



Report on Municipal Load Aggregation and Renewable Resource Development

June 1, 2023

Prepared pursuant to 20 ILCS 3855/1-92(i)

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1. Introduction

Public Act 102-0662 directs the Illinois Power Agency (“IPA”) to produce a report assessing the role that municipal electrical load aggregation can play in meeting Illinois’ renewable energy goals and how municipal aggregation programs can provide support for the development of new renewable resources. P.A. 102-0662 introduced new subsection (i) to Section 1-92 of the IPA Act (20 ILCS 3855) that provides the scope for this and report:

(i) No later than June 1, 2023, the Illinois Power Agency shall produce a report assessing how aggregation of electrical load by municipalities, townships, and counties can be used to help meet the renewable energy goals outlined in this Act. This report shall contain, at a minimum, an assessment of other states' utilization of load aggregation in meeting renewable energy goals, any known or expected barriers in utilizing load aggregation for meeting renewable energy goals, and recommendations for possible changes in State law necessary for electrical load aggregation to be a driver of new renewable energy project development. This report shall be published on the Agency's website and delivered to the Governor and General Assembly. To assist with developing this report, the Agency may retain the services of its expert consulting firm used to develop its procurement plans as provided in paragraph (1) of subsection (a) of Section 1-75.

This assessment includes a review of municipal aggregation programs in other states, including the successes achieved and challenges other programs have faced in effectively supporting the transition to clean energy through increased utilization of renewable energy.

Municipal load aggregation and related terms used throughout this Report refer to the concept of local government entities (municipalities, groups of municipalities, or counties) providing an electric supply service option to retail electric customers within that given geography in situations where that municipality is served by an investor-owned distribution utility. Under municipal aggregation, the municipality generally negotiates a supply rate on the municipality’s customers’ behalf from an alternative supplier, although the incumbent utility remains responsible distribution services. Municipal aggregation is distinct from the concept of a municipal utility, where the municipality is also the distribution utility.

Municipal aggregation programs facilitate the purchase of power from suppliers who participate in wholesale markets, and some also participate in voluntary green power markets. The National Renewable Energy Laboratory (“NREL”) defines voluntary green power as “renewable electricity voluntarily purchased by retail electricity customers. It is a separate market from renewable energy used by load serving entities to fulfill renewable portfolio standards or other mandates.”¹ The voluntary green power market can offer a broad variety of power procurement products, but this Report only considers those available through municipal aggregation programs. This market is important as it makes up a statistically significant amount of U.S. retail sales. In 2020, about 7.5

¹ Heeter, J. S., & O’Shaughnessy, E., Burd, R. (2021). *Status and Trends in the Voluntary Market (2020 data)* [Renewable Energy Markets Conference September 29, 2021](#). National Renewable Energy Lab. (NREL), Golden, CO (United States).

million customers procured about 192 million MWh of renewable energy through green power markets², this represents about 1 in 20 U.S. retail electricity customers or roughly 5% of U.S. retail electricity sales.³ Municipal aggregation programs are the largest share of customers buying green power products. While customer levels of participation in green power programs have mostly stagnated since 2019,⁴ ensuring the viability of municipal aggregation programs ensures the long-term success of the voluntary green power market. It should be noted that voluntary green power programs are not necessarily designed to incent the development of new renewable energy resources and may merely be offtakers from existing resources.

Municipal electric load aggregation has been authorized in ten states: Massachusetts, New Hampshire, Rhode Island, New York, New Jersey, Maryland, Virginia, Ohio, Illinois, and California. The municipal aggregation program structure varies from state to state, programs are at varying levels of maturity, and are at different levels of success in meeting clean energy goals and advancing the transition to zero carbon generation.

In states such as New Hampshire, Rhode Island, Maryland and Virginia, the municipal aggregation programs are in the early stages of implementation with limited operating history. Consequently, these states' municipal aggregation programs do not provide useful information regarding how their aggregation approaches impact the achievement of that state's renewable energy goals or the development of new renewable energy resources. The states that have well established municipal aggregation programs are discussed in detail in this Report. This Report aims to analyze how the structure of these municipal aggregation programs have contributed to renewable resource development for their respective state. How the mechanisms employed in each program achieves each state's renewable energy goals, and how the risks associated with the development of renewable resources through municipal aggregation are being mitigated by those programs.

Municipal aggregation programs in five states are reviewed in detail in this report, with a comparative analysis to municipal load aggregation in Illinois. The structure of municipal aggregation and the process through which these entities procure renewable electricity is largely determined by whether or not the aggregator operates in a state with a restructured electricity market. In California, which does not have a restructured competitive electricity market,⁵ most of the state's Community Choice Aggregation programs ("CCAs") have evolved into providing active support for the development of new renewable resources and related storage projects through direct long-term contract commitments. Municipal aggregation programs operating in restructured

² Of this amount municipal aggregation programs procured about 13 million MWh of voluntary green power serving 4.7 million customers. See: O'Shaughnessy, Eric; Heeter, Jenny; Burd, Rebecca (2021): [NREL Green Power Data 2020](#). National Renewable Energy Laboratory. 10.7799/1827365

³ Available at [NREL Green Power Data 2020](#)

⁴ See: [NREL, Status and Trends in the Voluntary Market \(2020\)](#)

⁵ The California electricity market was originally restructured in 1996 but following the 2000 statewide energy crisis the market was mostly re-regulated. See: "California customer choice: an evaluation of regulatory framework options for an evolving electricity market." CPUC Staff August 2018. Available at <http://www.cpuc.ca.gov/customer-choice/>.

electricity markets generally procure electricity through competitive electricity suppliers and do not typically enter long-term contracts directly with renewable energy projects.⁶

This Report was prepared by Levitan & Associates, Inc., the Illinois Power Agency's procurement planning consultant, in consultation with the Illinois Power Agency.⁷

2. Background and Status of Municipal Aggregation in Illinois

Following the restructuring of the Illinois electricity market in 1997, Public Act 96-0176, effective January 1, 2010, amended Illinois Power Agency Act by adding Section 1-92⁸ to allow municipal aggregation in Illinois. This impetus for allowing municipal aggregation was likely the high default service rates resulting from swap contracts for energy that were part of a settlement in 2007 that also led to the establishment of the Illinois Power Agency, the Renewable Portfolio Standard, and energy efficiency standards through Public Act 95-0481. As energy prices declined after 2007, these swap contracts were priced higher than the market price of electricity, and the swap contracts made up a significant component of the supply used to set the default service rate for residential and small commercial customers. This made it possible for Alternative Retail Electric Suppliers ("ARES") to offer more competitive rates.⁹ However, one key policy challenge faced by Alternative Retail Electric Suppliers ("ARES") after restructuring was how to enroll large numbers of individual residential and small commercial customers in competitive supply service in a cost-effective manner. The model of municipal aggregation was designed to overcome those costs and barriers that ARES faced in the Illinois market to encourage a robust competitive market.

Section 1-92(a) of the Illinois Power Agency Act requires that to initiate an aggregation program, the municipality must first submit a referendum to its residents. This referendum determines whether the program can operate as an opt-out program, under which eligible customers are switched to the supply offer negotiated with a municipality unless they "opt-out" by an established date. Municipal aggregation programs in Illinois are limited to municipalities within the Ameren Illinois and ComEd service territories. Under Section 1-92's authority, municipalities are permitted to aggregate electrical loads within their jurisdiction for only residential and small commercial customers featuring total annual electricity consumption less than or equal to 15,000 kWh. Through aggregation, municipalities negotiate electric supply and pricing with an ARES on behalf of

⁶ Many states with deregulated markets have restrictions on the ability of municipal aggregation programs to enter long-term contracts. See "Community Choice Aggregation: Challenges, Opportunities and Impacts on Renewable Energy Markets." NREL February 2019. Available at www.nrel.gov/publications.

⁷ A draft of this report was released on May 1, 2023, for stakeholder comment (see: <https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/municipal-aggregation-renewable-resource-impact-study-request-for-stakeholder-feedback.pdf>). The Agency appreciates the comments received from stakeholders and has updated this report to reflect that feedback. Comments received from stakeholders are available at <https://ipa.illinois.gov/renewable-resources/stakeholder-engagement/stakeholder-feedback-on-municipal-load-aggregation-and-renewable.html>.

⁸ 20 ILCS 3855/1-92.

⁹ See for example the discussion of customer switching in Section 3.3.1 of the IPA's 2013 Electricity Procurement Plan. <https://ipa.illinois.gov/content/dam/soi/en/web/ipa/documents/ipa-plan-complying-with-12-0544-order.pdf>.

participating customers. Upon expiration of agreements with ARES, the municipality can renew the electric supply contract with the incumbent ARES, sign with a different ARES, or allow the program to expire, in which case customers would return to default service unless they chose to sign up with an ARES on an individual basis.

Electricity supply contracts with ARES in Illinois are generally one to three years in length.¹⁰ As reported by the Illinois Commerce Commission's Office of Retail Market Development as of May 2022, 725 municipal aggregation programs had been implemented in the state with 514 programs active.¹¹ In ComEd's service territory, 359 municipalities had passed a referendum, 344 programs were implemented, 216 were active and 128 expired. In the Ameren Illinois service territory, 387 referendums were passed, 381 municipal aggregation programs were implemented, 298 were active and 83 expired. Most referendums were conducted between 2011 and 2014.

Electricity price volatility during 2022, primarily caused by geopolitical events, created increased pricing uncertainty for municipal aggregation programs in Illinois; this likely led to the reduction in active programs from 514 at the end of May 2022 to 441 programs as of January 2023. In May 2022, ARES served 587,466 residential customers in the Ameren Illinois territory with 83 percent of these customers participating in a municipal aggregation program and that fell to 428,654 residential customers by March of 2023.¹² Similarly, ARES served 747,535 customers in ComEd's territory with 33 percent of these customers participating in a municipal aggregation program as of May 2022 and that declined to 677,037 residential customers by March of 2023.^{13, 14}

Municipal aggregation in Illinois is comparable to municipal aggregation programs in other states with restructured electricity markets. Illinois shares similar challenges to these restructured states regarding the incentives to development of new renewable energy projects. In Illinois, municipalities utilizing municipal aggregation programs generally do not execute long-term Power Purchase Agreements ("PPAs") directly with renewable projects. Therefore, revenue streams for new renewable generation projects would generally need to be augmented by the sale of Renewable Energy Credits ("RECs") from those projects to make projects economically viable. Customer migration is a concern for municipal aggregation programs success. A goal for aggregation programs is generally providing customer savings greater than the incumbent utility servicing the municipality, and when that savings cannot be offered, programs may be suspended or terminated.

