

# WHAT'S THE SCORE?

A Comparative Analysis of Massachusetts Municipal Light Plant's Clean Energy and Climate Action Performance By The Massachusetts Climate Action Network



The Massachusetts Climate Action Network (MCAN) was created to elevate the voices of community activists who promote clean energy and to educate the public on the health and environmental dangers of continued reliance on carbon-emitting "dirty" energy. Local chapter members, with MCAN's help, act in their own communities to move climate solutions forward while urging state officials to increase renewable energy opportunities and to fight legislation that supports dirty energy.

INTRODUCTION FROM CAROL OLDHAM, EXECUTIVE DIRECTOR OF THE MASSACHUSETTS CLIMATE ACTION NETWORK Over the last two years MCAN has brought together interested customers, light board members, and officials from the fifty towns whose electricity is provided all or in part by the forty-one Municipal Light Plants (MLPs) in Massachusetts. We have gathered data on how MLPs are currently addressing clean energy: information about what is being done, what more could be done, and what changes need to be made to ensure that MLPs can reach their potential as leaders on climate action.

We hope this report will inspire policy makers, Municipal Light Plant customers, board members and managers to realize their potential as climate action leaders. We hope the best practices of high-achieving Municipal Light Plants will offer critical lessons to those who are ready to act, and that our revelations will spur consumer pressure and competitive pride that lead to bolder and more effective action. It is also our hope that more energy consumers and policymakers join this dialogue and help create the policy environment that will allow Municipal Light Plants to pioneer even more impressive climate solutions and support Massachusetts' achievement of its ambitious climate goals.

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# **EXECUTIVE SUMMARY**

The transition to clean electricity is an urgent priority for Massachusetts, but not all electricity customers have had the opportunity to contribute to this effect. 14% of the electricity used in the Commonwealth is provided by Municipal Light Plants (MLPs) that are not keeping pace with the investor-owned utilities held to the State's clean energy policies and goals. The Massachusetts Climate Action Network (MCAN) is working to change that.

Until now there has never been a centralized survey, data collection, or ranking of Massachusetts MLPs on climate solutions. As a supporter of municipal leadership on climate action and local decision-making, MCAN set out to explore the potential of Municipal Light Plants (MLPs), public electricity providers owned and controlled by municipalities, to lead the way on climate action. This report provides the first comprehensive examination of how MLPs are addressing clean energy. We graded all forty-one Municipal Light Plants on their clean energy supply portfolios, their energy efficiency programs, their transparency to their customers, and the extent to which they plan to reduce their dependence on dirty energy over time. Our research reveals major opportunities for improvement:

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MLPs overstate their green content. Despite claims of more green content than many investor-owned utilities (IOUs), the 2017 portfolios of all 41 MLPs actually include less renewable energy content than the IOUs. No MLP had enough renewable energy to meet the Renewable Portfolio Standard (RPS) in 2017. On closer inspection the majority of the non-emitting resources claimed by MLPs is attributed to old nuclear generation, not a source of clean energy that the Massachusetts Clean Energy Standard or Renewable Portfolio Standard accept.

#### No MLP is yet running an effective energy efficiency program.

MLPs have very low kilowatt-hour (kWh) savings as a percentage of sales when compared to investor-owned utilities. With the exception of four towns, fewer than 2% of each MLP's customers actually use the energy efficiency rebates offered. It appears that many MLPs are not even tracking the results of their rebate programs.

At least 16 MLPs obscure or misrepresent information about how much clean energy they are actually providing, giving different information to their customers than they give when reporting greenhouse gas emissions to the state.

















Some MLPs, however, have made progress toward clean energy goals. Concord Municipal Light Plant has established strong, forward-thinking climate goals based on the town's clean energy plan, and Belmont Light has adopted a policy to voluntarily meet the Clean Energy Standard regulation. Ten Municipal Light Plants supply between 1% and 10% renewable energy to their customers, and five have applied for and received grants for energy storage projects that will reduce their need for gas-peaking plants. These successes offer a path forward.

We know that energy efficiency is the cheapest, most abundant energy resource. Renewable energy portfolios provide longterm cost benefits to customers and funnel customers' money into local renewable energy jobs. And yet, these results demonstrate that for a variety of reasons, customers in MLP territories have been excluded from reaping the benefits of energy efficiency and renewable energy. The need to find local solutions to reduce greenhouse gas emissions has become even more urgent. The 2018 Intergovernmental Panel on Climate Change (IPCC) report confirms that without action to reduce greenhouse gas emissions, the world could be headed for catastrophic climate danger. Rollbacks on greenhouse gas regulations and other climate policies at the federal level have left little hope of meaningful federal action in the next two years. Now more than ever, states, cities, and towns around the country must be the innovators of bold strategies to advance clean energy to benefit our health, economy, and environment-MLPs can lead this innovation.

## **REPORT CARD**

Municipal Utility	Clean Energy 40 pts	Energy Efficiency 25 pts	Transparency/ Leadership 25 pts	Dirty Energy 10 pts	Bonus Explicit RECs 10 pts	Bonus Other 6 pts	Total Score 100 pts
Belmont	24	19	25	5	10	6	89
Concord	24	19	23	5	10	6	87
Holyoke	30	15	19	0	0	6	70
Braintree	24	17	13	5	0	6	65
West Boylston	19	19	13	5	0	6	64
Hingham	27	16	6	0	10	0	59
Shrewsbury	24	21	8	0	0	4	57
Ipswich	П	21	18	0	0	6	56
Reading	20	16	9	5	0	6	56
Merrimac	23	17	4	5	0	6	51
Wakefield	18	18	8	5	0	2	51
Mansfield	19	19	8	0	0	4	50
Chicopee	8	23	12	0	0	6	49
Princeton	7	22	13	5	0	2	49
Wellesley	19	9	13	5	0	2	48
Boylston	17	19	8	0	0	4	48
North Attleboro	15	18	9	0	0	4	46
South Hadley	17	19	5	0	0	2	45
Sterling	20	10	4	5	0	6	45
Middleborough	15	14	11	0	0	4	44

