

# **AN ASSESSMENT OF EXPERIENCE IMPLEMENTING COMMUNITY CHOICE AGGREGATION IN MASSACHUSETTS<sup>1</sup>**

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## ***Introduction***

In 1997 Massachusetts passed the Electric Industry Restructuring Act, which changed its electrical power system from one where electricity providers have “exclusive service territories” to one in which consumers may choose suppliers. Utilities now deliver the electricity and maintain the system, and customers can choose to buy electricity from other sources, such as from wind power in Texas. The natural monopoly that justifies exclusivity for transmission and distribution infrastructure no longer applies to the electricity itself, which can come from virtually anywhere in the connected grid. This restructuring of the electrical system provided the opportunity for lowered prices to those who could navigate the new world of competitive supply.

Large organizations with sufficient staff to figure out how to do energy purchasing have taken advantage of this change in the electrical system, while most residential customers have remained with “basic service”, but that is starting to change with the adoption of bulk purchasing by municipalities for their residents through programs known as “Community Choice Aggregation” (CCA). Large commercial customers have proven that they can obtain significant benefits by switching to competitive suppliers and a great part of the electricity consumed by commercial customers now comes from competitive electricity suppliers. But individual consumers at first remained largely outside of the new competitive market, because the vendor selection process can be complicated and time consuming, the energy system and market are complex, and competitive suppliers cannot absorb the cost of acquiring one customer at a time. CCA allows a municipality to navigate that system for the benefit of its residents, getting them their energy more cheaply because of the increased bargaining power bulk purchasing provides.

The Restructuring Act created “a process under which a municipality, or group of municipalities, may aggregate the entire electric load within the boundaries of the participating communities

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<sup>1</sup> A project of students in the Boston University Earth and Environment Department, overseen by Richard Reibstein and Cutler Cleveland. Students participating were: Matthew Garamella, Katharina Voehler, Bolaji Olateru-Olagbegi, Michel Silano, Casey Kelly, Yan Luofei, Madison Berman, and Daniella Meza Chavez. Thanks to Jen Boudrie of the Sustainable Communities conference and Larry Chretien of Mass Energy Consumers Alliance (Mass Energy) for offering suggestions on this document. Mass Energy has also just released a paper called “Green Municipal Aggregation in Massachusetts. See: <http://info.massenergy.org/gma-report>.

and solicit contracts to serve that load”.<sup>2</sup> Municipalities, or groups of municipalities, were encouraged to form purchasing blocks and bargain for better prices from energy suppliers, enabling individual residents to participate in the competitive supply market. As of October 2017 there are 133 approved municipal aggregations in Massachusetts.<sup>3</sup> Six other states have now authorized CCA, variously termed “municipal” or “government” aggregation, or “local energy aggregation”: California, Illinois, New Jersey, Ohio, New York and Rhode Island.<sup>4</sup>

Without CCA, customers of investor-owned utilities receive the basic service plan provided by within the constraints of public utility regulation. In Massachusetts, this means that the utilities provide customers with enough clean energy to be in compliance with the Commonwealth’s Renewable Energy Portfolio Standards, which require regulated distribution utilities and competitive suppliers to obtain a percentage of the electricity they serve to their customers from qualifying renewable energy facilities.<sup>5</sup> Many believe more progress is needed to prevent the worst effects of greenhouse gas emissions. By instituting CCA that purchases cleaner energy, municipalities provide cheaper energy to residents, and make it easier for residents to buy renewables and to accelerate progress beyond what the minimum standards will, by themselves, achieve.

By aggregating the supplier choice of community members, individuals can, as members of a group, exercise the choice that larger entities have enjoyed exercising since the Restructuring Act. Because residents are allowed to “opt out” of the aggregation, and keep their basic service plan if they wish, the process preserves and expands the choice of energy supply for members of communities.

A community can also choose to offer the chance to purchase clean energy to its members, and many communities have opted to use it for that purpose, to spur more rapid development, and/or to promote local generation and the jobs that go with it. In an economy in which solar and wind are competitive with fossil fuels, communities can obtain both cleaner energy and lower costs.

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<sup>2</sup> Department of Energy Resources, Guide to Municipal Electricity Aggregation in Massachusetts, 2003, <http://www.mass.gov/eea/docs/doer/electric-deregulation/agg-guid.pdf>.