¹⁰ Plug In Illinois Municipal and County Electric Aggregation: Frequently Asked Questions, <https://plugin.illinois.gov/municipalaggregation>.

¹¹ Illinois Commerce Commission, Office of Retail Market Development, 2022 Annual Report, Section 20-110 of the Public Utilities Act. <https://www.icc.illinois.gov/icc-reports/report/AnnualReportOfficeOfRetailMarketDevelopment>.

¹² Monthly Electric Switching Statistics, Ameren Illinois, <https://www.icc.illinois.gov/downloads/public/electric-switching/ICC%20Monthly%20Report%202023%20-%20Ameren%20Illinois.xlsx>.

¹³ Monthly Electric Switching Statistics, ComEd, <https://www.icc.illinois.gov/downloads/public/electric-switching/icc-monthly-report-2023-comed.xlsx>.

¹⁴ These levels are a significant decline from the over two million residential customers served by ARES in 2015. For example, the largest aggregation program in the ComEd service territory, the City of Chicago, ended in 2015.

In Illinois, green products can be offered through ARES that use RECs to support the environmental attributes of the product. For example, MC Squared Services LLC (“MC Squared”) offers “green” retail supply products backed by wind and hydro generation sources.¹⁵ In 2020-2021, MC Squared procured and retired 2,182,257 RECs from wind and hydro sources in Illinois, Iowa, Indiana, Arkansas, Oklahoma, Wisconsin, Minnesota, and North Dakota.¹⁶

To expand the buying power of municipal aggregation, municipal aggregation programs in Illinois can jointly negotiate electric supply agreements with ARES. For example, seven municipalities in Illinois—the villages of Deerfield, Glencoe, Lake Bluff, Northbrook and Skokie along with the cities of Highland Park and Lake Forest—formed the North Shore Electricity Aggregation Consortium (“NSEAC”).¹⁷ NSEAC selected MC Squared as its electric service provider and MC Square’s offer includes “green power” backed by wind RECs from sources in Iowa.¹⁸ However, MC Squared does not report on if the RECs are from new resources, or if that this offer has spurred the development of new facilities.

Given the nature of the state’s restructured electricity market, the impact of municipal aggregation on the development of new renewable energy generation in Illinois will likely require the ability to create a robust market for RECs from new resources and this would need to include innovative approaches to addressing the barriers posed by challenges related to securing long-term PPAs.

3. Review of Other State Municipal Load Aggregation Programs

In outlining the relevant state municipal aggregation programs below, the analysis provides a general description of each program followed by a discussion focused on:

- A review of how these programs have evolved regarding the impact on states renewable resource goals.
- The applicable mechanisms that can affect the development of new, ideally in-state, renewable energy projects.
- The challenges and barriers encountered in effectively implementing load aggregation programs that meet or exceed the state’s renewable energy goals and the steps taken to mitigate various financial, contract performance and opt-out risks associated with approaches designed to support the development of new renewable resources.
- Load aggregation approaches taken by other states that could be applicable to Illinois.

When referring to a municipality in this report the term generally includes municipalities, townships, and counties.

¹⁵ www.mc2energy.com/Resource/Environmental-Disclosures

¹⁶ MC Squared Green Power Program. Available at www.mc2energyservices.com.

¹⁷ City of Highland Park, Municipal Aggregation Program. Available at https://www.cityhpil.com/utilities/municipal_aggregation_program.php

¹⁸ MC Squared 2022 Historical Product Content Label. Available at <https://www.mc2energyservices.com/Content/PDF/2022-Historical-Product-Content-Label.pdf?v=10>

a. Ohio

Ohio, like Illinois, is a restructured electricity market. Senate Bill 3, The Ohio Electric Restructuring Act (“SB 3”),¹⁹ enacted in 1999 took effect January 2001, establishing the development of governmental electric aggregation programs and enabling municipalities to combine to form larger aggregation programs. Customers participating in these aggregation programs can purchase electricity from competitive retail electric service (“CRES”) providers rather than their local incumbent utility.²⁰ The legislation allows CRES providers to sell electricity directly to municipal aggregators. SB 3 also instituted a freeze on retail rates for a competitive “market development period” from 2001- 2005, followed by a three-year rate stabilization period in which retail rates were essentially held constant.

Ohio’s restructuring legislation specified that governmental aggregators procuring from CRES providers on behalf of retail customers in Ohio must be certified by the Public Utilities Commission of Ohio (“PUCO”).²¹ Governmental aggregators must recertify every two years. Certified governmental aggregators can offer an opt-in or opt-out program. Most governmental aggregators choose an opt-out program structure. Governmental aggregation programs must be approved through a local ballot measure. Aggregators must develop an operation and governance plan, including the selection of an electric supplier. Additionally, the governmental aggregator must provide public notice of the electric rates from the proposed supplier and provide the opt-out process for customers enrolled in the aggregation program. Most aggregation services in Ohio are through regional councils of governments²² such as the Northeast Ohio Public Energy Council (“NOPEC”), and Southeast Ohio Public Energy Council DBA Sustainable Ohio Public Energy Council (“SOPEC”). Regional councils manage the aggregation programs for multiple municipalities. Beyond regional councils, individual cities including Columbus and Cincinnati, have formed independent electric aggregation programs. In Ohio aggregators can offer both electric and natural gas aggregation programs to municipalities.

As in Illinois, the initial years of market deregulation in Ohio did not develop as envisioned by legislators under SB 3 following a 5 percent residential rate reduction and rate freeze lasted through 2005. Responding to initial low competitive market participation rates, PUCO implemented rate stabilization in 2008. The rate stabilization extended the “market development period” for retail rates an additional three years. This was done to allow more time for customers to transition to market-based rates. The Rate Stabilization Plans were responding to concerns that shifts to market based rates could result in a sudden increase in retail rates to customers.²³ SB 3 did not result in significant customer switching in Ohio. The inability to offer meaningful cost savings for customers

¹⁹ Title 49 Public Utilities, Chapter 4928 Competitive Retail Electric Service, Section 4928.20 Local Aggregation of Retail Electric Loads, of the Ohio Revised Code.

²⁰ Ohio General Assembly, Senate Bill Number 3. Available at http://archives.legislature.state.oh.us/BillText123/123_SB_3_ENR.html

²¹ Ohio R.C. 4928.08

²² The legal basis for establishing a regional council of governments can be found in Chapter 167 of the Ohio Revised Code.

²³ National Association of Regulatory Utility Commissioners, H. Choueiki, Ohio Public Utilities Commission, “Ohio’s History of Regulation,” October 2014. Available at <https://pubs.naruc.org/pub.cfm?id=537DA758-2354-51DA-9CEC2371B6EF>

compared to the incumbent utilities' rates by the CRES suppliers and municipal aggregators is a significant reason for lack of customer switching in Ohio. Senate Bill 221,²⁴ enacted in 2008, made updates to the restructured electric industry in Ohio. Electric utilities are now required to provide a Standard Service Offer ("SSO") to customers that do not select a CRES as their electricity supplier so that customers have a guaranteed alternative to taking generation supply from a competitive supplier.²⁵ SB 221 set Ohio's initial clean energy standards and required utilities to transfer generation assets to an affiliate.

Aggregators participating in governmental aggregation program must arrange for electricity to be supplied from CRES providers. Governmental aggregators in Ohio do not take title to (nor do they buy or sell) electricity; instead, suppliers are selected through a competitive bidding process. Typically, one supplier is selected. As of December 2021, 8 CRES suppliers, out of a total of 106 CRES marketers are active, serving all governmental aggregation programs.²⁶

SB 221 provides benefits to governmental aggregation programs operating in Ohio. As of March 2022, there are 4.9 million eligible choice customers in Ohio²⁷. 61 percent of eligible choice customers are served by CRES providers, and 39 percent of eligible choice customers are served through the utilities' SSO service.²⁸ PUCO's market monitoring report in 2021, indicated 73 percent of residential customers supplied by CRES providers were taking service through governmental aggregation programs, 43.6 percent of commercial customers supplied by CRES providers were taking service through governmental aggregation programs. The Ohio government aggregation program also has seen volatility in participation levels like in Illinois. In December 2022, the rate of eligible choice customers taking service from CRES providers dropped to 45 percent, while the rate of eligible customers being served by utility SSO's increased to 55 percent. This is the result from the largest governmental aggregators' (NOPEC) August 2022 announcement, that it would transition 550,000 residential and small commercial customer accounts from its governmental aggregation program back to utility SSO service.²⁹

As Ohio's largest aggregation program, NOPEC serves approximately 240 municipalities in Northern Ohio. NOPEC has a supply agreement with CRES supplier NextEra Energy Services Ohio, LLC ("NESO") as the sole supplier of retail electric generation services to customers participating in NOPEC's opt-

²⁴ Ohio R.C. 4928.20

²⁵ Ohio General Assembly, Senate Bill 221. Available at http://archives.legislature.state.oh.us/bills.cfm?ID=127_SB_221

²⁶ Public Utilities Commission of Ohio Market Monitoring Report

²⁷ Eligible choice customers are those customers that have the option of choosing a competitive supplier either on their own or through a municipal aggregation program.

<https://puco.ohio.gov/utilities/electricity/ohio-customers-choice-activity>.