Municipal Utility	Clean Energy 40 pts	Energy Efficiency 25 pts	Transparency/ Leadership 25 pts	Dirty Energy 10 pts	Bonus Explicit RECs 10 pts	Bonus Other 6 pts	Total Score 100 pts
Templeton	20	15	4	0	0	4	43
Russell	9	18	8	5	0	2	42
Ashburnham	17	9	4	5	0	6	41
Danvers	15	15	8	0	0	2	40
Hudson	19	9	6	0	0	6	40
Groton	15	11	П	0	0	2	39
Rowley	10	16	6	5	0	2	39
Paxton	17	17	4	0	0	0	38
Taunton	8	18	4	5	0	2	37
Marblehead	15	14	4	0	0	4	37
Peabody	15	13	4	0	0	4	36
Hull	19	14	Ι	0	0	2	36
Groveland	22	0	8	5	0	0	35
Holden	14	17	Ι	0	0	2	34
Westfield	18	10	4	0	0	0	32
Chester	9	5	8	5	0	4	31
Littleton	11	16	4	0	0	0	31
Georgetown	13	8	4	0	0	4	29
Norwood	5	13	4	5	0	0	27
Middleton	15	5	6	0	0	0	26





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Photo: Nathan Anderson

# *I.* BACKGROUND

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#### BACKGROUND

#### WHAT IS A LIGHT PLANT AND WHY DO LIGHT PLANTS MATTER FOR CLIMATE ACTION?

In Massachusetts, there are two types of electric utilities that distribute electricity service to consumers: investor-owned utilities (IOUs), owned by private shareholders, and Municipal Light Plants (MLPs), owned by municipal governments. MLPs sell 14% of the electricity used in Massachusetts.

MLPs supply electricity to customers within the geographic limits of their municipalities. Their supply comes from generation assets they own, and electricity purchased from other generators. Today, there are forty-one Municipal Light Plants providing electric service to fifty communities across the Commonwealth. Some MLPs also provide municipal gas service.

MLPs have a significant ability to reduce the greenhouse gas emissions of the electricity they supply to customers, as well as to support their customers with energy efficiency programming. MLPs are allowed to develop and own renewable generation, something investor owned utilities are prohibited from doing. This provides a unique mechanism for supporting MLP customers with clean energy. In addition to shifting current electric supply to cleaner energy sources, MLPs can plan for the phase out of fossil fuel and nuclear power in their generation mix and target reduction of peak energy demand, when the oldest and generally dirtiest generation must be quickly dispatched to serve demand. High efficiency electric heating systems and vehicles hold potential to provide substantial energy efficiency benefits and greenhouse gas reductions, when powered by an electric supply that primarily consists of renewable sources. Fossil fuel and nuclear phase-out plans can anticipate and thereby promote a transition of heating and transportation systems to cleaner electric power.

By virtue of their status as both an electric utility and a municipal government entity, MLPs can more easily work on climate and energy strategies where municipalities are critical decision-makers, such as building electric vehicle charging infrastructure, creating opportunities to site and own renewables within the municipality, converting street lights to high efficiency LED lighting, and running tailored local community education campaigns to reduce energy use and use renewable energy.

While MLPs are generally small, their industry associations allow them to work together to create beneficial economies of scale for clean energy planning and purchasing, renewable energy generation development, and energy efficiency programming.

Taken together, these qualities make MLPs uniquely well-positioned to leapfrog their investor-owned counterparts with innovative and aggressive clean energy programs. MLP's non-profit status and public mission allows them to do so while maintaining the lower costs their nonprofit operation facilitates.

#### MASSACHUSETTS' CLEAN ENERGY FRAMEWORK EXEMPTS MLPS FROM RENEWABLE ENERGY AND ENERGY EFFICIENCY REQUIREMENTS

The state of Massachusetts has committed to achieving an 80% reduction in greenhouse gas emissions by 2050. Despite only comprising 17% of the emissions, the electric sector is highly regulated, making it easier for policymakers to implement changes rapidly. As discussed above, transitioning the electric sector to clean energy ensures a responsible transition of the transportation and heating sectors to efficient electric vehicles and heating technologies.

The 1997 Electric Utility Restructuring Act, which applies to investor-owned utilities but exempts MLPs, allowed customers to choose their supplier and created a Renewable Portfolio Standard and an energy efficiency fund. Subsequent legislation continued to exempt MLPs from requirements to meet renewable energy targets placed on IOUs and competitive energy suppliers, including increasingly stringent requirements under the Renewables Portfolio Standard and a more recent Clean Energy Standard (CES) focused on overall emission reductions. MLPs remained exempt from a requirement to charge a system benefit charge in order to fund energy efficiency programs as well as the requirements put on IOUs to secure all available cost-effective energy

efficiency. While MLPs have been exempted from renewable energy and energy efficiency requirements, they have always maintained the ability to charge a system benefit charge to raise funds for both renewable and energy efficiency programming.

#### THE RENEWABLE PORTFOLIO STANDARD

The Renewable Portfolio Standard (RPS) is a state level requirement for the percentage of renewable energy provided to customers by energy suppliers. RPS requirements increase incrementally each year. Compliance with the standard is tracked through ownership of Renewable Energy Certificates (RECs). A key goal of the RPS is to create a market that favors specific renewable technologies and incentivizes development of new renewable generation and supports existing renewable generation, so Massachusetts includes a variety of types of RECs and corresponding required levels that energy suppliers must include.

For the purpose of ensuring development of locally sited new generation that directly feeds into the New England Grid, Massachusetts requires IOUs to purchase a percentage of their renewable supply as a specific type of REC called a Class I REC. To qualify as Class I RECs, renewable generation must be delivered to the New England Grid and the generating assets need to have been brought on line after 1997. Allowable renewable technologies to meet Class I RECs include:

- Solar photovoltaic
- •Solar thermal electric
- •Wind energy
- •Small hydropower
- Landfill methane and
- anaerobic digester gas
- •Marine or hydrokinetic energy
- Geothermal energy
- Eligible biomass fuel

#### **CLEAN ENERGY STANDARD**

In addition to the RPS requirements, Massachusetts Department of Environmental Protection recently promulgated regulations setting out a Clean Energy Standard (CES) that energy suppliers must meet. The standard sets a minimum percentage of electricity sales that utilities and competitive retail suppliers must procure from clean energy sources. The minimum percentage began at 16% in 2018 and increases 2% annually to meet the goal of 80% reduction of greenhouse gases by 2050. The CES is met through acquisition of Clean Energy Credits. CES compliance includes RPS as well as additional compliance requirements which can be met by the inclusion of a broader set of non-emitting resources, such as non-renewable non-emitting resources. For example, the 2018 RPS Class I standard is 13% and the CES requirement is 16%; therefore, retail sellers that comply with RPS Class I must

procure an additional 3% of CES-eligible clean energy to comply with the CES. This may be met by procuring additional RPS Class I-eligible generation above the RPS Class I requirement or by procuring new (post 2010) non-emitting generation such as new nuclear or hydropower.