<sup>3</sup> Approved Municipal Aggregation Programs, Executive Office of Energy and Environmental Affairs, 2017, <https://www.mass.gov/service-details/municipal-aggregation>

<sup>4</sup> See the National Conference of State Legislatures - <http://www.ncsl.org/research/energy/community-choice-aggregation.aspx>, (dated 2015), and LEAN, the Local Energy Aggregation Network, <http://www.leanenergyus.org/cca-by-state/>, noting that Utah, Delaware and Minnesota are considering implementation.

<sup>5</sup> Generally, four percent in 2009 and increasing by 1% annually since then. <https://www.mass.gov/renewable-energy-portfolio-standard>.

Because of the benefits of clean energy, and the interest of many consumers in purchasing it, CCA provides an important step in the use of market forces to better reflect the needs of the community for cleaner energy – a strategy highlighted in section 7 of the state’s Global Warming Solutions Act<sup>6</sup>. The benefits of increasing clean energy purchasing go beyond reducing greenhouse gas, but also encompass substantial improvements in public health through the reduction of air pollutants. The benefits of further developing local sources go beyond strengthening the local economy and include the potential for a more resilient electrical system. CCA programs afford residents the chance, with no effort beyond supporting the initiative, the ability to contribute to the development of a cleaner and safer world.

In the Fall of 2017, students at Boston University designed a survey and sent it to all communities in the state currently implementing CCA, examined the information communities had posted on their websites, and interviewed officials implementing CCA programs, in order to gain information helpful to other communities that have not yet instituted CCA. Seventeen municipalities responded to queries and information about 87 town programs was gathered from websites. The students found that cities were implementing CCA with little difficulty, though results can be improved with some investment of time in understanding how it works to get the best results and optimize program structure, and in managing the process of communicating to residents. Obstacles can arise in the form of misunderstandings about the nature of the program, which may affect success in achieving enrollment. Effective communication about the program and its purposes is important. Despite noting these issues, Massachusetts community officials reported that CCA programs have been successful.

Maintaining the ability of the program to accelerate progress in the development of cleaner energy is, however, dependent on the economic context. Because freedom of choice is preserved with opt-out provisions, increased rates for renewable energy may lead to dropping out, and/or higher costs for those choosing to remain in plans that involve purchase of a high percentage of renewables. The one-third of cities in Massachusetts that have implemented CCA have a common interest in state and federal policies that preserve the economic attractiveness of renewables. Because of the benefits to the local economy of local energy generation, municipalities also have a common interest in the development of a modernized

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<sup>6</sup> “The secretary, in consultation with the executive office of administration and finance, may consider the use of market-based compliance mechanisms to address climate change concerns; provided, however, that prior to the use of any market-based compliance mechanism, to the extent feasible and in furtherance of achieving the statewide greenhouse gas emissions limit, the secretary shall: (1) consider the potential for direct, indirect and cumulative emission impacts from these mechanisms, including localized impacts in communities that are already adversely impacted by air pollution; (2) design any market-based compliance mechanism to prevent any increase in the emissions of toxic air contaminants or criteria air pollutants, with particular attention paid to emissions of nitrous oxide, sulfur dioxide and mercury; and (3) maximize additional environmental and economic benefits for the commonwealth, as appropriate.”

grid with greater capacity to integrate clean energy from many local sources distributed throughout the state.

### ***Results of contacting MA municipalities and cities implementing CCA***

*Consulting services.* It is standard to use a consultant to put the program together, who may also serve as the energy broker, specializing in purchasing from the energy supply market. Some interviewees consulted noted that the ideal broker is one who is also informed about the renewables energy market. The majority of municipalities – 44 - were using Colonial Energy as their broker. Good Energy served as the broker for a consortium of 24 municipalities, the 15 municipalities in the Cape Light Compact used Resource Insight, and Guardian and Peregrine also provided services. Suppliers of standard offers compliant with the portfolio standards were Agera, Constellation, National Grid, Verde. We found Hampshire Power, Public Power, Good Energy, Peregrine and NextEra associated with plans including 100% clean energy options, although it appears that all brokers offer it if requested. Colonial’s contracts varied in length from 6 months to three years. Contracts associated with Good Energy and Peregrine were up to two years in length. The longer the contract term the better a community can plan, knowing what their costs will be for the duration. Longer term contracts with good terms help communities to weather periods of higher prices. Good Energy and Peregrine also provided some flexibility, allowing for various levels of commitment to renewables and the ability of residents to “opt up” for more renewables.