²⁸ Public Utilities Commission of Ohio, Market Monitoring. Available at

<https://puco.ohio.gov/utilities/electricity/resources/market-monitoring>

²⁹ Northeast Ohio Public Energy Council, NOPEC Electric Customers to See Savings After Pro-Consumer Action, August 24, 2022. Available at <https://www.nopec.org>

out aggregation program. The agreement is through January 2027 and has currently paused customer enrollment. NESO supplies RECs to NOPEC customers meeting Ohio's RPS requirements.³⁰

Challenges a municipal aggregation program can face is illustrated by NOPEC's temporary transition of customers back to SSO service due to unfavorable electricity prices contracted to the municipal aggregation service compared to SSO default service rates.³¹ A temporary customer migration of this size can have a significant negative impact on long-term contracts, potentially leading to stranded costs for the contract holder. The SSO rates in 2022 were significantly lower than the municipal aggregation service rates. The price differential is because the SSO supply was procured in a competitive solicitation prior to the 2022 wholesale electricity price spike. Compounding NOPEC's price issue were hedges held by its CRES supplier NESO. NESO partially hedged electric load requirements, and these hedges were liquidated allowing NOPEC to return its customers to utility SSO service.³² NOPEC's rationale for customer transition back to SSO service was to provide cost savings for customers impacted in the short-term. The utilities will be seeking new supply arrangements after the current SSO contracts expire in early 2023, the utilities are anticipating significantly higher prices. NOPEC, anticipates that aggregation service prices will be lower than the upcoming SSO prices. If true, NOPEC intends to re-enroll customers into its aggregation program by June 2023.³³

On November 22, 2022, NOPEC filed an application to renew its CRES governmental aggregator certificate, to continue providing aggregation services to customers not transitioned to SSO service as well as to re-enroll customers that were transitioned. on March 8, 2023, PUCO issued a Finding and Order approving the renewal of NOPEC's certification.³⁴

NOPEC lags behind its counterpart SOPEC, and other municipal programs in its offering of green product options. This has caused some municipal participants, notably Shaker Heights, to seek an opt-out of NOPEC, with the intention to form an individual aggregation program.³⁵ NOPEC in response to market pressure is set to offer more green products through its upcoming Green Community Choice program. This opt-out program beginning in June 2023³⁶ will offer NOPEC's municipal members the option to select 100 percent renewable energy at an initial price of 6.875 cents/kWh. This price for renewable energy is 0.425 cents/kWh higher than NOPEC's standard electricity product. Wind and solar RECs for the Green Community Choice Program will be from

³⁰ Ohio's RPS requirements for 2023 are 7 percent with increases of 0.5 percent annually to reach the final target in 2026 of 8.5 percent. See R.C. 4928.64 and "Renewable Portfolio Standard Report to the General Assembly by the Staff of the Public Utilities Commission of Ohio for the 2021 Compliance Year," filed with the PUCO Docketing Information System March 22, 2023.

³¹ See Public Utilities Commission of Ohio Case No. 00-2317-EL-GAG

³² Public Utilities Commission of Ohio, Staff Review and Recommendation for Northeast Ohio Public Energy Council (NOPEC), February 21, 2023, Case No. 00-2317-EL-GAG. Available at <https://dis.puc.state.oh.us/>

³³ Public Utilities Commission of Ohio, Finding and Order, Case No. 00-2317-EL-GAG, p.9.

³⁴ Public Utilities Commission of Ohio, Finding and Order, March 8, 2023, Case No. 00-2317-EL-GAG

³⁵ See Mayor David E. Weiss, Jeri E. Chaikin, CAO, Shaker Heights Memorandum to Members of Council, "Resolution Supporting City Operated Electric Aggregation Program Providing 100% Renewable Energy Supply," June 27, 2022.

³⁶ This program was originally scheduled to take effect January 2023.

national supply sources.³⁷ NESO pairs EarthEra RECs with electricity supplied to NOPEC's standard program customers to meet the Ohio RPS requirement.³⁸ EarthEra is a trust fund created by NextEra in 2009 to fund the development and construction of renewable energy projects.³⁹ To date, none of these projects have been built in Ohio.

SOPEC began in February 2015, and currently manages opt-out aggregation programs for 20 municipalities located in Southeast Ohio. AEP Energy, Inc. is the electricity supplier and related services for SOPEC participating municipalities. Starting 2022, all eligible retail customers in SOPEC's member municipalities are receiving 100 percent renewable energy supplied by AEP Energy's ECO-Advantage product. ECO-Advantage includes RECs procured by AEP Energy from national supply sources. These RECs are primarily wind projects located in Texas, Iowa, Illinois, and Minnesota.⁴⁰

AEP Energy's supply of RECs is a function of REC availability/costs. Nationally supplied RECs are *generally* less expensive than RECs obtained from sources in Ohio for AEP. Average REC cost for CRES providers was \$8.47/REC, compared to average REC cost of \$26.30/REC for Electric Distribution Utilities ("EDUs").⁴¹ The EDUs commonly use RECs from sources in Ohio, with PPAs from renewable projects.⁴² Ohio's CRES providers in 2021 were responsible for meeting 79 percent of the RPS compliance obligations, compared to 21 percent by the EDUs. In 2021, the RECs retired for RPS compliance by both EDUs and CRES providers included 44 percent from wind generation, 31 percent from hydro, 10 percent from biomass, 10 percent from waste heat, and 5 percent from solar sources. Of the total RECs retired in Ohio in 2021, 15.4 percent of RECs were from sources located in Ohio, and 17.5 percent of wind RECs are sourced in Ohio.

Municipalities participating in the SOPEC aggregation program can structure their ECO-Advantage products to have RECs supplied by specific renewable energy technologies. However, even though most of the programs express the desire to obtain supplies from local renewable energy projects this has not necessarily been the case. For example, in 2022 and 2023, the city of Dayton program RECs are supplied from conventional hydro sources in Oregon, Montana and Idaho. The City of Athens program is supplied by RECs sourced from wind generating facilities in Texas, Iowa, Illinois, and Minnesota. The city has an opt-out carbon fee of 0.2 cents per kWh for customers for which the collected carbon fees are to be allocated to support the development of solar PV projects for city

³⁷ NESO's NOPEC Environmental Disclosure Information indicates that the sources of generation used to supply NOPEC in 2022 includes 40 percent natural gas, 33 percent nuclear, 20 percent coal and 7 percent renewables including hydro, solar, wind and biomass. See www.nopec.org/green-choice.
www.nexteraenergyservices.com/aggregations/ohio.

³⁸ Ohio's RPS requirement in 2023, is 7.0 percent

³⁹ EarthEra Renewable Energy Trust <https://www.nexteraenergyresources.com/what-we-do/energy-marketing/recs.html>.

⁴⁰ AEP Energy Residential & Small Commercial Terms & Conditions, 2022 Prospective Product Content Label. AEPenergy.com.

⁴¹ PUCO Renewable Portfolio Standard Report for the 2021 Compliance Year.

⁴² PUCO Electric Distribution Utilities Annual RPS Compliance Reports for 2021.
<https://puco.ohio.gov/utilities/electricity/resource/ohio-renewable-portfolio-standard/edu-cres-rps-compliance-reports>.

facilities. The funds are distributed at SOPECs discretion. Voters approved the carbon fee was on May 8, 2018; to date, no funds have been disbursed from the fund.⁴³

The City of Columbus's opt-out governmental electric aggregation program (Clean Energy Columbus) provides 100 percent clean energy from Ohio-based wind and solar generating facilities through selected bidder AEP Energy.⁴⁴ AEP Energy's supply contract with Columbus's aggregation program is from June 2021 through May 2034. Under this contract, AEP is to supply 100 percent clean energy sourced from Ohio based wind and solar projects by 2024. This will happen in three phases: In Phase 1 June 2021 through May 2022, AEP Energy procured and retired RECs equivalent to 100 percent of the aggregation program's retail electric supply usage; Phase 2 from June 2022 through May 2024 involves a mix of RECs and purchases from wind and solar generating facilities; Phase 3, to run from June 2024 through May 2035, will have 100 percent program's electric supply to be sourced from new wind and solar projects in Ohio beginning operation on or after March 18, 2021. To support this strategy, AEP Energy executed long-term PPAs with a 200 MW, Atlanta Farms Solar project in Pickway County Ohio, and the 300 MW Emerson Creek Wind Farm in Huron County Ohio. The Atlanta Farms Solar project is under construction with a commercial operation date of December 2023.⁴⁵ The Emerson Creek Wind Farm is scheduled to start construction in 2024 upon resolution of permitting issues.

The City of Cincinnati provides an illustrative example of how municipal aggregation programs in competitive markets can support the development of new renewable energy projects. Cincinnati started operating an opt-out governmental aggregation program in June 2012, serving eligible customers of Duke Energy – Ohio located within the city. The city's 2020 solicitation seeking a new CRES supplier demonstrates an innovative approach to encouraging the development of local renewable energy projects.⁴⁶ This RFP defined the city's approach, seeking a CRES bidder to provide full requirements electric supply for the opt-out municipal aggregation program as well as for the city's own electric accounts. At the time of the issuance of the RFP, the anticipated annual electricity requirements to serve the city accounts amounted to 291,400 MWH while the annual anticipated requirements for municipal aggregation program amounted to approximately 795,000 MWH. The scope of services was set up as two separate acquisition programs, one for the city accounts and one for the aggregation program, which would be supplied by one CRES provider.

Prior to the issuance of the 2020 RFP, Cincinnati executed a 20-year PPA with Hecate Highlands Energy 2, LLC⁴⁷ for the offtake of 35 MW of generation from a planned solar facility located in the AES Ohio (formerly Dayton Power & Light) transmission zone to supply the city's requirements. The PPA allowed the \$125 million project to secure financing.

⁴³ SOPEC, Sustainable Energy, Athens Public Solar Fund. <https://www.sopec-oh.gov/athens-public-solar-fund>. The fund's balance as of April 15, 2023, was \$172,042.01

⁴⁴ Potential suppliers bidding to supply the Columbus program were required to be able to supply 100 percent renewable energy to qualify for consideration to be the city's preferred supplier.

⁴⁵ Solar Builder June 9, 2022. <https://solarbuildermag.com/news/>

⁴⁶ City of Cincinnati, Request for Proposals RFP751AGGREGATION, "Electricity Provider for the City of Cincinnati's Municipal Accounts and the Cincinnati Electric Aggregation Program," issued January 17, 2020.

⁴⁷ This project was subsequently acquired by Liberty Energy and is referred to as the New Market Solar Project.

The city structured the RFP so that the CRES provider would be responsible for delivering project energy to the city's accounts and since the PPA assigned the capacity rights and environmental attributes to the city, specified that the CRES provider would assist the city in monetizing these products. The city also specified that it wanted to serve the aggregation customers with locally generated renewable energy and would require the CRES provider to work with the solar project developer to build an additional 65 MW of solar generation to serve the aggregation program. The CRES provider is directed to enter into a separate development agreement with solar project for the additional 65 MW (the aggregation program PPA). The city specified that it would not be a party to the aggregation program PPA and would be agnostic to the specific contracting requirements and terms for this PPA. The RECs and other environmental and financial attributes associated with the 65 MW solar array are required to be credited to the aggregation program for the length of the aggregation program PPA. The aggregation program PPA term was specified to be 9 years starting in May 2020 with up to three one-year extensions that could be exercised at the city's option. At the end of this agreement, if the contract between the CRES provider and the solar project developer continues, the city would make no claims to the electricity or other attributes associated with the agreement other than the CRES provider would be required to collect a \$2,000/MW fee from the solar project that would be payable to the city to cover related expenses.