#### **ENERGY EFFICIENCY PROGRAMS**

The enactment of the Green Communities Act (GCA) expanded energy efficiency requirements on electric and gas IOUs, requiring they become energy efficiency program administrators and develop three-year plans that "provide for the acquisition of all available energy efficiency and demand reduction resources that are cost effective or less expensive than supply." Under the Green Communities Act mandate, IOUs participate in a public process before an appointed Energy Efficiency Council with stakeholder representation to develop three-year energy efficiency plans, and then submit these plans and regular reporting on performance to the Department of Public Utilities for approval and cost recovery. MLPs are not subject to the mandate nor to any of the accompanying reporting and public review.

The IOUs and one municipal aggregator (Cape Light Compact) collaboratively file statewide three-year energy efficiency plans with the Department of Public Utilities that offer integrated energy efficiency programming for residential and commercial customers. The plans include enforceable kWh savings and KW demand reduction goals and aligned program strategies. The IOUs have met significant electric energy efficiency goals, achieving kWh savings 3% of electric sales. In addition to providing plans and reporting on savings and demand reduction, IOUs invest heavily in publicly available third-party evaluations of their programs to confirm savings and to identify ways to improve programs. They also track and report on additional measures such as closure rates (number of recommendations in the audit taken), participation by sector, costs (all costs for running programs and provided as rebates or other incentives to customer) and goals in % of sales (kWh saved/ total kWh sold).

MLPs are required to submit annual financial reports to Department of Public Utilities. The DPU reports do not require accounting of emitting or non-emitting energy content. Both MLPs and IOUs are required under the Residential Conservation Services (RCS) to provide residential customers with energy assessments, also known as audits.

#### **RATIONALE FOR EVALUATION**

At the request of our chapters, MCAN convened four summits in 2017 and 2018. Activists, town officials, and light board members from twenty-eight MLP towns explored strategies for MLPs to reduce emissions and support Massachusetts clean energy and climate goals. These included increasing energy efficiency and the renewable portion of MLP energy supply portfolios, and supporting distributed generation, energy storage, and strategic electrification.

Through this process, activists discovered they were unable to access the information needed to advocate for more effective clean energy and climate policies and action. Overwhelmingly, summit attendees agreed that a comparison of communities served by MLPs was needed: one that specifically examined how the MLPs stacked up to each other on climate action, including clean energy purchasing and policies. Those who attended our meetings wanted to see where there was the most room for improvement, in order to effectively target advocacy efforts and to highlight existing best practices so MLPs could rapidly adopt them.

Up until this point, there has never been a centralized survey, data collection, or ranking of Massachusetts MLPs on climate solutions, although the Metropolitan Area Planning Council published a white paper highlighting some best practices. MCAN set out to gather comprehensive data from all available sources to create the first accessible, comparable, and transparent report on MLP clean energy performance that will allow our members, policy makers, MLP customers, and MLPs themselves to have the information needed to move forward strategically on clean energy.

## II. EVALUATING MUNICIPAL IGHT PLANTS

We used four categories to evaluate the Municipal Light Plants. These categories are 1) clean energy, 2) energy efficiency, 3) transparency and leadership, and 4) reductions in dirty energy. We chose these categories based on their importance to everyday people, how they relate to our statewide climate goals, and what climate and energy researchers and advocates have determined are government and industries' best strategies to mitigate climate change. We also gathered input from members who have consistently attended the Municipal Light Plant summits on what they wanted to know and emphasize.

The scoring system was created to compare the Municipal Light Plants to each other using accepted standards that are embedded in state policies as well as regulations applied to the investor-owned utilities. The result is a comparable analysis of each Municipal Light Plant to each other, and comparisons wherever possible of MLPs to IOUs.



#### **CLEAN ENERGY (40 POINTS)**

We offer up to 40 points for MLPs working to transition to renewable energy by evaluating their portfolios on several different metrics. 10 points are offered to MLPs that meet the RPS, and another 10 to those that retire their Renewable Energy Credits (RECs). Up to ten points (divided incrementally) are awarded based on the percentage of the MLP's energy portfolio that is non-emitting; to earn an additional 10 points, an MLP must meet the standard New England Independent System Operator (ISO) grid mix: 40% non-emitting electricity.



#### **ENERGY EFFICIENCY (25 POINTS)**

MLPs are evaluated on their incorporation of energy efficiency practices for a maximum sub-score of 25 points for municipalities that cut emissions by saving electricity. MLPs that provide free audits to the residents they serve earns five points, while MLPs that provide rebates can earn up to five points depending on how many types they offer, and another five points based on whether they have a program in place to track these rebates. The final ten points are delegated (up to five points each) on a scaled evaluation of the adoption rate of these rebates and the annual electricity savings of the MLP. We use the term "adoption rate" to mean the number of rebates used in 2017 by customers of the Municipal Light Plant, divided by the total number of customers the MLP had in that year.

To account for special actions taken by MLPs that investor-owned utilities do not have jurisdiction over, a bonus category offers additional points for offering electric vehicle programs, educational initiatives, LED streetlight conversions, and renewable siting in town that is sold outside of their grid.

As the transition to non-emitting sources is the most effective way to reduce climate pollution, we heavily weighted clean energy actions, with 40% of the score resulting from the clean energy section and 10% of the transparency sub-score allotted for climate goals and town plans with measurable clean energy goals and commitments to specific clean energy strategies.





MLPs are graded on their transparency regarding their portfolios to the customers they serve. Five points are available in each of the following instances: the town's climate action plan includes language about the MLP, there are board or manager goals for the MLP in writing, community engagement is offered (in the form of either surveying or holding a forum for customers). Scaled points (out of five) are offered for MLPs that have online public communications (including light board meeting times, contacts, notes, or their portfolio), and for the information shared with MCAN.