The typical charge for administration was a tenth of a cent per kilowatt hour per resident enrolled. No town was identified that charged for opting out, opting up, or opting down (choosing a higher or lower percentage of renewable than the default choice of the community aggregation), although rates differ depending on the choice.

*Energy reduction and local energy goals.* When asked if the town had set goals for reductions in greenhouse gas emissions or energy beyond the state’s Renewable Energy Portfolio Standard, out of 17 communities responding only the town of Brookline reported having specifically set such a goal, (80% reductions by 2050), though many cited the goal generally, commenting on the importance of increasing green energy use. Some noted they use CCA to increase the use of local green energy as an important goal, citing the nonprofit MassEnergy as provider, which supports clean energy generation in the region.

*Residential rate availability to small businesses.* The Compact Light in Cape Cod and Martha’s Vineyard set a different rate for industries than for residents. Small businesses have the same problem as many residents, the lack of time or expertise to research energy markets.

Communities contracting for the same rate for small businesses as for residents can provide their small businesses the same benefit of increased choice and enhanced purchasing power.

*Pricing.* For 37 municipalities on the websites of municipalities and cities or the brokers or consultants that served them, information could be found concerning the costs of power under the new arrangements. The price of energy is affordable - ranging from less than ten cents a kilowatt hour for Nantucket and Lanesboro, to 12.8 cents for Mashpee, Oak Bluffs, Orleans, Tisbury, Truro, and Wellfleet, with communities averaging a little over eleven cents a kilowatt. These rates compare favorably to current electricity rates. (For example, Brookline and Lexington residents have received 100% renewable at less than the cost of basic service). At least twenty municipalities have gone beyond the minimum standards for purchasing clean energy. Websites indicated that Abington, Adams, Clarksburg, Dalton, Egremont, Florida, Great Barrington, Lenox, Lowell, Mashpee, Medway, Millville, Monterey, New Marlborough, Oak Bluffs, Orange, Orleans, Tisbury, Truro, and Wellfleet all contracted for 100% clean energy. (Other communities, such as Lexington and Somerville, are known to be providing the 100% clean energy option as the default choice for its residents). However not all of these create “additionality”, new clean energy – only those that purchase Class 1 renewables or otherwise bring about additional greenhouse gas reduction. We were not able to establish how many communities are doing that. But that communities can act to accelerate progress beyond the minimum standards of the state’s Renewable Energy Portfolio standards and still obtain reasonable prices is a striking fact, demonstrating the feasibility of a new means for people to participate in bringing about the development of cleaner energy.

*Price goals.* The goal for most programs was to get a price under the current service provider. The town of Brookline had a goal of keeping its plan with 25% renewables within \$7 of the Eversource basic plan (the utility serving the area). At the time the research was performed (Fall of 2017), this default plan was \$2-3 cheaper than the Eversource basic service, and those who chose the town’s 100% renewable plan paid the same price as they would have paid had they remained with Eversource’s plan.

*Enrollment trends.* The majority of the municipalities did not have specific goals for enrollment in the plan, but reported being pleased with the current percentage and growth. Enrollment is a concern as resident choice to opt out is unconstrained - if the price of renewable energy rises, nothing stops residents from dropping out. Only Chelmsford discussed decreasing enrollment as a problem they were working on. The lack of attention given to recovery of enrollment methods suggests that loss of enrollment is not a pressing concern at this time. The municipalities that reported a decrease in enrollment attributed it to the fluctuating market and anti-government sentiment.

*Ensuring residents understand their choice is enhanced, not diminished.* All cities provided opt-out information in some form, either through direct education about the CCA, town meetings, web information, or letters in the mail. Some responses were negative when communities changed the default from the utility basic service to the new contracts for aggregation. The opposition experienced was relatively small, but large enough for some communities to respond by increasing their communication efforts, to make clear that residents could choose not to be part of the community aggregation, and remove any suggestion of coercion from the program's institution. It has been suggested that improved communications up front can change the experience from the mitigation of a perception of coercion to the appreciation of an expansion in choice. Ensuring customers understand they can opt-out at any time without penalty is crucial and better done before the program is instituted, than having to do after to correct misunderstanding.