Dynegy Energy Services is the electricity supplier for the program until May 2029. Electric supply for the aggregation program is to consist of 100 percent renewable energy, from RECs sourced initially from national wind generation projects. The solar generation project will supplement the RECs needed to provide 100 percent green energy to the city and the municipal aggregation program. The city and aggregation program PPAs with the New Market Solar project are currently estimated to provide approximately 25 percent of the city's annual electricity requirements and 15% of the aggregation program's electricity requirements starting in November 2023. Finally, the city has the right to develop additional renewable energy projects, assess the potential impact on the aggregation programs supply requirements and work with Dynegy Energy Services to add the capacity associated with such projects into the aggregation program supply.

Green products offered to municipal aggregation customers are often backed by RECs procured from renewable energy facilities located outside of Ohio. Cincinnati and Columbus are supporting the development of new renewable resource projects involving recent project specific arrangements through their CRES suppliers for long-term contracts with new renewable resource projects located in Ohio.

Governmental electric aggregators in Ohio operate in a restructured electricity market somewhat similar to the market in Illinois. Barriers to supporting the development of new renewable energy projects include limitations around aggregators' ability to execute long-term contracts with developers in addition to the risk of customer migration back to the EDUs for SSO service. The Ohio aggregation program has attempted to address these barriers by using a primary CRES provider under contracts of 5 to 15 years. Contracts require that CRES supplier provide renewable energy for up to 100 percent of the aggregation customers generation service needs in the form of RECs. Individual governmental aggregation programs can require the CRES provider to sign a long-term contract with renewable generation resources to qualify as a bidder for the aggregation program supply contract. Other governmental aggregation programs in Ohio support renewable energy

development by using funds from a carbon fee or designated REC purchases beyond the state's RPS requirements. These collected funds are to help finance renewable energy projects.

Some differences in the Ohio electricity environment as compared to Illinois act as major barriers to the development of new renewable energy projects in Ohio. While Cincinnati and to a certain extent Columbus have surmounted these barriers, other aggregation programs have not opted to provide renewable energy through the procurement of RECs. Due to low RPS targets in Ohio, (current target is 7 percent with a target cap of 8.5 percent by 2026) the demand for RECs and thus revenue available to fund new projects is limited. NOPEC's transition of customers back to EDU SSO service in 2022 was designed to benefit customers in the short-term. This transition has created uncertainty regarding the reliability of longer-term contracts obtained through CRES supplier. Finally, SB 52, amended several sections of R.C. 4906, allowing county boards to overrule the Ohio Power Siting Board's ("OPSB") approval of utility-scale wind and solar projects. As of August 2022, 10 counties had passed resolutions banning the development of utility-scale wind and solar projects with several more counties considering similar resolutions.⁴⁸

b. Massachusetts

The Massachusetts Municipal Aggregation Program is statutorily authorized by Chapter 164 of Section 134 of the Massachusetts General Laws, providing the Massachusetts Department of Public Utilities ("DPU") the legal jurisdiction for authorizing Municipal Aggregation.⁴⁹ Municipal Aggregation has existed in Massachusetts since restructuring in 1997. In Massachusetts, a municipality may purchase electricity on behalf of its residents and businesses (supply portion). However, the distribution portion of electric service lies with the designated electric distribution company in the service territory.⁵⁰ The Massachusetts DPU defines Municipal Aggregation as a "process by which a municipality (meaning a town or city) purchases electricity in bulk from a competitive supplier on behalf of the residents and businesses within the community."⁵¹ Furthermore, a municipality may join with other municipalities to collectively procure competitive supply.⁵² The municipality can enroll customers but the customer must be provided an opportunity to opt-out. Customers who do not opt out will be automatically enrolled in the aggregation program but may opt-out at any time. The MDPU requires municipalities to go through a public proceeding/process through its town governing officials and residents before seeking authorization from the MDPU.⁵³

Municipal Aggregation in Massachusetts operates in a restructured electricity market structure similar to the restructured market in Illinois. Although Municipal Aggregation programs are only

⁴⁸ See Ohio Capital Journal, August 23, 2022.

⁴⁹ Massachusetts General Laws, Chapter 164, Section 134, Load Aggregation Programs. Available at <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section134>

⁵⁰ Massachusetts General Laws, Acts of 1997, Chapter 164. Available at <https://malegislature.gov/Laws/SessionLaws/Acts/1997/Chapter164>

⁵¹ Massachusetts DPU, Municipal Aggregation. Available at <https://www.mass.gov/info-details/municipal-aggregation#overview->

⁵² Massachusetts DPU, Municipal Aggregation. Available at <https://www.mass.gov/info-details/municipal-aggregation#overview->

⁵³ Massachusetts DPU, Municipal Aggregation. Available at <https://www.mass.gov/info-details/municipal-aggregation#overview->

required to meet the minimum RPS requirements, at least 51 municipalities have chosen to establish RPS requirements that exceed the State's RPS requirements by 5 percent or more. Municipal Aggregation programs with large RPS requirements increase the State's RPS demand by about 11%.⁵⁴ As of 2022, the MDPU reported that 176 cities and towns in Massachusetts have been approved for Municipal Aggregation. Massachusetts has 351 cities and towns and therefore⁵⁵ about 50% of municipalities in Massachusetts have chosen to go forward with Municipal Aggregation at one point. The 176 Municipal Aggregation municipalities represent a population of 4,073,109 or about 58% of the Massachusetts population.^{56,57} It is also important to note that some municipalities have chosen to terminate their Municipal Aggregation program (7 municipalities as of 2021), with some citing pricing issues.⁵⁸

Massachusetts Municipal Aggregation programs have allowed for the purchase of RECs; however, those REC producing projects are not necessarily located in the state. Municipal Aggregation Programs can purchase RECs sourced from out of state if the RECs meet the State's RPS standard. The state's RPS features locational requirements that a portion of RECs must be from sources located in New England. For example, Class 1 RECs must come from generation facilities located anywhere in New England, as well as qualifying adjacent "control areas" (including: northern Maine, New York, Quebec, or the Canadian Maritime Provinces), provided that the projects transmit their power into New England. Furthermore, for facilities to qualify as Class 1 REC generation facilities, they must be built on or after January 1, 1998.⁵⁹ Prior estimates in 2020 anticipated Municipal Aggregation programs to add about 500,000 MWh of Class 1⁶⁰ renewable energy demand in 2022, however, the actual amount in 2022 is double that estimate at about 1 million MWh of Class 1 renewable energy demand in the state.⁶¹

⁵⁴ Green Energy Consumer Alliance, Spring 2022 Update, Pages 6-7. Available at <https://260434.fs1.hubspotusercontent-na1.net/hubfs/260434/GMA%20Report%202022%20-%20Final.pdf>

⁵⁵ Massachusetts DPU, Municipal Aggregation. Available at <https://www.mass.gov/info-details/municipal-aggregation#overview->

⁵⁶ Massachusetts Legislature, Census Data. Available at <https://malegislature.gov/Redistricting/MassachusettsCensusData/CityTown>

⁵⁷ The Massachusetts Legislature reported the total state population as 7,029,917.

⁵⁸ Massachusetts Department of Energy Resources, Municipal Aggregation Manual and Best Practices Guide, November 15, 2022. Available at <https://www.mass.gov/doc/municipal-aggregation-manual-best-practices-guide-draft-for-public-comment/download>

⁵⁹ Massachusetts Department of Energy Resources, List of Qualified Generation Units. Available at <https://www.mass.gov/service-details/lists-of-qualified-generation-units>

⁶⁰ Massachusetts defines Class 1 RECs as energy generated from qualified new renewable energy facilities in New England. Eligible technologies include solar PV, wind, small hydro, aerobic digestion, marine or hydrokinetic energy, geothermal, and eligible biomass fuel. See Massachusetts Department of Energy Resource, Program Summaries – Summaries of all the Renewable and Alternative Energy Portfolio Standard Programs. Available at <https://www.mass.gov/service-details/program-summaries#:~:text=RPS%20Class%20I-The%20RPS%20Class&text=New%20renewable%20energy%20facilities%20are,Wind%20energy>

⁶¹ Green Energy Consumer Alliance, Green Municipal Aggregation in Massachusetts, February 2020, Page 5. Available at <https://cdn2.hubspot.net/hubfs/260434/State%20of%20GMA%20Report%202020.pdf>. Also see Green Energy Consumer Alliance, Green Power at Lower Cost: Municipal Aggregation Is a Huge Success

Massachusetts statute and guidance allow municipalities to engage in short term contracts with competitive suppliers within the state.⁶² Municipal aggregation in Massachusetts aims to empower municipalities to use bulk purchasing power arrangements to purchase electric supply at rates below that of the basic service rate offered by the local electric distribution company. Contracts with suppliers are generally 1 to 3 years in length.⁶³

The Cape Light Compact, with 22 municipal participants serving 205,000 customers on Cape Cod and Martha's Vineyard in Massachusetts, operates under a Joint Powers Agreement.⁶⁴ Cape Light Compact is an opt-out 100 percent renewable energy program that seeks to support the development of renewable energy projects.⁶⁵ Cape Light Compact's supplier, NextEra Energy Services, procures RECs necessary to meet the Massachusetts RPS. In 2022, Massachusetts required that 51.3 percent of retail sales be met with clean energy resources that are located in New England with 20 percent being Class I RECs.⁶⁶ Cape Light Compact procures additional RECs to meet its load demand, bringing the supply to 100 percent renewable (thus exceeding the 51.3 percent target of the Massachusetts RPS). NextEra procures RECs from EarthEra to meet all but 1 percent of the 48.7 percent of load not covered by the RPS mandate. In addition, NextEra procures an additional Massachusetts RPS-qualified Class I RECs to cover the remaining 1 percent of load each year. NextEra deposits funds from the last 1 percent of RECs purchased on behalf of Cape Light Compact into an EarthEra fund to support the development of new renewable energy projects in the U.S.⁶⁷

Cape Light Compact is also exposed to risks from volatility in capacity market prices, like municipal aggregators in Illinois. Cape Light Compact manages that price volatility risk by negotiating new rates every three or six months with suppliers, depending on customer class, aligning with utility rate changes. This avoids locking the aggregation program into long term contracts for supply where high electricity costs.⁶⁸

Massachusetts municipal aggregators utilize approaches to support the development of new renewable energy projects like the approaches used in other states with restructured electricity markets. Massachusetts seeks to increase the demand for RECs which adds to revenues available to

in Massachusetts, July 2, 2022. Available at <https://blog.greenenergyconsumers.org/blog/green-power-at-lower-cost-municipal-aggregation-is-a-huge-success-in-massachusetts>

⁶² Massachusetts General Laws, Chapter 164, Section 134, Load Aggregation Programs. Available at <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section134>. Also see Massachusetts Department of Energy Resources, Municipal Aggregation Manual and Best Practices Guide, November 15, 2022. Available at <https://www.mass.gov/doc/municipal-aggregation-manual-best-practices-guide-draft-for-public-comment/download>

⁶³ Massachusetts Department of Energy Resources, Municipal Aggregation Manual and Best Practices Guide, November 15, 2022. Available at <https://www.mass.gov/doc/municipal-aggregation-manual-best-practices-guide-draft-for-public-comment/download>

⁶⁴ A Joint Power Agreement allows a group of municipalities in Massachusetts to establish a Joint Powers Entity which is an independent agency to operate their joint municipal aggregation program.