#### **DIRTY ENERGY (10 POINTS)**

In the final category we ranked MLPs on their commitment to making reductions in the amount of dirty energy their communities consume during times of peak demand. This sub-score is worth up to ten points, five of which are awarded if the MLP has planned or completed storage to reduce their usage of gas peaker plants and increase reliability of renewable sources. The other five may be earned if the MLP has no long-term contracts with fossil fuel or nuclear plants, or if they have written plans to replace these fossil fuel and nuclear contracts with renewable sources once they expire.



#### **BONUS (16 POINTS)**

An MLP may earn up to sixteen bonus points depending on their provision of additional sustainable measures, and their transparency concerning renewable energy certificates. If we received information from MLPs or were able to glean it from their websites, we offered bonus points for electric vehicle rebate programs, LED streetlight conversions, renewable resources sold outside of town, educational events, municipal building upgrades, and town owned electric vehicles.

## **DATA COLLECTION**

The three main sources of data for this report are conversations with Municipal Light Plant managers and industry groups; Municipal Light Plant websites and DOER, RPS, and SREC databases; and annual returns from the department of public utilities. Energy New England (ENE) and Massachusetts Municipal Wholesale Electric Company (MMWEC), the two industry associations that help Municipal Light Plants with power purchasing and administering efficiency programs, were both collaborative in providing energy efficiency and portfolio data to us.

# **BEST PRACTICES**



#### **CLEAN ENERGY**

- MLP meets or exceeds Renewable Portfolio Standard that IOUs are held to.
- MLP retires Renewable Energy Certificates.
- Portfolio meets or exceeds non-emitting source percentage of standard ISO New England grid (>35% non-emitting).
- MLP takes advantage of ENE/MMWEC financing to support development and installation of new renewable projects in town.



#### **ENERGY EFFICIENCY**

- MLP provides free audits to customers.
- MLP offers residential and commercial efficiency programming.
- MLP offers comprehensive energy efficiency savings opportunities by providing incentives for heating and cooling, weatherization, and appliance rebates.
- MLP uses industry group support to develop energy efficiency plans and tracking.
- MLP tracks and reports "closure rates": number of recommendations adopted by consumer from audit, and then tailors programs from results.

We emailed and made phone calls to all forty-one municipal light plant managers starting in July 2018, and followed up at least twice with all non-responsive managers. We provided a written questionnaire, and in the second round of contacts, a pre-filled questionnaire from resources that we found online. We called managers and specific departments with information requests. In late October, we alerted the MLP's trade associations (ENE, MMWEC), and those Municipal Light Plants that had significant data unavailable that this was their last chance to provide REC retirement and any corrected or missing information.

Most data reflect 2017 numbers to ensure complete and consistent information across MLPs. However, for net metering policies and the transparency and leadership section, data was assessed based on the summer of 2018.



#### TRANSPARENCY

- Town has a climate action plan or clean energy plan that includes language about MLP.
- MLP has clean energy and greenhouse gas reduction goals in writing that are enforced by the entity it reports to, which is either the light board, town manager, or board of selectmen.
- MLP offers clear and easy community engagement to the town residents, especially by updating its website, making its portfolio available online, holding regular forums, and surveying its consumers.



#### **DIRTY ENERGY**

- MLPs with gas should not increase gas service, and should provide consumers with transparent information on the benefits of heating electrification.
- MLPs with gas and nuclear contracts should write a policy that sets a plan for replacing them with renewable energy once the contracts expire.
- MLPs with fossil fuel generation ownership should make a plan to retire generation as soon as possible and replace it with energy storage.
- MLPs without nuclear or fossil fuel contracts should make a policy to not add any in the future, and should plan to install storage as soon as possible.

## III. RESULTS

### **SUMMARY OF MLP SUCCESSES**

## CLEAN ENERGY

Ten Municipal Light Plants have started to increase the amount of renewable energy they are providing customers by retiring RECs in 2017, and some have installed a significant amount of behind the meter and front of the meter renewable generation. Hingham, Concord, and Belmont have retired RECs for a significant percentage of their portfolio, all upwards of 5%. Braintree and Shrewsbury also retired some RECs resulting in approximately 2% of their supply portfolio being renewable.

Some of the most progressive communities are using their ability to own and develop renewables to support installation of new renewable projects. Unfortunately, most are selling the RECs from these projects to IOUs, in effect selling their right to claim the renewable energy as part of their supply.

Several communities with Municipal Light Plants have town climate or energy plans. We found three Municipal Light Plants have clean energy goals with target dates: Concord, Belmont, and Chicopee, and five towns include reference to the MLP in their town climate or clean energy plan (Concord, Belmont, Reading, Holyoke, and Ipswich).

### ENERGY EFFICIENCY

All but two MLPs participated in an energy audit program and the majority (thirty-seven) offer an appliance rebate program in 2017. Most (thirty-seven) Municipal Light Plants rely on their industry groups, Energy New England (ENE) and Massachusetts Municipal Wholesale Electric Company (MMWEC), to administer all or some of their energy efficiency programs. The industry groups who provide the services do track and made available information on rebate use and savings.

MMWEC also offers members the opportunity to participate in an electric vehicle rebate program. Seven towns do so, and another five towns run their own electric vehicle programs. MMWEC also supported the City of Holyoke in developing a detailed energy efficiency policy and tracking plan, which provides an excellent model.

# TRANSPARENCY

Transparency allows for community engagement: a consistent ingredient in higher performance by MLPs. Several communities with Municipal Light Plants have town climate or energy plans: Concord, Belmont, Reading, Holyoke, and Ipswich. With the exception of Holyoke, all were written by volunteer committees of environmental advocates. Concord and Belmont go further with climate goals about their energy portfolio in writing, as does Chicopee. Concord's plan holds the town manager accountable to the goals, and Belmont's voluntarily aligns its energy portfolio with the Clean Energy Standard.

A quarter of MLPs have engaged their customers with surveys that asked about clean energy, and six keep their websites updated with energy contracts and light board information. Belmont, Concord, and Hingham provide clear and accurate descriptions of the percentage of renewable energy that they provide to their customers.Wakefield's light board has created performance goals for its plant manager on customer service and public communication.

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Five towns have been early adopters of storage technology through grant programs from the state. Two more have firm commitments to implement storage by a certain date. Eight Municipal Light Plants do not have contracts with or ownership of nuclear or gas generation. Out of the four Municipal Light Plants that provide gas heating service, Wakefield has created a communication plan to manage their gas heating queue by directing fuel-switching customers towards electric heat pumps.