*Little attention to low-income participation.* No municipalities reported setting goals for low income enrollment, but Charlton uses posters at the Food Pantry to advertise CCA. However, since all residents are automatically enrolled, officials did not see the need for a special initiative.

*Program design.* Most municipalities do not have fees for re-entry, if someone opts out, although some may have limitations such as having to wait for a new contract to re-enter, but usually rates and fees are at the discretion of suppliers. Some municipalities offered more than one or two choices. Brookline, for example, offers three plans - Brookline Green (the default): 25% local renewable energy in addition to the Renewables Portfolio Standard, Brookline Basic, the RPS, and Brookline All Green, 100% local renewable energy in addition to the RPS. Lexington also offered flexibility, the interviewee stating that the town selected Peregrine Energy for the reason that they were more willing to work with the town to structure a more complicated program with more choices for residents.

*Administrative Burden.* Eleven out of 17 municipalities said that the administrative burden of the program was small, and the consultant does the majority of the work. Responses included: "Less than 5% of one person", "Same as any project", "I spent about 25 hours on this project", "Less than a few days worth of time", "We don't have the manpower". Others had a different experience. One reported a "45 day period of increased administrative burden during the opt-out period", and one that the "Developing of program and launch is intense". One reported that the burden was "significant", involving several meetings with the consultant, reviewing the supplier credentials, meeting DPU regulations, setting up the Town Meeting vote, and educating residents. One reported that one staff person "per contract term, usually one year"

was necessary, while another reported that they estimated a burden of one half of a full-time equivalent employee over the course of a year.

*Special skills.* 12 out of 15 municipalities reported that no special skills were necessary, one noting that “Once the contract is set, there are minimal management responsibilities for the Town”. One commented, however, that “learning about traditional and green energy markets” is necessary “so that you can ask intelligent questions when developing your plan and get the most out of your energy advisors”.

*Advice to communities intending to implement CCA.* Concerning what to look for in a consultant contract, municipalities pointed to experience with the energy market and Massachusetts CCA programs in similarly sized municipalities, and experience in projects approved by the Department of Public Utilities. Some stressed the difference between expertise in conventional and renewable energy markets. Brookline, for example, advised that separate brokers be hired for each. Several said it is important to meet with many consultants for general discussion, before writing the Request for Proposals (RFP). The Metropolitan Area Planning Council issued RFPs on behalf of the communities in its service territory.

If the consultant is to handle customer service, experience with that and accountability for that role is important. The bill should be included in the single bill residents receive from the utility. The consultant should also have appropriate staffing and good communications with the municipality. Only one town reported not being pleased with their broker’s implementation. While some municipalities contracted for brokers to provide public information to communicate with residents concerning the opt-out and handle calls and inquiries, in others town officials assumed responsibility for some of these tasks.

Most municipalities had price points in mind that they communicated to their consultants. Brookline researched people’s willingness to pay to determine what those price points would be. Understanding the volatility of incentives for renewable energy increases the complexity of the task of anticipating what price points to seek, and the ability to predict where prices may go as a result of policy changes. This contributes to the importance of having the advice of expertise in clean energy policies as well as the market, to be able to predict where prices may go as a result of policy changes.

Some advised hiring an experienced consultant that other municipalities had had good experiences with, providing a long timeframe for bidding and being patient. One advised that it is critical to instruct the broker to go out for bid immediately after the utility has announced the terms of its basic service. Four urged other communities to “Just do it”. One pointed out that

“Residents will appreciate it if it saves them money”, but one recommended “Don’t make it about price”. One community noted that the opt-out letter may be thrown out because people think it is junk mail, and one recommended “Be transparent with consumers.”

The time to bid, right after the utility has announced its basic service plan, is critical because it will be in place for six months. This is the moment when uncertainty can be reduced. Because the community is offering longer term contracts, it is better to go out for bid in the winter when rates are lower.