⁶⁵ Cape Light Compact Green Aggregation. www.capelightcompact.org/green-aggregation/.

⁶⁶ Cape Light Compact Green Aggregation. www.capelightcompact.org/green-aggregation/.

⁶⁷ Cape Light Compact Green Aggregation. www.capelightcompact.org/green-aggregation/.

⁶⁸ National Renewable Energy Laboratory, Community Choice Aggregation: Challenges, Opportunities, and Impacts on Renewable Energy Market, February 2019, page 2. Available at <https://www.nrel.gov/docs/fy19osti/72195.pdf>

new projects. Some of these programs have experimented with participating in separate funds that use revenue from excess RECs from procurements to provide financial support to the aid in the development of new projects. Although Municipal Aggregation programs in Massachusetts have not entered longer term contracts for renewable energy,⁶⁹ some Municipal Aggregation programs such as, Cape Light Compact, have tried innovative approaches to achieve support for renewables without using long term contracts.⁷⁰ Each municipal aggregation must balance the needs of keeping rates reasonably low while also continuing to operate its Municipal Aggregation program as clean energy sourced programs.

c. New Jersey

Municipal aggregation was authorized in New Jersey by The Government Energy Aggregation (“GEA”) Act of 2003 (L. 2003, c. 24, “GEA Act”). This act allows municipalities and/or counties to establish a GEA program. A GEA program allows municipalities, working alone or in a group, to aggregate the energy requirements of residential, commercial, and municipal customers from Third Party Suppliers (“TPS”) at prices lower than the average utility price. The added flexibility or benefit of GEA’s is sourcing power additional renewable energy generation.⁷¹ All residential customers within the municipality are automatically included in the GEA program unless they submitted an opt-out response within 30 calendar-days after the postmark on the notice. However, Municipal and Commercial/Industrial customers must be enrolled on an opt-in basis, therefore these customers are not automatically enrolled in the GEA program.⁷²

As of 2022, at least 109 towns and cities in New Jersey have implemented a GEA program.⁷³ The most recent estimate from 2017 shows that GEA sales in that year were about 1.7 million MWh.⁷⁴ From research, it is unclear whether any GEA program has engaged directly in a long-term contract with a renewable energy generation facility for energy supply. GEA contracts generally run-on average between 12 and 24 months.⁷⁵

⁶⁹ Massachusetts General Laws, Chapter 164, Section 134, Load Aggregation Programs. Available at <https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section134>. Also see Massachusetts Department of Energy Resources, Municipal Aggregation Manual and Best Practices Guide, November 15, 2022. Available at <https://www.mass.gov/doc/municipal-aggregation-manual-best-practices-guide-draft-for-public-comment/download>

⁷⁰ Massachusetts Department of Public Utilities, Approved Municipal Aggregation Programs. Available at <https://www.mass.gov/info-details/municipal-aggregation#:~:text=Municipal%20aggregation%20is%20the%20process,and%20businesses%20within%20the%20community>.

⁷¹ New Jersey BPU, Government Energy Aggregation. Available at <https://nj.gov/njpowerswitch/gea/>

⁷² New Jersey BPU, Government Energy Aggregation. Available at <https://nj.gov/njpowerswitch/gea/>

⁷³ BGS Auction, New Jersey Municipalities with Government Energy Aggregation Programs, January 2017. Available at https://www.bgs-auction.com/documents/EDC_Municipal_Aggregation_Programs_January_2017.pdf; New Jersey Aggregation, Client List, Enrolled Towns. Available at https://www.njaggregation.us/client_list.html

⁷⁴ National Renewable Energy Laboratory, Community Choice Aggregation: Challenges, Opportunities, and Impacts on Renewable Energy Market, February 2019, page 7. Available at <https://www.nrel.gov/docs/fy19osti/72195.pdf>

⁷⁵ New Jersey BPU, NJ Power Switch, Government Energy Aggregation. Available at <https://nj.gov/njpowerswitch/gea/#:~:text=A%20GEA%20program%20allows%20municipalities,lower>

Filings from the New Jersey Board of Public Utilities (“BPU”) indicate that the GEA Program is targets mostly to short-term contracting with an energy supplier rather than long-term contracting with a renewable energy generation facility. The New Jersey BPU states that “a GEA program allows municipalities, working alone or in a group, to aggregate the energy requirements of residential, commercial and municipal accounts so that the GEA program can purchase energy supply from non-utility sellers of electricity...(Third Party Suppliers or TPS) at prices lower than the average utility price, with the possibility of added benefits such as higher renewable energy content.”⁷⁶ Moreover, the GEA Act of 2003 implies that contracting for energy supply by the municipality will generally come from a TPS. In addition, the GEA Act of 2003 allows the municipality to enter multiple contracts with no specific term limitations, however, the duration of those contracts need to be disclosed, although it does not state the method for how it should be disclosed.⁷⁷ In practice, none of the municipalities analyzed appear to have entered long-term contracts to supply their GEA programs.

According the New Jersey BPU, with regard to a GEA Program supply contract, a “contract providing for electric generation service and/or gas supply service to residential customers shall not be set at a rate for such service that at the time of the contract award, exceeds the benchmark price as described at N.J.A.C. 14:4-6.9(d), unless 1) it exceeds the renewable energy portfolio standards described at N.J.A.C. 14:4-6.9 (d) and 2) the residential customers are notified that the government aggregator is considering a rate that is higher than the benchmark.”⁷⁸ Therefore, similar to the rules governing aggregation programs in other states, New Jersey also imposes pricing provisions on GEA Programs so that their pricing remains competitive with basic service prices that utilities provide for default electric supply customers. These restrictions pose risks that municipalities may not want, given that prices are encouraged to remain competitive and typically settle out lower than the basic service rates. Many GEA programs find it easier to remain compliant with these standards if contracts are set to shorter duration terms (e.g., 1 to 3 years).

<https://www.njaggregation.us/>. Also see New Jersey Aggregation. Available at <https://www.njaggregation.us/>.

⁷⁵ New Jersey Class 1 RECs are generated from renewable sources, which include solar, wind, fuel cells powered by renewable fuels, geothermal, wave or tidal, methane gas from landfills, biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner, and hydroelectric facilities of 3 MW or less that are in NJ and placed in service after July 23, 2012. See PJM EIS, Program Information - New Jersey. Available at <https://www.pjm-eis.com/program-information/new-jersey>. Also see Sustainability Institute at The College of New Jersey, Sustainable Jersey How-To Guide: Renewable Government Energy Aggregation, August 2019.

Available at https://www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/SI_Guide_book_RGEA_V2.pdf.

⁷⁶ New Jersey BPU, NJ Government Energy Aggregation - Program Summary. Available at https://www.state.nj.us/bpu/pdf/energy/NJ_Gov_Energy_Aggregation_Summary.pdf

⁷⁷ New Jersey GEA Act of 2003 (L. 2003, c. 24). Available at https://pub.njleg.gov/bills/2002/PL03/24_.HTM

⁷⁸ New Jersey BPU, NJ Government Energy Aggregation - Program Summary. Available at https://www.state.nj.us/bpu/pdf/energy/NJ_Gov_Energy_Aggregation_Summary.pdf

In the GEA programs reviewed for this report, we have not found evidence of New Jersey municipalities engaging in long-term contracting.⁷⁹ New Jersey prioritizes keeping GEA Program prices comparable to or lower than existing basic service prices, similar to Massachusetts. Therefore, GEA Programs may not want to take on the risk long-term contracts if it is the expectation of regulators to maintain prices comparable to market rates. New Jersey's RPS requires 50% of Class 1⁸⁰ renewable energy by 2030, these programs may assist the RPS goal by inducing an indirect demand increase for renewable energy in the state. This demand will likely come from short term contracts, which range from one to three years. It is unlikely that GEA Programs will move towards long-term contracting without any significant changes to the regulatory or legislative requirements for GEA Programs.

d. New York

Municipal aggregation in New York is known as the Community Choice Aggregation ("CCA") Program which was established by statute in 2014.⁸¹ New York defines a CCA as "an inter-municipal agreement or a municipal resolution for the purpose of coordinating or initiating efforts by a municipality or by community choice aggregators to request bids for and potentially select an Energy Service Company(ies) ("ESCO") to provide electric...services to participating residential, commercial and government customers." In 2016, the New York Public Service Commission ("NY PSC") released an Order providing the framework for municipalities seeking to establish a CCA ("NY PSC Order").⁸² The NY PSC Order allows municipalities the option to choose one of four CCA administrators to assist them in establishing their own community choice aggregation program.⁸³ The municipality can forego using the established CCA Administrators and instead use its own resources to comply with

⁷⁹ New Jersey BPU, NJ Power Switch, Government Energy Aggregation. Available at <https://nj.gov/njpowerswitch/gea/#:~:text=A%20GEA%20program%20allows%20municipalities,lower%20than%20the%20average%20utility>. Also see New Jersey Aggregation. Available at <https://www.njaggregation.us/>.