### HIGHLIGHTS OF MODEL MLP PROGRAMS HINGHAM

While Hingham was unable to meet the 2017 Class I RPS minimum of 12%, the town's electricity was 100% carbon-free for the years 2017 and 2018. Hingham was able to change their energy mix quickly by retiring RECs from their contracts with renewable generation and purchasing Maine Class

Il hydroelectric certificates to cover the remaining percentage of the energy. Hingham's power still includes about 25% nuclear energy. They demonstrated how an MLP can rapidly move to a 100% carbon-free portfolio even as they continue to work to increase the renewable portion.

Community members brought together their light board advocate and two experts as speakers for a public forum to help get all the information out to the board and community. Following the forum, the community members partnered with local grassroots organizations in the area to contact the light board members before a light board meeting at which a decision was to be made. The community education and organizing proved decisive as the formerly skeptical light board was swayed to pursue a 100% carbon-free portfolio.

#### BELMONT

Belmont has a history of over ten years of activism by residents who have worked on programs to encourage solar, heat pumps, and electric vehicles in partnership with their MLP. In 2018, Belmont Light committed to a policy to voluntarily meet the Clean Energy Standard requirements. The policy lays out the light plant's commitment to meet the town's climate action plan's goal of 80% greenhouse gas reductions by 2050. On their way to meeting those goals, they have achieved 9% of Class I renewable energy in their portfolio, by retiring their wind and hydroelectric power RECs (not reselling the RECS to others but assigning the RECs to the portfolio supplied to their customers, instantly increasing the amount of renewable and carbon free energy provided to their customers). Retiring RECs is the perfect first step for any Municipal Light Plant to take.

Additionally, with input from local activists and the Light Board Advisory Committee, Belmont has been a leader in transparency with their customers about what qualifies as non-carbon emitting and renewable energy. On their website they provide a clear explanation and portfolio pie chart detailing how much renewable and carbon free energy they provide to their customers, and exactly which RECs they have retired. Belmont's website is an excellent model for MLPs looking to accurately communicate the non-emitting and renewable energy assets in their portfolios to their customers.

#### CONCORD

Concord MLP is an example of a holistic commitment to following its town's energy plan. Concord aims for its electricity supply to be 100% carbon-free by 2019, achieved initially by retiring and purchasing RECs, and then by transitioning to more in-town renewables and carbon-free power purchase agreements. This initiative was accomplished by residents and the town select board's formation of a task force focused on reducing greenhouse gas emissions town-wide.



Constituent pressure, town meeting votes, and task force recommendations resulted in a town commitment to greenhouse gas reductions with a data driven plan. By decarbonizing their electricity supply, the town hopes to allow for electrification of vehicles and space heating resulting in less fossil fuel consumption and increased use of the town's Municipal Light Plant.

Concord has also committed to installing storage for peak load shaving purposes in 2019/2020 and to be transparent and accountable to their town and ratepayers through their strategic plan. This commitment remains even though they were unsuccessful in obtaining the state storage grant support used by other MLPs. Concord is basing their investment plan on a 7% price reduction per year and amortizing their cost over twenty years to make the storage revenue neutral. This strategic plan lays out the analysis on how storage can be cost-effective for MLPs who have not received project grants.

#### HOLYOKE

Holyoke owns and operates the Holyoke Hydroelectric project which contributes substantially to their non-emitting portfolio. Holyoke had the highest score in the clean energy section because they retired RECs, for 2% renewable energy, had high percentage of non-emitting electricity, and had a large amount of renewable energy sited in town. Holyoke offers loans to commercial and residential customers for implementation of recommended energy efficiency upgrades (up to \$5000), and for solar installations (up to \$10,000).

Holyoke also has a highly detailed written energy efficiency policy and tracking plan written in 2009 with support from MMWEC that includes closure rate tracking.

#### PRINCETON

Princeton had the second highest overall score for energy efficiency, demonstrating that a small town with almost entirely residential customers can still offer a comprehensive program and track their data. They offer incentives for efficient heating and cooling equipment, weatherization, and appliance rebates. Their higher kWh savings as a percentage of sales outranks their peers with high adoption rates.

#### CHICOPEE

Chicopee had the highest score overall for energy efficiency, and has set a goal to increase the percentage of its energy obtained from energy efficiency, hydropower, wind, solar, and landfill gas to 35% by 2025.

Chicopee offers incentives for saving across all three categories of efficiency opportunity including rebates for appliances, heating and cooling equipment, and weatherization measures. They achieved an adoption rate of .77% and savings of .32% of sales. Chicopee extends their efficiency offers to commercial customers, who comprise a significant portion of their energy savings.

#### WAKEFIELD

Wakefield has an innovative approach to setting goals for their Municipal Light Plant manager. Their light board includes clean energy performance goals that their manager must report on in a yearly review. For light boards who do not have a town climate action plan to follow, holding a board manager accountable to clean energy performance goals is a great step. For towns with climate action goals, adopting them as performance goals that MLP mangers are held responsible for creates clarity and accountability that can drive action.

Wakefield is also a gas-providing utility and includes explicit goals to make sure gas service for heating does not increase. This includes required strategies for "managing gas queue" through operational improvements and an information campaign on alternatives for customers who want to convert to natural gas. This approach allows the MLP to intervene at a key customer decision moment to encourage and educate people to switch to heat pump technologies instead of to gas heating.

#### STERLING

Sterling Municipal Light Department was the first utility in Massachusetts to implement an energy storage facility and paved the way for this innovative solution to be adopted by its peers. The project went online in 2016 and has a capacity of 2 MVV. They then went on to install a second energy storage project, making them the only Municipal Light Plant with two storage projects in town, with a total capacity of 3 MVV. The project was funded in large part by a Massachusetts Department of Energy Resources (DOER) grant as well as the U.S. Department of Energy, Office of Electricity (DOE-OE), and Sandia National Laboratories.

## FINDINGS OF CONCERN

#### **CLEAN ENERGY**

The 2017 portfolios of all forty-one MLPs include **less renewable energy content than the IOUs.** No MLP had enough renewable energy to meet the RPS in 2017. **The highest scoring MLPs still performed well below the IOUs** in terms of renewable energy in their portfolios.