*The pitch and whether it’s working.* Most communities responding to a question about how they presented the program to the public stressed how CCA gives consumers more choice, making it easier to purchase renewable energy, and obtain greater price stability. Half of those responding to this question (7 communities) have continued outreach since the establishment of the CCA. None of the communities contacted had a program for assessing the effectiveness of their outreach. Eight, however, reported that they had received no complaints, four reported complaints about the need to opt out to remain with basic service, and one reported complaints about robocalls received from suppliers. (These may be from suppliers not receiving the contract). Ten communities said they would do nothing differently in the future to address concerns, while one stated they would work harder to prepare residents for the program, and one wants to find a “more transparent supplier”.

*Advocacy to the state.* The advent of CCA presents an important opportunity for increasing the purchase and generation of clean energy. But the momentum is vulnerable to changes in the energy pricing structure. Two communities specifically warned that planners should “Be prepared for market changes”. Because the general attractiveness of the aggregated choice contract varies with how the price of renewable compares to conventional energy, students asked communities if they are engaged in advocacy to the state concerning clean energy policy. This past year has seen changes in incentives on the state level that lessen the competitiveness of renewables, especially locally-sourced cleaner energy. Five communities stated that they were engaged in advocacy to the state, some specifically noting the importance of maintaining a favorable net metering rate structure, and lifting the net metering caps that now constrain further development. One noted advocacy concerning “solar heated bridges to eliminate the use of salt and snow melting chemicals”.

## ***Discussion***

*The message.* The legislature specifically referred to increasing choice for ratepayers, who

*will be best served by moving from (i) the regulatory framework extant on July 1, 1997, in which retail electricity service is provided principally by public utility corporations obligated to provide ultimate consumers in exclusive service territories with reliable electric service at regulated rates, to (ii) a framework under which competitive producers will supply electric power and customers will gain the right to choose their electric power supplier.<sup>7</sup>*

The Massachusetts Electric Restructuring Act was an “historic mission to use competitive market forces to reduce prices and provide customers with choice of their retail electricity supplier.”<sup>8</sup> Yet, several interviewees mentioned misperception that CCA represents a loss of choice. Although residents who want to remain with basic service or make a choice of supplier different than that of the community, may do so, now they have to take action to keep things the way they are. Even though it is easy to maintain the basic service and “opt out” of the community aggregation, it may appear to some that when a community aggregates and then makes a choice for its members, that it has reduced individual freedom. Although communities reporting this phenomenon described it as manageable and only felt by a minority, it was noted by several interviewees. Many noted stressing the value of the opt-out provision, which mitigates the concern. But it would likely be more effective at the outset to help residents see CCA as a means to expand choices. Simply pointing out that the opt-out choice is available may still feel like a mitigation of what may still seem like a loss of choice. Public information and discussion that makes clear options are expanded, that communities gain the right to bargain in the marketplace that corporations have long enjoyed, is likely a stronger message. CCA uses the power of community identity to expand the options available to residents, not restrict them. Choice for individuals is maintained by these programs, while an additional choice, to aggregate with others, is provided. Overall freedom of choice is increased.

Brokers may effectively perform this service, or may focus more on pricing than on communication. Municipalities may have to act to ensure that the messaging concerning the purpose and nature of the program is effective.

Communities can refer to the purposes and goals of the Restructuring Act to help residents understand the context of the action, and know they are gaining, not losing in terms of freedom, opportunity and bargaining power. It makes sense to first help people see what their current situation is: that the utility chooses for them. The utility chooses in its own interest. Although the utility operates in a public utility regime which does not recognize the right of profit maximization, but instead allows reasonable return, within that constraint, utilities seek to maximize their profits as they are owned by investors to whom they owe that responsibility.

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<sup>7</sup> Electric Industry Restructuring Act of 1997, Section 1(c).

<sup>8</sup> 2000 Market Monitor: Electric Industry Restructuring, Executive Summary, MA Division of Energy Resources, <http://www.mass.gov/eea/docs/doer/electric-deregulation/mm3.pdf>.