⁸⁰ New Jersey Class 1 RECs are generated from renewable sources, which include solar, wind, fuel cells powered by renewable fuels, geothermal, wave or tidal, methane gas from landfills, biomass facility, provided that the biomass is cultivated and harvested in a sustainable manner, and hydroelectric facilities of 3 MW or less that are in NJ and placed in service after July 23, 2012. See PJM EIS, Program Information - New Jersey. Available at <https://www.pjm-eis.com/program-information/new-jersey>. Also see Sustainability Institute at The College of New Jersey, Sustainable Jersey How-To Guide: Renewable Government Energy Aggregation, August 2019. Available at https://www.sustainablejersey.com/fileadmin/media/Actions_and_Certification/Actions/Energy/SI_Guide_book_RGEA_V2.pdf.

⁸¹ New York Assembly Bill No. A08883. Available at https://nyassembly.gov/leg/?default_fld=&bn=A08883&term=2013&Summary=Y&Actions=Y&Text=Y&Votes=Y

⁸² New York PSC, CASE 14-M-0224, Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs, Order Authorizing Framework for Community Choice Aggregation Opt-Out Program, April 21, 2016. Available at <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={38EFD3B0-48BC-400E-9795-98CB5EFAE0FA}>

⁸³ The New York PSC has authorized the following CCA Administrators: (1) Sustainable Westchester, (2) Municipal Electric and Alliance, Inc., (3) Good Energy, L.P., and (4) Joule Assets, Inc. See New York PSC, Community Choice Aggregation. Available at <https://dps.ny.gov/community-choice-aggregation>

CCA requirements. CCA Administrators can charge municipalities for their services through the supply charge. New York CCA customers are enrolled in a CCA on an opt-out basis.⁸⁴

As of December 2021, 100 municipalities and 200,000 residents were participating in municipal aggregation programs in New York State.⁸⁵ Similar to other states, New York municipalities engage with electricity suppliers contracting on a short-term basis for electricity supply, rather than engage in a long-term contract with a renewable energy facility. Not using long-term contracts to procure renewable energy directly, therefore not supporting new renewable projects directly. This short-term contracting approach would indirectly support renewable project development if the increase of demand for renewable energy was fulfilled in the short-term by offered products that meet or exceed New York RPS requirements (which are met by RECs). However, as discussed below, Municipal Aggregation programs in New York are not actively engaging in long-term contracts.

The 2016 NY PSC Order encourages CCAs to support the State's Clean Energy Standard ("CES") by engaging in PPAs. The NY PCS Order states that "the [CES], if adopted, will also offer CCA programs opportunities to support clean energy goals through self-initiated power purchase agreements with renewable energy generators or deployment of renewable energy resources."⁸⁶ No term length for PPA contracts is specified in the NY PSC Order. The NY PSC's ability adopt such provisions stems from the enabling statute, that "in making a selection, community choice aggregators may contract with any number of contractors to design, build, operate, and/or maintain renewable energy facilities and energy efficiency measures that provide power or capacity to the community choice aggregation program."⁸⁷ The order enables direct contracting with renewable energy facilities and encourages CCAs to enter into long-term contracts, after a review of relevant orders on CCA programs, an analysis of publicly available information provided by New York's four CCA administrators, and the CCA webpages, there is not concrete evidence of municipalities in New York entering into long-term contracts.⁸⁸

⁸⁴ New York PSC, CASE 14-M-0224, Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs, Order Authorizing Framework for Community Choice Aggregation Opt-Out Program, April 21, 2016. Available at <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={38EFD3B0-48BC-400E-9795-98CB5EFAE0FA}>

⁸⁵ New York PSC, CASE 14-M-0224, Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs, Order Modifying Community Choice Aggregation Programs and Establishing Further Process, January 19, 2023. Available at <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={46C00FCA-C70A-405A-9CB7-80A9498C1DD5}>

⁸⁶ New York PSC, CASE 14-M-0224, Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs, Order Authorizing Framework for Community Choice Aggregation Opt-Out Program, April 21, 2016, page 37. Available at <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/Clean-Energy-Communities/Public-Service-Commission-CCA-Order.pdf>

⁸⁸ New York PSC, Proceeding on Motion of the Commission to Enable Community Choice Aggregation Programs. Available at <https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=14-M-0224>. Also see Sustainable Westchester CCA Program Administrator. Available at

New York's price requirements for CCAs, exacerbating the risks associated with customer migration under long-term contracts. This can be seen as a barrier for CCAs. Requirements for bid price reviews CCAs must consider when choosing contracts include the following:

[A]fter a review of bids submitted for energy supply services, community choice aggregators are authorized to select the ESCO or ESCOs that will offer the best service, price, environmental, greenhouse gas reductions, and local employment and local business benefits and other factors considered, provided that the per kWh supply rate for electricity and per Btu rate for gas supply services at the initiation of service is lower than the distribution utility's average monthly rate for supply services for the prior 12-month period, or lower than the distribution utility's rate at the time of a request for bids as provided for in this section and meet the requirements of subdivision one of this section, provided that community choice aggregator, may at their discretion, reject all bids or offers and re-advertise for new bids or offers in a manner provided by this act.⁸⁹

The imposition of such price requirements on municipal aggregation programs imposes risks that municipalities may be unwilling to take if the price requirement must keep prices below the utility's average supply rate.

e. California

Community choice for California authorized in 2002 through AB 117 setting the groundwork for CCAs to operate in the state in service territories under the jurisdiction of the California Public Utility Commission ("CPUC").⁹⁰ California's CCAs operate in a mostly regulated market which re-regulated in response to the Enron driven electricity crisis of the early 2000s. Customers either take electricity service from the default utility, or take service from the CCA that serves the local municipality CCAs offer choice of service to residential and most commercial customers different from the state's investor-owned utilities ("IOUs"). CCAs are not offered in cities that operate municipal utilities such as Los Angeles or Sacramento since these utilities are not under CPUC jurisdiction. In 2021, CCAs served 24.8 percent of the total load in the state while the 3 main IOUs served 41.4% of the total load in the state.⁹¹ Currently 25 CCAs are operating in California.⁹²

The state's CCAs are subject to the state Resource Adequacy ("RA") program and RPS requirements. However, unlike the IOUs for whom rates, portfolios, and long-term plans are subject to CPUC

<https://sustainablewestchester.org/>. Also see Municipal Electric and Alliance, Inc. (MEGA) CCA Program Administrator. Available at <https://megacca.org/>. Also see Good Energy, L.P. CCA Program Administrator. Available at <https://goodenergy.com>. Also see Joule Assets, Inc. Available at <https://www.joulecommunitypower.com/>.

⁸⁹ New York Assembly Bill No. A08883. Available at https://nyassembly.gov/leg/?default_fld=&bn=A08883&term=2013&Summary=Y&Actions=Y&Text=Y&Votes=Y

⁹⁰ California Assembly Bill No. 117, Chapter 838, September 24, 2022, Electrical Restructuring: Aggregation. Available at

http://www.leginfo.ca.gov/pub/01-02/bill/asm/ab_0101-0150/ab_117_bill_20020924_chaptered.pdf

⁹¹ The total load in California in 2021 was 247,249,865 MWh. EIA State Electricity Profiles California 2021. <https://www.eia.gov/electricity/state/California/>

⁹² CALCCA, what is Community Choice Aggregation? March 13, 2023. Available at <https://cal-cca.org/cca-impact/>

approval, CCAs' rates and energy portfolios are not subject to CPUC approval. CCAs are initially certified by the CPUC and CCAs must submit Integrated Resource Plans ("IRPs") to the CPUC to comply with CPUC's long-term planning process. The IRPs are part of the CCAs' responsibilities for tracking compliance with regulatory requirements involving RA and meeting GHG reduction targets.

The CCAs can have two program structures, either operating as a Joint Powers Authority ("JPA") or a single jurisdiction enterprise fund. For a JPA member municipalities establish an independent agency, governed by representatives from each member municipality, who operate the CCA. A JPA creates a legal firewall between potential liabilities of the CCA and the assets of the member municipalities. Most CCAs in the state, —including several of the largest CCAs (notably Marin Clean Energy, Central Coast Community Energy, Clean Power Alliance, and Peninsula Clean Energy), —are structured as JPAs. The single jurisdiction enterprise fund structure CCA, is structured as a separate program or fund within the existing municipality's organization, allowing the municipality to retain full control of the CCA. The largest single enterprise CCAs includes Clean Power San Francisco, and San Jose Clean Energy.

The CCAs in California are opt-out programs, established by an ordinance voted on by the municipality's governing body, but do not require a public referendum. The CCAs are the default provider in their service communities and can include a mix of residential, commercial, industrial, public service, and agricultural customers. CCA customers who leave their incumbent IOU are responsible for the Power Charge Indifference Adjustment ("PCIA") this charge allows IOUs to recover energy procurement costs incurred to supply customers that leave to take service from a CCA.⁹³ The PCIA varies by IOU service territory, customer class, and its impacts the each CCA's rate competitiveness. To date the PCIA is not considered a major barrier to CCAs customer base expansion, however, it remains controversial with the applicable regulations for determining the PCIA in flux.⁹⁴ The CCAs seek to offer rates lower than the incumbent IOU in their respective market with their ability to invest directly in generation facilities. The ability to invest directly in generation facilities eliminates some costs that IOUs incur without this ability. Supply investments IOUs incur are return on equity requirements and certain taxes that must be recovered through the IOU's rates.