% RPS Class 1 13% 12% 11% 10% 9% 8% 7% 6% 5% 4% 3% 2% 1% 0% National Grid High scoring High scoring Eversource Unitil High scoring MLP 1 MLP 2 MLP 3

Most Municipal Light Plants have been selling some or all of the RECs associated with generation that they either own or have contracted. For example, the Berkshire Wind Project is a large wind cooperative of which many Municipal Light Plants own part. Selling the RECs to the investor-owned utilities who use that to meet the Renewable Portfolio Standard means that the MLP may no longer claim the greenhouse gas reduction or renewable energy as its own. Selling them to the IOUs means there is less market pressure for other new renewable generation to get built.

By selling the RECs instead of retiring them, the MLPs are helping the buyers meet their goals that they are already mandated to meet–excusing the utility from building more solar capacity itself. In other words, the MLP that sells its REC has a direct net contribution to reducing greenhouse gas pollution of zero. As long as MLPs are not held to the RPS, we believe that REC sales should only happen after the municipality has met its own renewable commitments, either voluntary or mandatory.

The small group of MLPs leading the way on retiring RECs remain well below the requirements of the RPS. The low carbon portfolios of most Municipal Light Plants primarily reflect longterm contracts with existing nuclear power plants and RECS from older or out of state renewable energy that is not supporting new emissions reductions.

#### **ENERGY EFFICIENCY**

No Municipal Light Plant had an annual kWh savings of above half a percent of sales. The highest was .48% of sales, as compared to the Investor Owned Utilities which have savings of 3% of sales. Municipal Light plants generally do not track energy savings, demand reduction, or run evaluations of programs. Most Municipal Light Plants do not track electricity savings (kWh), and few track the number of rebates used. We found that only Holyoke Gas and Electric looked at closure rates. Energy efficiency programs delivered through the industry associations are very limited, mostly offering financial support to customers to address appliances and failing to provide significant support for whole-building energy efficiency upgrades or to connect their eligible customers (those with gas service from an IOU) with the MassSave program to ensure customers are accessing comprehensive energy efficiency support.

MLPs rarely offer any efficiency programming for the commercial sector customers. The commercial sector has significant energy efficiency saving opportunities. MLPs with large commercial energy customers are missing a significant energy efficiency opportunity.

#### TRANSPARENCY

Existing regulatory oversight is lax. Municipal Light Plants are **not required to submit greenhouse gas reports to the Depart-**

#### ment of Environmental Protection,

and the financial reports they submit to the Department of Public Utilities do not include information on emitting or non-emitting energy. Data on MLP performance is lacking or not consistently reported.

One MLP has not submitted a financial annual return to the DPU since 2013. Most MLPs do not make their supply portfolio or energy efficiency results available online. With the notable exception of Belmont, the few MLPs that do post their portfolios online include percentages of their portfolio as renewable or non-emitting energy when they have not retired the RECs for that energy. This is a practice which is inadmissible when reporting to the DEP, and implies to customers that the MLPs are providing a higher percentage of renewable energy than customers are actually receiving in their supply. Customers do not have access to accurate renewable and non-emitting portfolio information of their MLPs. The DEP's greenhouse gas reports come out up to three years after the supply is provided, making it impossible for customers of most MLPs to verify the MLPs' claims of renewable energy. No government agency monitors these claims to customers, and MLPs are not required to submit plans or reports on energy efficiency to any government agency.

Few MLPs have long-term plans for climate goals, and none offer set dates for residential and commercial energy efficiency savings.

#### **DIRTY ENERGY**

No MLP received full points; no Municipal Light Plant has explicit plans about replacing their gas or nuclear contracts with renewables once the contracts expire. Further, none have plans in writing to retire fossil fuel generation that they own. None of the municipal light plants that do not have contracts or ownership with nuclear or gas generation have also planned to install storage.



## WHAT IT MEANS

The graphic below portrays that as MLPs continue to maintain current practices of limited clean energy procurement and minimal energy efficiency, their share of electric sector emissions will increase relative to the levels of the IOUs. With their collective control of 14% of supply, that is a significant missed opportunity for the Commonwealth to achieve its climate goals. It should also be noted that this is a conservative estimate, as it does not reflect the more ambitious Renewable Portfolio Standard recently enacted, nor does it account for the increased electricity demand in MLPs that will result from comparatively low energy efficiency savings.

#### 2015

This pie chart shows the emissions from Municipal Light Plants as a portion of overall electric sector emissions for MA in 2015.



## IV. CONCLUSIONS AND HOPES FOR THE FUTURE

While some MLPS are using their unique position to innovate on specific aspects of climate and clean energy action, all should be considering opportunities to be climate leaders. MLPs are falling behind IOUs on levels of clean energy and energy efficiency provided to customers. If Municipal Light Plants do not increase their clean energy portfolio with more renewables and energy efficiency, the state will have greater difficulty in meeting its goal of 80% reductions in carbon emissions as set out in the Global Warming Solutions Act.

Municipal Light Plants need to do their fair share to meet the overall state goals from the Global Warming Solutions Act and plan for the rapid transition away from fossil fuels. This is planning that other parts of the state, including other sectors, are already doing.

The burden of cleaning up the electric sector currently rests on some consumers, but not others; mandatory requirements are put on customers in investor-owned utilities, but not those served by Municipal Light Plants. Climate change will impact all electricity customers in Massachusetts. All electricity providers and their customers must participate in solving the problem. To the extent that the Municipal Light Plants have reduced the carbon content of their electric portfolio, it has largely been through contracts to purchase nuclear power from already existing plants. This creates an appearance of climate action, but does not truly reflect a responsible transition to a carbon-free portfolio. It does not create regional clean energy jobs or energy efficiency jobs, nor allow communities to align their energy choices with their values, nor meet the requirements for state level reductions in state statute.

The good news is that Municipal Light Plants can lead the way. Instead of using their exemptions from mandatory requirements to focus exclusively on lowering prices, MLPs can move to comprehensively implement the many best practices demonstrated by peers and continue to innovate. A focus on price leads to looking more at the shortterm and putting it ahead of the moral and statutory obligation to be a participant in solving climate change. Customers of investor-owned utilities are paying for climate solutions and gaining bill reductions through energy efficiency and renewable energy additions. In the long-run, this focus on price means municipal customers are being shortchanged.