*Burden.* Because municipal residents generally have a hard time understanding and negotiating the energy market, and may not even be aware that they have the right to do so, having someone in the town government or hired by the town government to do this for them is invaluable assistance, enabling them to participate in the competitive energy supply market. When many residents combine to form a purchasing block, the ability to negotiate lower prices is increased. When a municipality contracts for energy on behalf of its residents, citizens are given the chance to make use of an opportunity large commercial entities have long enjoyed. A municipality can now provide this benefit at costs less than what residents have been paying or roughly equivalent to it. Seeing this larger picture helps make the case that the general economic interests of a town are served by implementing the program. But how hard is it to do?

CCA is an affordable undertaking for communities of all sizes, but some are better equipped than others to undertake the effort. Citizen action may be the original spur, but local government can initiate the process. First, the municipality must make a formal decision, generally through a town Warrant and/or resolution, and then communities develop a RFP and choose among the consultants offering energy procurement services. In the greater Boston Area, the Metropolitan Area Planning Council played a key role in educating communities and assisting in this process. Regional councils can play a similar role in other areas of the state, to reduce the burden for small towns and cities with limited resources.

At a minimum, the town needs to know what to ask for in the RFP, and effectively compare bids. In some cities, citizen advisory groups have played a significant role, as for example the assistance of members of sustainability committees that have recently formed, largely around the concerns of climate change. In others, new sustainability officers or staff with new responsibilities for greening operations, have been able to learn about the energy markets and the options for structuring CCAs to foster local clean energy. A proposal for aggregation needs to be submitted and approved by the Department of Public Utilities after obtaining the approval of the municipal government. This involves understanding what is likely a new process for administrative staff, although the consultant will play a large role in preparing the submission. The bidding for energy supply then takes place if approval is granted. Again, the consultant/broker performs this, but the more municipal staff understand about the process, the more the community can know it is well served. Municipalities are in a better position if they have some idea about wise choices concerning such details as how to get through the DPU approval process quickly, what length of contract to choose, how to structure the program for best participation.

Communities can save money by having the consultant do the outreach, but they may wish to be actively engaged in this effort in order to ensure the message about the nature and purpose of the program is effectively communicated.

Not all communities have these resources, but the fact that so many municipalities have successfully implemented CCA and that several brokers are operating in the state, suggests that it is an option all communities should be examining. The administrative burden to the municipality itself is relatively low. Municipalities are generally only confronted with a higher workload in preparing the contract and during the 30 day opt-out phase. These are foreseeable events that can be planned for.

*Price Stability.* When municipalities make use of legal resources as well as utility rate and procurement expertise, finding the best deal for their residents, they also provide a form of consumer protection for their residents. By locking the rates in for a longer period of time than the basic service does, the municipality provides greater price stability. While in Massachusetts the basic service of Eversource or National Grid changes every six months and fluctuates significantly between winter and summer months, aggregation rates in longer term contracts remain stable. This is a benefit shared throughout the community – perhaps a small benefit in each individual case, but cumulatively a larger influence for economic stability.

*Clean Energy.* In the beginning, Community Choice Aggregation (CCA) was primarily used as a strategy for communities to acquire electricity at a lower cost than utility basic service, using the power of a municipality's bulk purchasing in a competitive marketplace. But now, several communities are taking advantage of its potential to increase the renewable energy content in their electricity supply, and locking in good rates for long periods of time, reducing the risks of price swings – and the energy market can be volatile. Thus far this has typically been done without increasing prices for residents.<sup>9</sup> Significant results can be achieved. Brookline, for example, estimates that it has reduced nearly 34 million pounds of greenhouse gas emissions annually by implementing CCA. But the future for cleaner energy can be affected by changes in current subsidies, taxes, and net metering rates, and other policies, and municipalities should be mindful of how they can act to help preserve and enhance the options now available by advocating for clean energy policies at the state level.

Establishing a CCA program can do more than save money for electricity consumers – if structured to do so, it can accelerate the growth of renewable energy faster than the state's Portfolio standard goals, a value in these days in which current national and state commitments are not expected to be sufficiently effective to keep global warming below widely-agreed

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<sup>9</sup> Community Choice Aggregation (CCA) in Massachusetts, Lichtenstein, University of New Hampshire Sustainability Institute, 2017.

targets. It can also benefit the local economy and provide jobs. It raises people's awareness of sustainability, and can build commitment to it on a community level. Many would like to support clean energy but don't know how. CCA powerfully harnesses market forces to improve renewable energy rates. In contrast to the single household making decisions on its own about energy, CCA is an easy way for residents of a municipality to participate in the evolution of a cleaner energy economy.