Significant to the CCAs' approach is the focus on the procurement of electricity from renewable resources. Most CCAs have a goal to deliver a greater share of renewable electricity than the IOUs. CCA advertising often emphasizes the role CCAs play in advancing California's transition to a 100 percent carbon free electricity system. The California RPS program requires retail electricity sellers in the state procure 60 percent of their total retail sales from renewable resources by 2030. The RPS requirement for the current 2021-2024 compliance period is 44 percent.⁹⁵ Additionally, SB 350 requires 65 percent of RPS procurement must be derived from long-term contracts of 10 years or

⁹³ "Calculation of the Market Price Benchmarks for the Power Charge Indifference Adjustment Forecast and True Up," <https://www.cpuc.ca.gov/>

⁹⁴ Georgetown Law, "Power to the People: Community Choice Aggregation in California," January 16, 2020, <https://www.georgetown.edu/environmental-law-review/blog/>

⁹⁵ California Public Utilities Commission, 2022 California Renewables Portfolio Standard Annual Report, November 2022. Available at https://www.cpuc.ca.gov/rps_reports_data/

longer.⁹⁶ Most CCAs have executed sufficient contracts to meet or exceed the 2021-2024 compliance and are on track to meet the 65 percent long-term contracts requirement.⁹⁷

Given the structure of the California electricity market and the RPS compliance requirements, CCAs have been active in supporting the development of new renewable resource projects through direct long-term contracts. As of November 2022, the CCAs together have signed 243 long-term contracts, ranging from 10 year to 25 years in duration, for an aggregate 11,258 MW of new solar, wind, energy storage, geothermal, demand response and biogas projects.⁹⁸ These PPAs involve approximately \$14 billion committed to new-build clean energy resources.⁹⁹

The risks and barriers encountered by California CCAs include the potential opt-out of customers seeking to return to the local IOU, credit issues related to the typical portfolio of long-term power contracts, PCIA charge, and customer acquisition/retention at a scale sufficient to provide long-term sustainability for the CCA. While customer opt-out risk remains a concern, the CCAs have experienced low opt-out rates of generally less than 10 percent.¹⁰⁰ Most of the established CCAs have opt-out rates of 1 to 3 percent.¹⁰¹ As of April 2022, Central Coast Community Energy had less than 6 percent of the CCA's total customers opt out since its inception in 2017.¹⁰² Customers can opt-out during the initial 60 days of automatic enrollment without any penalty. After the 60-day initial period, customers can be subject to exit charges, although not all CCAs charge these fees. Returning customers are generally required to give the IOUs six months' notice of their intent to return and are required to remain with the IOU's service for 12 months before switching back to the CCA. The load served by active CCAs in California increased 37 percent from 42,649 GWh in 2019 to 58,618 GWh in 2022.¹⁰³

⁹⁶ SB 350, The Clean Energy and Pollution Reduction Act of 2015, California Energy Commission, Renewable Energy, Clean Energy and Pollution Reduction Act-SB350, <https://www.energy.ca.gov>.

⁹⁷ California Public Utilities Commission, 2022 California Renewables Portfolio Standard Annual Report

⁹⁸ CALCCA, California CCAs Exceed 11 Gigawatts in New-Build Clean Energy PPAs. November 10, 2022. <https://cal-cca.org/cca-impact/>

⁹⁹ CALCCA, California CCAs Exceed 11 Gigawatts in New-Build Clean Energy PPAs, November 10, 2022. Available at <https://cal-cca.org/california-ccas-exceed-11-gigawatts-in-long-term-contracting-with-new-build-clean-energy-resources/>

¹⁰⁰ University of Illinois, Urbana-Champaign, S. Kennedy, B. Rosen, The Rise of Community Choice Aggregation, and its Implications for California's Energy Transition: A Preliminary Assessment, Energy & Environment, June 2020. Available at https://www.researchgate.net/profile/Sean-Kennedy-13/publication/341937575_The_rise_of_community_choice_aggregation_and_its_implications_for_California's_energy_transition_A_preliminary_assessment/links/6130ed522b40ec7d8bdf69de/The-rise-of-community-choice-aggregation-and-its-implications-for-Californias-energy-transition-A-preliminary-assessment.pdf; See also

K. Trumbull, J. Gattaciecceca, and J.R. DeShazo, The Role of Community Choice Aggregators in Advancing Clean Energy Transitions: Lessons from California, UCLA Luskin Center for Innovation, October 2020. Available at https://innovation.luskin.ucla.edu/wp-content/uploads/2020/11/The_Role_of_CCAs_in_Advancing_Clean_Energy_Transitions.pdf. See also

Central Coast Community Energy, California Retail Electric, Central Coast Community Energy ICR, Standard and Poors, April 28, 2022. Available at www.standardandpoors.com/ratingsdirect.

¹⁰¹ S.F. Kennedy and B. Rosen, "The rise of community choice aggregation and its implications for California's energy transition: A preliminary assessment. Energy & Environment June 2020. <https://www.researchgate.net/publication/341937575>.

¹⁰² Central Coast Community Energy ICR, Long-Term Rating, S&P Global Ratings, April 28, 2022.

¹⁰³ CalCCA, CCA Power in Numbers, <https://cal-cca.org/cca-impact/>

The CCAs have been successful in customer retention by providing green product options which offer higher renewable energy percentages of up to 100 percent. The CCAs offer more flexible green product options than the IOUs green power offerings. For example the Clean Power Alliance (“CPA”), the largest CCA and the fourth largest load serving entity in the state, offers three products: (1) Lean Power which is 40 percent carbon-free sourced from renewables, nuclear and hydro sources, (2) Clean Power which is 50 percent clean power sourced from a minimum of 40 percent renewables and 10 percent hydro, and (3) 100 percent Green Power which is sourced from wind, solar and geothermal generation.¹⁰⁴ In 2022, CPA, which supplies communities located in the Southern California Edison service territory, was expected to serve a load of 10,942 GWh.¹⁰⁵ As of November 2022, CPA had executed 1,806 MW of long-term contracts with renewable resource and storage projects with terms of from 15 to 20 years project online dates ranging from 2019 to 2028.¹⁰⁶ Out-of-state projects accounted for 383 MW of this total reflecting 55 MW of geothermal energy from Utah and 330 MW of wind energy from Arizona and New Mexico.

Credit issues regarding the purchase of electricity through long-term contracts are generally associated with newly formed CCAs which tend to use RECs to meet their clean energy needs until establish a financial track record. Most established CCAs have credit capabilities and credit ratings that allow them to execute long-term contracts.

The PCIA has been a point of contention between CCAs and the IOUs, especially Pacific Gas & Electric. Despite various attempts at negotiation between the CCAs and the IOUs, CPUC rulings and proposed legislation will continue remain a risk to CCAs which they have been able to mitigate to date.¹⁰⁷ The PCIA is set annually by the IOUs using a vintaging concept, where each CCA is assigned, a vintage based on the month and year the CCA customers left the IOU’s service with different rates for different vintages. This differentiation between the IOU’s portfolio supply cost in the target year and the market value of that supply portfolio makes up the PCIA. The PCIA can be reduced if the cost of the portfolio declines, or the market value increases. The PCIA continues until the relevant IOU supply contracts in the specific vintage expire thus the PCIA is designed to decline for CCAs over time.

The experience of CCAs in California demonstrates that under the right market, regulatory, and legislative conditions, municipal load aggregation can be a significant driver for the development of new renewable resources. In California, the regulatory framework fostering the use of long-term contracts is the re-regulated electricity market. In states with restructured electricity markets, municipal aggregation programs are challenged to find approaches that can involve long-term contracts with new projects. The keys to using municipal load aggregation to support renewable

¹⁰⁴ Clean Power Alliance. Available at www.cleanpoweralliance.org

¹⁰⁵ California Public Utilities Commission, Community Choice Aggregation and Energy Service Provider Formation Status Report, April 4, 2022. Available at <https://www.cpuc.ca.gov/media/cpuc-website/divisions/documents/>

¹⁰⁶ CalCCA, “CCA Long-Term Clean Energy Power Purchase Agreements”, November 10, 2022. Available at <https://cal-cca.org/cca-impact/>

¹⁰⁷ Utility Dive, “Key regulatory decision leaves California reliability issues unresolved, aggravates tensions,” September 8, 2021. Available at <https://www.utilitydive.com/news/key-regulatory-decision-leaves-california-reliability-issues-unresolved-ag/605015/#:~:text=Deep%20Dive-.Key%20regulatory%20decision%20leaves%20California%20reliability%20issues%20unresolved%2C%20aggravates%20tensions.could%20weaken%20collaboration%20between%20LSEs.>

resource project development focus on the execution of long-term PPAs with developers which provide a basis for financing these projects. The ability to utilize long-term contracts depends on the credit capability of the CCA which to a significant extent is determined by the CCA maintaining and growing a sustainable customer base.

4. Summary of Approaches and Issues Regarding the Ability of Municipal Aggregation Programs to Contribute to Renewable Resource Goals and Drive the Development of New Renewable Energy Projects

a. Key considerations regarding the development of new renewable energy projects

1. **The regulatory structure of the state and how that structure impacts the outcome of the state's municipal aggregation program.** In restructured markets, municipal aggregation programs operate more like large retail electricity buyers, while in regulated markets the municipal aggregators act more like utilities with responsibilities for system reliability, long-term resource planning, RPS compliance and ratemaking authority, as is the case in California. In restructured markets, the municipal aggregators have rate negotiating responsibilities rather than ratemaking authority; this difference in ratemaking abilities impacts the economic model of the municipal aggregation program in the state. In California, CCAs have been able to support the development of renewable energy projects through the execution of long-term PPAs, and long-term PPAs are viewed as a successful way to ensure municipal aggregation stability. As of November 2022, CCAs had signed long-term agreements with more than 7,941 MW of renewable energy projects. Long-term PPAs are a proven means for driving the development of new projects in California's regulated electricity market, as demonstrated by CCA long-term PPAs executed with more than 7,900 MWs of new renewable energy projects. However, the applicability of that model to Illinois' restructured market is limited since the CCAs in California operate in a mostly regulated market environment.
2. **The limited ability of municipal aggregators in restructured markets to arrange long-term power supply contracts with new renewable energy projects.** In states with restructured markets, municipal aggregators negotiate electricity supply rates with competitive suppliers and are generally unable to contract directly with renewable energy projects. This exclusion from direct involvement in the competitive procurement process often makes municipal aggregation less appealing to renewable project developers. In these markets, there may also be limits to the length of contracts that municipal aggregators can sign with competitive suppliers. The inability to use long-term procurement contracts directly or indirectly with renewable energy projects eliminates the most successful means for aggregation programs to drive the development of new projects. Long-term contracts provide a consistent and bankable income stream for project financing. While long-term PPAs may not

always be required for financing a new project, the developer holding a long-term PPA will have improved chances of obtaining project financing. The price stability that a long-term contract brings is not available in the short-term electricity market.