#### Because voluntary action by the Municipal Light Plants on climate is having a very limited impact, we believe it is time for:

- The state to consider including Municipal Light Plants in programs like the Clean Energy Standard and require Municipal Light Plants to communicate with customers regarding renewable and non-emitting resources in terms that are consistent with those required of IOUs when reporting to state agencies. To ensure MLP customers are provided complete transparency on their energy supply, the state should consider making reporting requirements mandatory and timely.
- Trade associations (ENE, MMWEC, and MEAM) that serve Municipal Light Plants to raise their ambition regarding clean energy and energy efficiency and take action that meets and exceeds what the investor-owned utilities are doing. Municipal Light Plants are the perfect labs for climate action: small enough to try innovative things and move the electricity sector, but large enough to make a difference, especially as collectively they represent 14% of the electricity supply in the Commonwealth.
  - Customers of Municipal Light Plants to take action locally with their light boards. Customers must push for accountability and climate goals so that Municipal Light Plants can live up to their potential.

Massachusetts will have a very hard time meeting our goals of 80% reductions in climate-change causing pollution by 2050 if we leave 14% of the electric sector out of the solution set. We look forward to doing this report again in two years, and hope to see progress made by each Municipal Light Plant.













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## GLOSSARY

Carbon-Free Energy	See: non-emitting energy.		
Clean Energy	Massachusetts Class I Renewable Energy Certificates (RECs), Massachusetts Class II hydroelectric RECs, other New En- gland state hydroelectric RECs, and old hydroelectric power that does not generate RECs.		
Dirty Energy	Energy generated from sources that have polluting emissions or toxic waste products. Defined as gas, oil, coal, waste incin- eration, and nuclear energy.		
Greenhouse Gases	Gases that trap heat in the atmosphere which include carbon dioxide, methane, nitrous oxide, and fluorinated gases.		
Light Board	Elected or appointed officials who are residents of the munic- ipality and advise the MLP manager on electricity decisions.		
MEAM	Municipal Electric Association of Massachusetts, a lobbying organization of which all 41 MLPs are required to be a part.		
Non-Emitting Energy	Old hydroelectric generation, nuclear, or any New England state's RPS qualified RECs excluding those with biogenic emissions (landfill gas, waste energy).		
RECs	Renewable Energy Credits.A REC represents the positive environmental attribute associated with renewable energy production in the New England Region.An organization can only claim to be providing renewable energy or carbon-free energy if it owns the RECs.		
Renewable Energy	Massachusetts Renewable Portfolio Standard Class I or II RECs, excluding class II waste energy generated from garbage incineration.		

## **APPENDIX A: METHODOLOGY**

#### **CLEAN ENERGY**

Solar and renewable siting in town were as follows: SREC I data from 2017 and SREC II data from July 2018, RPS Class I resources from April, 2018 and RPS Class II from April, 2017. All portfolios were calculated from 2017 DPU annual returns using information from pages 54-55 or page 22, plus any interchange power on page 57 which was included as "market" and emitting. The DPU reports themselves do not make claims about emitting or non-emitting megawatt hours (MWHs), however we used the NEPOOL GIS database and DEP definitions of emitting and non-emitting energy to determine which purchases in the reports qualified as non-emitting. Non-emitting energy is defined as nuclear energy, old hydroelectric power that does not generate RECS, and MWHs of purchased MA Class I or 2 RECs or other New England state renewable certificates, excluding biogenic emissions (landfill gas and waste energy). Contracts or ownership of renewable projects without RECs retained are considered emitting. All non-fuel specific market contracts or spot market purchases are considered emitting as per DEP standards. Miller hydroelectric power was counted as non-emitting, but not RPS qualified as part of it generates Class I RECs and the rest generates no RECs. Miller was counted as RPS qualified if ENE or MMWEC told us how many of Miller's class | RECs were retired in 2017. In order for RECs retired to count, we needed confirmation from the Municipal Light Plant or industry association as to which contract, how many MWH, and in what year they were retired or purchased.

Hull was not calculated as they have not filed a DPU return since 2013 and their 2013 return did not include any purchased power information. For Hull, we used the DEP's non-emitting calculations from 2015. For Boylston, we used its 2014 DPU return. DPU annual returns can be found on their website or through a public information request. Gosnold was incomplete for all sections because we could not access its data and it has fewer than 100 customers.

#### **ENERGY EFFICIENCY**

Number of customers is from Department of Public Utilities annual returns and we used this to calculate the rebate adoption rate. All energy efficiency rebate numbers and annual kWh savings were reported from either the Municipal Light Plant itself or from Energy New England (ENE) and Massachusetts Municipal Wholesale Electric Company (MMWEC). Annual kWh savings were calculated based on the Massachusetts Technical Reference Manual estimate guidelines. MMWEC included heat pump estimates, while ENE included air conditioners, but not heat pumps. Neither included estimates for weatherization programs, but

on average only two or three customers per MLP received weatherization services if offered. kWh savings are divided by kWh sales for 2017 to produce a metric of savings as a percent of total sales. This section of our grading includes residential and commercial savings if the MLP provides commercial rebates, but excludes LED light bulb savings as only one Municipal Light Plant reported those numbers. If an MLP did not provide kWh saved, we scored them with a zero for that category. This is based on the standard from a conversation with the American Council for an Energy Efficient Economy (Martin Kushler), in that an energy efficiency program is meaningless unless kWh savings are tracked. We did the same for energy efficiency program adoption rates.

For energy efficiency tracking, if the Municipal Light Plant gave no response to our contact attempts and did not give permission to ENE or MMWEC to provide their program information to us, we assumed they did not track program success and they received a zero. If we requested energy efficiency numbers and they directed us to ENE or MMWEC we assumed they did not regularly request the information for their own analysis and scored them accordingly. If they did not respond to our energy efficiency information requests, but ENE or MMWEC provided it, we assumed they do not track in house or request the information from their industry group and scored accordingly.

#### TRANSPARENCY & LEADERSHIP

If a Municipal Light Plant did not respond about town or Municipal Light Plant climate action plans, and we did not find any plans on town websites, we assumed there was no such plan. We used their website for our section on access to light boards, minutes, or meeting times. For surveying customers, we relied on the manager's response and if they did not answer and there was no mention of a survey on their website we assumed there had not been one as it was not a common practice.

#### **REDUCTIONS IN DIRTY ENERGY**

We used the DOER storage grant announcement website to find the list of MLPs who received grants. Wellesley answered our questionnaire and said they had contracts in process with storage companies, and Concord's strategic plan commits to storage by a certain date, accountable to the town manager. For nuclear and gas replacement plans we had to rely on responses from the managers. If they did not respond we assumed there were no plans in writing as we found no Municipal Light Plant that we talked to had one.

