the DPU thus may be an obstacle for CCE, and any of the 160 CCAs in Massachusetts, to undertake similar projects that may benefit low-income households.

5. **Although CCE does not provide additional low-income assistance, energy efficiency programs like Mass Save can help reduce the total cost of the electricity bill, including the costs of electricity supply *and* delivery.**
Programs like Mass Save offer rebates and incentives on energy efficient products that help lower energy costs. Further, Mass Save offers enhanced incentives to low-income households. Reducing electricity consumption on the consumer side would reduce the cost of the electricity bill overall (that is, including both supply costs and

[20] Ibid.
[21] Nelson, Matthew H. "RE: City of Boston, D. P. U. 19-65, December 15, 2020. Massachusetts Department of Utilities.
[22] City of Boston. "Motion of the City of Boston For Clarification or Reconsideration." 19-65, Massachuetts Department of Public Utilities, 2020.

distribution costs). This reduction would be beneficial to households experiencing a high energy burden. Mass Save has a data-tracking system that assess how services are delivered across geographical and demographic categories to measure progress; such data can be useful to determine communities where increased efforts for energy programs, including CCA, should be targeted.

However, energy efficiency programs face issues in their incentive structure that ultimately create barriers against low-income communities to participate. For example, residents in low-income communities are primarily renters, and landlords have little to no incentives to upgrade houses and keep rent prices the same. While such systemic barriers must ultimately be addressed, there are other avenues to aid low-income communities to receive affordable and clean energy in the meantime. For example, Massachusetts has nonprofit community action agencies that act as distribution utilities by delivering services via a subcontract, while also providing fuel assistant and carrying out the federally funded Weatherization Assistance Program.[23] These agencies are equipped to address language barriers while performing outreach in critical communities. Further, Massachusetts has low-income assistance programs that provide energy rate discounts that are supported by utilities, to help customers receive affordable energy.

Recommendations

Based on the interviews and supporting research, CCAs that focus on community benefits beyond the financial and environmental benefits of lowered electricity rates and reduced carbon emissions, respectively, hold promising potential for an equitable energy structure. Community choice aggregation programs across the nation, including Boston's CCE program, may have aspirations to provide community benefits beyond simply procuring affordable, clean energy for its residents, but meeting them requires overcoming obstacles. The following are some recommendations gleaned from the interviews that may help communities to implement programs that have a higher chance of being equitable, specifically enabling low-income residents to take full advantage of the program, and increasing the use of local green energy, to provide local jobs, and combine the programs more effectively with existing energy efficiency services.

1. **Further democratization of the CCA process. CCA programs must emphasize community participation, engagement, and outreach at *all* stages of the CCA design and implementation processes.**
   Residents, especially low-income, minority, and non-English speaking communities, have many misconceptions about CCA. Most community members do not have a clear sense of how the electricity market operates and the concept of Renewable Energy Certificates (RECs);[24] thus, residents often fail to understand what energy 'aggregation' means, which translates to misunderstandings and

[23] Steve Cowell (on behalf of E4The Future), "Social Justice is a key issue in Mass. Energy programs," *Boston Globe*, June 20, 2021, https://www.bostonglobe.com/2021/06/20/opinion/social-justice-is-key-issue-mass-energy-efficiency-programs/.

confusions about the concept and benefits of CCAs and RECs. Educational outreach will inform residents of the financial and environmental benefits of CCAs as compared to their current electricity supplier. Educational materials, whether pamphlets, informational letters, webinars, or town meetings, should be updated as the CCA program continues to run, so that residents are continuously informed about their electricity supply and that the operations of the CCA program are fully transparent. CCA municipalities should be specific to the target communities in the manner that they present educational materials. Information should be presented in all languages spoken by the municipalities' communities, as well as American Sign Language (ASL) for verbally presented information. Webinars or town meetings must be held at various times of the day for greater accessibility and should be held throughout the implementation of CCA.