3. **The ability to continue to maintain and grow the municipal aggregator's customer base with a key focus on minimizing customer migration back to utility service.** Municipal aggregation programs seek to minimize customer migration through the provision of lower rates and specific green products. Maintaining or increasing customer count is a key to the long-term viability of a municipal aggregator which in turn provides the stability necessary to support the longer-term development of new renewable energy projects. Municipal aggregation programs, particularly opt out programs, typically experience lower customer acquisition costs during the initial stages of program development as customers are added in large numbers. A key consideration in maintaining and expanding the customer base of existing programs will be holding down the cost of acquiring new customers.
4. **The development and maintenance of a robust market for RECs from new resources with aggregators procuring RECs beyond the minimum level required by the state's RPS.** A robust market provides demand for the production, sale, and retirement of large quantities of RECs. This market structure expands the revenue options available to new projects to promote their development. To provide sufficient incentives to increase the rate of development of new renewable energy projects, having municipal aggregation programs with renewable energy requirements will increase demand.
5. **For some municipal aggregation programs, the goals of providing green energy to customers from renewable energy generation include supporting the development of local renewable resources.** Some government aggregation programs in Ohio, notably the cities of Columbus and Cincinnati, several CCAs in California and the Cape Light Compact have stated goals of developing local projects. In most of these cases, local is generally defined as within the municipality or the state. The support for local projects is addressed through establishing minimum percentages of local RECs. This minimum portion of the RECs procured is put towards RPS requirements and supports green product offerings. Other means to support local projects include establishing a local priority for any new contracts and developing a trust fund that is specifically earmarked to support local projects.
6. **Other options to support new project development including developing community solar projects through aggregation programs, establishing a third-party administered trust fund, or establishing a separate carbon fee.** An aggregation community solar project would automatically enroll all the program's customers. Marin Clean Energy in California offers the CCAs customers the option to subscribe to shares in a 1 MW PV solar project. Several programs in New York have been exploring how to integrate community solar into municipal aggregation supply portfolios. These programs would still face the risk associated with customers opting out of the project. Several municipal aggregation programs have considered dedicating a portion of the customer savings to a fund which could be used to support the

development of new renewable energy projects. Another option is to set up an additional revenue stream for a project development fund. The city of Athens, Ohio implemented a carbon fee to be paid by customers participating in the aggregation program into a development fund that operates under the SOPEC aggregation umbrella.

b. The primary barriers to the ability of municipal aggregation programs to drive the development of new renewable energy projects

- 1. The difficulty in arranging long-term power supply contracts directly with renewable energy projects.** The absence of long-term contracting opportunities in most restructured electricity markets is a barrier to the development of new renewable energy projects. Project financing is often more difficult without the revenue stream provided by long-term PPAs, which can prevent the financing of a new project.
- 2. The risk of customer migration, including the mass transition of customers back to utility service such as NOPEC implemented in Ohio.** Customer migration risk creates uncertainties regarding the long-term viability of the municipal aggregation program and its reliability as a market for renewable energy projects, as the customer needs must be met through electric procurement.
- 3. Changing regulatory and legislative conditions that affect the on-going performance of municipal aggregation.** For example, SB 52 in Ohio—allowing local county boards to overrule the OPSB approval of renewable energy projects—in effect bans new utility-scale projects. In some states, the reduction of RPS targets by legislation after the original implementation of RPS legislation affect municipal aggregation programs by reducing the demand for renewable energy and limiting the need for the development of new projects. Legislative changes in response to utility concerns regarding stranded power supply costs which increase the charges such as the PCIA in California to a municipal aggregation program undermine the cost savings for ratepayers. This provides customers of municipal aggregation programs with the incentive to switch back to the default incumbent utility.
- 4. RPS requirements that inadequately incentivize development of a robust REC market.** For example, the 8.5% 2026 RPS target in Ohio limits demand for RECs. Having a low goal has a negative impact on the demand for renewable energy. However, if there is robust market for REC from new resources, municipal aggregation programs might have procurement requirements that are locational and can impede success. If development of renewable resources does not meet the current customer demand for electricity, the municipal aggregator will fail to secure RECs from local sources and could be barred from procuring outside of its geographic location.
- 5. Insufficient funding of trust funds dedicated to supporting renewable project development.** Inadequate earmarking of collected funds allocated to the procurement of RECs sourced from new projects reduces the ability of a municipal aggregation program to support new project development. In addition, the failure to earmark funds for local project

development reduces the impact that a municipal aggregation program can have on achieving local renewable energy goals. Note that while the largest trust fund, EarthEra, will consider providing support for projects local to the municipal aggregation programs contributing funds to the EarthEra fund, EarthEra does not prioritize the funding of local projects. In Ohio, some municipal aggregation programs have stated goals focusing on the development of local renewable energy projects; but to date, EarthEra has not provided funding to the development of any renewable energy projects in the state.

6. **Integration of the Community Solar and Municipal Aggregation programs may not necessarily spur new renewable energy development and substantial financial risks are possible.** The IPA recognizes and appreciates the comments received from several stakeholders regarding a combined approach of community solar and Municipal Aggregation, in particular the option to allow incorporate community solar into municipal aggregation programs on an opt-out enrollment basis.¹⁰⁸ Through this model, rather than customers actively seeking to subscribe to a community solar project, the municipal aggregation would take on that decision making role to subscribe and manage the enrollment without direct engagement by the customer. The IPA does not find that this integration would spur new renewable energy development. Since the inception of the community solar in Illinois, there has been a higher demand by community solar project developers for participation in the Adjustable Block Program than there has been capacity available in the programs. The community solar market is thus already saturated. Furthermore, the pricing of RECs for community solar projects participating in the Adjustable Block Program and Illinois Solar for All Program accounts for customer acquisition and management costs, which would not exist in a model where municipal aggregations managed enrollment on an opt-out basis. Allowing an aggregator to enroll customers into community solar as currently structured would therefore not be an efficient use of ratepayer funds. And as explained throughout this report, Municipal Aggregation contracts are generally set at terms of one to three years, while Community Solar REC contracts require maintaining subscription levels for 20 years. This difference in contract length would shift significant risk to community solar project owners if there were to be significant migration of customers from the Municipal Aggregation program or if the municipality terminates its Municipal Aggregation program. In those cases, the owner of the community solar project would need to obtain new subscribers, likely at a higher cost than they would have through the Municipal Aggregation program.

5. Recommendations

Based upon observations on municipal aggregation programs in other states and given the restructured nature of the Illinois electric market, there is not one clear statutory change that would create the right set of incentives for municipal aggregation program to be a key driver of the

¹⁰⁸ See for example comments from the Illinois Community Choice Aggregation Network an MC2, available at: <https://ipa.illinois.gov/renewable-resources/stakeholder-engagement/stakeholder-feedback-on-municipal-load-aggregation-and-renewable.html>.

development of new renewable resources. However, the following recommendations are intended to spur conversation on possible changes to Illinois law that could achieve this goal.

1. Develop risk-sharing mechanisms to encourage direct long-term supply arrangements with new renewable energy projects. For example, this could be achieved through statutory changes to allow for cost reallocation of RECs and/or energy from renewable energy procured by a municipal aggregation to the rest of the Illinois RPS through the shifting of contractual obligations. This would mitigate risks between amongst customers that migrate back to default service from the utility, and the customers participating in municipal aggregation programs. However, any such provisions should consider the cost of renewable resources procured through a municipal aggregation program compared to similar resources procured through IPA procurements and ensure that reallocated costs not be at a levelized cost higher than the resources procured by the IPA.
2. Expand the REC market through updated RPS requirements that incorporate requirements specific to municipal aggregation. For example, the model used for the Large Customer Self-direct program established in Section 1-75(c)(1)(R) of the IPA Act provides bill credits to large customers who procure and retire RECs for at least a ten-year term.¹⁰⁹ This credit comes in the form of a lower RPS tariff rate for those customers. While this model could provide the right financial incentives to the municipal aggregation, care would be needed to craft the model in such a way that it does not create negative impacts on the RPS budget used to support the IPA's programs and procurements for RECs to comply with the Illinois RPS, and that it ensures that new projects that would not otherwise be developed are incented by any such bill reductions.
3. Mandating increased REC location and vintage transparency and awareness across any green or renewable municipal aggregation contracts could potentially spur efforts at change. If residents of a municipality under a "green" municipal aggregation contract utilizing RECs from Iowa wind projects were uniformly aware that those RECs were from already built and financed projects in another state, they may instead push municipal leadership to demand those RECs be sourced from new Illinois wind or solar projects instead, including local project with a greater tangible connection and more compelling origin story.
4. The Climate and Equitable Jobs Act created robust labor and equity standards for IPA programs and procurements. Any statutory change to leverage municipal aggregation to support of the development of new renewable energy projects should ensure those standards' applicability.

6. Conclusions

The primary challenge facing municipal aggregation programs in restructured markets that want to expand usage of renewable energy is the focus on maintaining greater cost savings relative to the

¹⁰⁹ For more information on this program see: <https://ipa.illinois.gov/renewable-resources/self-direct-program.html>.

cost of service from the incumbent IOU. While maintaining a cost advantage is a continuing challenge, a benefit to the aggregator is the flexibility compared to the IOU to supply various green products to customers that involves delivering more RECs or renewable energy than the incumbent utility can, or is, able to provide. This green energy focus is often promoted as an advertising point to attract municipal aggregation customers, and to help keep current customers enrolled in the municipal aggregation program.

What remains a significant challenge to supporting the development of new renewable projects is the absence of the use of direct long-term contracts by municipal aggregation programs. Devising a plan to work through a competitive electricity supplier that can offer longer term support to new projects has shown promise in some states. As an example, the supplier to the Columbus aggregation program, AEP Energy, has entered long-term arrangements with local wind and solar projects in a phased approach that will result in 100 percent of the aggregation programs electricity requirements being served by renewable energy. Cincinnati's supplier Dynegy Energy Services reportedly executed a PPA with the New Market Solar project that the city had been supporting through planned electricity purchases to meet the city's needs outside of the aggregation program. Long-term REC procurement contracts can be used to provide some of revenue stream security offered to new renewable energy projects by long-term PPAs. In Ohio, the Columbus and Cincinnati aggregation programs required competitive energy supplier to work with local developers to support new renewable energy projects to qualify to bid for an aggregation program's supply contract. These municipal aggregation programs are using requirements for suppliers to execute long-term contracts with new renewable energy projects as an approach to address the limits associated with restrictions on the aggregation program's ability to sign long-term PPAs with these projects.

For municipal aggregation programs to become a driver of that development there will need to be ongoing consideration for potential legislative solutions as discussed in this Report's four recommendations.