*The Local Economy.* When CCA is used to promote local renewable energy suppliers, revenues are kept within the area, which benefits from the multiplication effect of local investment, and from the reduction of pollution from local fossil fuel combustion. The increase in local energy jobs and viable businesses may even be seen as worth a minor increase in energy bills. By this means, a community chooses to influence the course of development of their own economy and environmental quality.

The concentrated power that community choice aggregation provides can also be very beneficial to small businesses, who often face high energy costs, are often more sensitive to them, and usually have fewer resources to investigate their options and get the best deal on the market. Small businesses are very valuable to local communities. When small businesses are constrained by low profit margins, they cannot reach their full potential in growth and progress. If small businesses are included in CCA, the reduced or discounted cost of energy supply can help alleviate financial burden and allow companies to expand faster and be more productive. More affordable energy would help encourage new businesses to form or locate in the area, which would further stimulate the economy. Improved economies lead to improved tax revenues, benefiting local governments. Including public schools and town offices in CCA will provide them as well with lower energy prices, (if they are not already participating in the competitive market).

*Health Benefits.* The benefits of accelerating progress in developing cleaner energy sources go beyond stimulating the economy, providing jobs, and reducing GHGs. They include reducing particulate matter, which causes a range of health problems affecting the respiratory, heart and nervous system; nitrogen and sulfur oxides, also affecting health as well as causing acid rain; heavy metals, carcinogens, asthmagens and other toxic pollutants. Much of soil and water pollution comes from deposition of airborne toxic emissions. The value of reducing air pollution has been estimated by the Office of Management and Budget to be more than a trillion dollars.<sup>10</sup> A 2016 International Energy Agency report estimated that air pollution causes

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<sup>10</sup> For example, 2000 Draft Report to Congress on the Costs and Benefits of Federal Regulations, p. 13, <https://obamawhitehouse.archives.gov/sites/default/files/omb/assets/omb/fedreg/cbdraftreport2000.pdf>.

6.5 million deaths annually.<sup>11</sup> Cities committing to reducing greenhouse gas emissions will also reduce see reductions in health impacts as well as successes in reaching climate-responsible goals.

*Resilience.* In addition, if it is used to foster the growth of local sources, CCAs will play a part in increasing resilience. Resilience is a critical issue as the intensity and frequency of storms increases. When power comes from far away, residents may wait longer for it to be restored after catastrophic weather events damages the distribution system. When power is closer it is restored more quickly. Local sources of power make more realistic possibilities of micro-grids, more self-contained systems of generation and use, that promise greater stability of power supply. When power is down an entire community, along with its sustaining economic activity, suffers.

### ***Conclusion***

CCA is a powerful tool that municipalities can use to simultaneously add renewable energy to their electricity supplies, keep prices stable, and empower residents. It achieves the market scale that gives the aggregated interests bargaining power, expanding choice for residents, who gain the ability to bargain for better prices, and cleaner energy. Residents are liberated from an artifact of a monopolistic context that no longer applies, as the energy supply market has been opened to competition. This opening also allows for the entry of many new, some small, sources of cleaner energy, and CCA provides not just the opportunity to buy energy more cheaply, but the chance to provide consumer support for renewables and accelerate their development, in order to slow global warming, reduce air pollution, and create a stronger electrical system. When that support also extends to fostering local sources of cleaner energy, the benefits of CCA can extend to stimulating the local economy as well. The programs can be implemented with relatively small administrative burden and can provide significant savings to residents. Municipalities and cities investing in developing these programs should take care to communicate effectively their nature and purpose to avoid misperceptions, and should unite to advocate for continued support to cleaner energy on the state and federal level, for changing prices may adversely affect the popularity or success of CCA.

*See also: Best Practice in CCA, A Case Study of Brookline, by Katharina Voehler.*

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<sup>11</sup> [https://www.nytimes.com/2016/06/27/business/energy-environment/study-links-6-5-million-deaths-each-year-to-air-pollution.html?\\_r=0](https://www.nytimes.com/2016/06/27/business/energy-environment/study-links-6-5-million-deaths-each-year-to-air-pollution.html?_r=0)

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