Further, systemic change begins from the bottom-up, not only top-down. Community education, engagement and empowerment should occur at every point in the CCA design and implementation processes to ensure community members are fully able to engage at any point in time. Although CCAs are required to hold public hearings during the design phase, community members may no longer be permitted to engage in the program once it is implemented. CCAs should alter their participatory structure for consistent community engagement and to promote democracy. For example, a Community Advisory Council, comprised of members from frontline communities, community-based organizations, environmental justice and equity organizations, workforce development entities, advocacy groups, and neighborhood groups, can provide feedback and a measure of accountability. In addition to Boston's Municipal Aggregation Working Group, which was consulted on a temporary basis before CCE was implemented, a Community Advisory Council would be permanent and thus would hold a level of power in the conversation. It is important that this Council would also be able to comment on the request for proposal (RFP)[25] during the bidding process in order to create greater transparency in the energy procurement process.

Rule reforms must be guided by operational experts who are aligned with the public interest, rather than personnel who are affiliated with for-profit electric utility companies. By ensuring that governance is more informed and accountable, technological advancements and financial discipline will progress in the electric sector.

2. **In states with a 'deregulated electricity market,' the CCA must be active to ward off competitive suppliers who prey on low-income and minority households. Further, CCAs should champion either strong regulations and enforcement of the open market and/or seek avenues to limit or dissipate the market for individual customers, but leaving it open for aggregated groups or large entities (e.g. hospitals, CCAs, museums, universities, etc.).**

[25] A request for proposal (RFP) is a document that solicits a proposal by an entity interested in the procurement of a commodity or service, to potential contractors to submit business proposals or bids. In the case of CCE, the City of Boston requested proposals to provide retail electricity supply to Boston.

As the Massachusetts' Attorney Generals' reports[26] state, third-party competitive electricity suppliers are failing to provide cheap energy and often enroll customers using deceptive practices, such as imitating legitimate utility providers, offering lower rates at first but then raising them later, and having strict binding contracts. Although the deregulated electricity market can provide financial benefits to large enterprises, supplier choice provides opportunities for competitive electricity suppliers to prey on unaware or uninformed individual consumers. Particularly, competitive suppliers target low-income, English as a Second Language, and elderly communities.

In the short term, CCAs must strive to educate all customers, targeting vulnerable groups especially, about competitive electricity suppliers and offer effective support to help victims leave their contracts with competitive suppliers. However, many predatory actions by competitive electricity suppliers are illegal, such as unauthorized switching of energy suppliers or 'slamming.' Thus, municipalities must reinforce the market. For example, although, in Massachusetts, victims may file a complaint with the DPU, victims may not know whether they are being deceived, about the opportunity to file a complaint, or the process to do so. State efforts should be more vigilant and attentive to such activities using existing law.

3. **Implement a decentralized renewable energy model.**
Many CCAs use a contractor who purchases energy, including those from renewable sources, from the market. However, the use of a consultant stifles a CCA's direct access to the wholesale market, thereby providing CCAs with higher rates as they must pay for services provided by the supplier. CCAs can manage their access to the power market by using an administrative service provider, while buying power directly from the wholesale market, thus obtaining better rates, and assigning them to the administrative service provider. Further, CCAs can engage in contracts from renewable energy developers and assign them to the administrative service provider as well, in order to have greater control over their electricity portfolio mix. Such contracts may be long-term and produce lower rates as well. Net electricity revenues can remain in the community to expand services, invest in new assets, build reserves, or reduce rates; a CCA can also set aside a specific amount of percentage of the program's funds to benefit low-income communities historically left behind by energy investments and/or develop programs and technical assistance only eligible for low-income customers.

While CCA programs should continue to seek opportunities to lower rates, especially for higher renewable energy options, to ensure the program is competitive against for-profit utilities, CCAs can and should prioritize the development of local renewable resources that promote local union jobs and local community ownership. In addition, CCAs should prioritize reduced energy

[26] "Are Consumers Benefiting from Competition?: An Analysis of the Individual Residential Electric Supply Market in Massachusetts," *Massachusetts Attorney General's Office*, March 2018.; "Are Consumers Benefiting from Competition?: An Analysis of the Individual Residential Electric Supply Market in Massachusetts (2021 Update)," *Massachusetts Attorney General's Office*, March 2021.

consumption. Local distributed energy resources can optimize the electricity system, provide stability, and help achieve net-zero energy.

Boston's CCE program has developed some local renewable resource development (as I the case of the community solar project – see "Themes": Sec 4.), although such efforts have been blocked by the DPU. Local renewable resource development supports the local economy through high-quality clean energy jobs if CCAs also prioritize union jobs, overcome barriers to employment in historically marginalized communities, and includes local small businesses, diverse business enterprises, and cooperative enterprises. Although this action needs additional resources and staff, such jobs would ensure career-track and family-sustaining jobs. Further, local renewable resource must be paired with the promotion of local and community ownership. This control would spur equitable economic development and increased resilience, especially in low-income communities, communities of color, and frontline communities who are most impacted by climate change. State-level incentives for local renewable resource development, such as community solar, and a less rigid oversight by the DPU can help lead and develop such actions.

4. **CCAs within a state would benefit from forming a coalition, run by a non-profit entity, to foster both negotiating power and a greater market share.** Often, regulatory entity oversight (such as the Department of Public Utilities) provides a legal or political barrier for many CCA projects that would benefit low-income households. Communities tend to aggregate one at a time by the decision of the community. However, each state should have a nonprofit entity that represents the state's CCAs and which would buy power on behalf of all CCAs. This uniform representation would allow CCAs to hold an even greater market power and greater negotiating power. Further, aggregated CCAs may be aligned under common goals to maximize community benefits, such as greenhouse gas (GHG) reduction, economic development, good clean energy jobs, rate stability, social equity, local ownership and control of energy, and other community benefit goals. On the other hand, an aggregation of aggregations might limit variety, so in order to preserve the option of incorporating all the features that can benefit consumers and the environment, the statewide aggregator should allow for flexibility so that the model continues to evolve.

   A CCA coalition can also use its resources to bring CCAs to communities that do not currently provide them. Low-income and marginalized communities are usually less likely to organize or advocate for community programs due to various reasons including low educational attainments, low self-determination as a result of systemic and historical barriers, lack of English language comprehension, lack of access to transportation, distrust in the government, and time and financial constraints.[27] To ensure that all communities across states and across the nation are able to access clean energy through municipal aggregation programs, existing

[27] Montesanti, Stephanie R., Julia Abelson, John N. Lavis, and James R. Dunn. 'Enabling the participation of marginalized populations: case studies from a health service organization in Ontario, Canada." *Health Promotion International.* 32, no. 4. (January 2016). https://doi.org/10.1093/heapro/dav118

CCAs should educate, empower, and engage disadvantaged communities to establish their own programs, and to ensure that energy programs like CCA do not only benefit wealthy communities.

Conclusion

Community Choice Aggregation programs provide financial and environmental benefits compared to traditional electricity procurement through IOUs. CCAs are also more equitable, as they provide the benefit of bulk purchasing discounts to individual residents, especially low income populations who often have not been able to participate in the Green Revolution to the extent that communities with the time and financial resources to establish local renewable development, such as residential solar panels, have. CCAs are beneficial in getting low-income communities both better energy prices and provides greater opportunities to participate in the 'green' transition. However, more must be done. CCAs may miss opportunities for actions that would address energy injustices due to legal barriers, their current structure and organization, and lack of community participation beyond the design phase of the programs. Instead of striving only for lower electricity rates and higher renewable energy portfolios, CCAs can and should also focus on community benefits; guided by principles of social justice and equity, energy democracy, clean energy jobs and workforce development, and community resilience alongside affordable energy services and sustainability, these CCAs could contribute to equitable regional economies whilst helping cities transition to zero-carbon economies.

In their supply procurement, the City of Boston engaged in a 9-month contract that is set to expire in November 2021. Although a short-term contract is atypical, the City of Boston hopes to negotiate lower rates and greater renewable energy mixes in the coming months. The new RFP and subsequent contract provide an opportunity to include community benefit principles such as local renewable developments, local 'green' jobs, benefits to frontline communities, and prioritizing people of color and women-owned developers and contractors in company selection, especially if the outlined recommendations are followed. Due to its large customer size and diverse demographic composition, Boston can be even more of a leader than it already is by increasing its efforts to ensure the equitable implementation of community choice aggregation programs to transition the nation into a carbon-free economy.