APPENDIX A

#### BONUS

We received information on the bonus categories of electric vehicle rebate programs, LED streetlight conversions from DOER grants, renewable resources sold outside of town, educational events, municipal building upgrades, and town-owned electric vehicles either directly from MLP staff or from their website if they did not respond to us.

#### **INDUSTRY STANDARDS**

For questions that were not accessible from the above sources, we based our scores on the industry standards from other Municipal Light Plants. The following assumptions were made: for the RPS, conversation with the Department of Environmental Protection (DEP) confirmed that no Municipal Light Plants had retired any Renewable Energy Certificates and therefore had 0% of the RPS in 2015. Conversations with the DEP also confirmed that only one Municipal Light Plant has ever retired Solar Credits (SRECS), at 25 MVVHs, and only a few started retiring RECs in 2017.

To see the background data used for this analysis go to bit.ly/mlpreport

## METHODOLOGY

#### Clean Energy Sub Score (40 points) Criteria Score Explanation Meet RPS? Yes 10 Yes, if MA Class I RECs retired is greater than the 2017 MA standard which was 12%. 0 No **Retired RECs?** Yes, if RECs retired is greater than 0. In order to count needed 10 Yes confirmation from MLP as to which contract, how many MWH, No 0 and in what year RECs were retired or purchased. Non-Emitting Energy Portfolio ≥35% 10

28-34%	8
21-27%	6
14-20%	4
7-13%	2
0-6%	0

Standard New England ISO grid mix is approximately 60% fossil fuel based and 40% nuclear, wind, solar, and hydro. We gave full points for being close to the region's general mix. Non-emitting energy for the MLP is defined in our glossary.

#### Renewable Siting Per Capita (Total Renewables kW/ Number of Customers)

>0.7	5
0.4-0.69	4
0.1-0.39	3
0.02-0.099	2
<0.01	0

Siting means a renewable generator that is located in town. Score determined based on range of MLP renewables per capita. Includes hydropower, solar, wind, and landfill gas, does not include renewables sold outside of town.

#### Solar Metering Policy

Policy meets Mass. gov definition	3
Policy does not meet Mass.gov definition	0
No Policy	0

Reference is the short definition on Mass.gov's website. Full points if any amount of money is credited back to customers even if not full retail rate.

#### Residential System Capacity Limit (kW)

≥I0kW	2
7-9kW	I
≤6kW	0
% of Peak Load	0

Scored based on average monthly household usage of a 7 kW system.

#### METHODOLOGY

Energ	y Efficienc	y Sub S	Score (25 points)		
	Criteria	Score	Explanation		
Provide Fre	e Audits				
	Yes	5	If the MLP provides free energy audits to		
	No	0	residential customers, recieve full points.		
Offer Reba	tes				
	3 types offered	5			
	2 types offered	4	If the MLP offers rebates in all three categories		
	l type offered	3	weatherization it recieves full points.		
	0	0			
Tracking Rebate Programs					
	Had kWh savings in-house	5			
	Had at least rebate usage in-house	3	Some MLPs were able to answer our questions about kWh savings and rebate usage. Some MLPs were able to answer only about rebate usage. Some sent us to ENE or MMWEC who tra		
	ENE or MMWEC tracks their data, but MLP doesn't use	I	it for them but the MLP doesn't requests the information to have in their own files. Others do not track kWh savings or rebate usage and refused permission for ENE or MMWEC to provide the information to us.		
	Refused to provide or don't have rebates	0			
Adoption R	Adoption Rate (Sum of Tracked EE Rebates/ Number of Customers)				
	>1.5%	5			

>1.5%	5
I-I.49%	4
0.75-0.99%	3
0.5-0.74%	2
0.01-0.49%	Ι
0%	0

Adoption rate is number of rebates used which are funded by the MLP, divided by number of customers in service area. Excludes lighting except for commercial programs. Includes residential and commercial if offered. Score determined based off range of MLP adoption rates.

#### Annual Electricity Savings (kWh saved/total kWh distributed by MLP)

>0.1%	5
0.06-0.099%	4
0.03-0.059%	3
0.01-0.029%	2
<0.01%	0

An ACEEE study of 23 municipal utilities with substantial energy efficiency achievements averaged 1.0% for annual electricity savings. Since no MA MLP was considered in the study, a top score for this report was benchmarked at 0.1% based on the range of MLPs.

Transp	arency a	nd Le	adership Sub Score (25 points)			
	Criteria	Score	Explanation			
Town Climo	Town Climate Action Plan includes Muni					
	Yes	5	MLPs should be incorporated into town climate action plans be- cause the electricity sector is the easiest to clean up. Full points			
	No		if town has a climate action or a clean energy plan and names the MLP specifically, must be community wide.			
Goals for MLP Manager in Writing						
	Yes	5	MLPs need climate goals to be in writing and have it officially as a policy or have someone external hold them accountable,			
	No	0	whether it is the light board or the town government. Must have a concreate goal related to the energy portfolio or ghg emissions			
Communit	y Engagement o	n Renewa	ble Energy			
	Yes	5	Defined as surveying or holding a forum for customers since the year 2000 that asks about renewable energy, energy efficiency or			
	No	0	GHG emissions.			
Public Com	munications					
	Both	5				
	Light board meetings times, contacts, or notes online	3	Add light board score to portfolio score. As the a public entity, access to the board and current contracts must be easy. To get			
	2017 Contracts or portfolio on website	2	centages of total energy for 2017.			
	None	0				
Public Infor	mation Sharing					
	Provided in full to MCAN request	5				
	Confirmed when pre-filled by MCAN	4	MLPs are public entities and their information should be easily accessible. This score shares how amenable MLPs were to sharing public information with their sustamers and MCAN			
	Answered partially when called by MCAN	3	public mormation with their customers and PICAN.			
	Provided when customer asked	2				
	Provided by FOIA, ENE or MMWEC	I				
	Refused to share					

### Dirty Energy Reduction Sub Score (10 points)

	Criteria	Score	Explanation		
Storage Plans					
	Planned or Completed	5	Storage at minimum shaves the peak load, reducing the amount of energy used from dirty gas peaker plants. It also increases renew- able energy reliability.		
	No	0			
Replace Gas or Nuclear in Portfolio Plans					
	Yes or N/A	5	<ul> <li>Receive full points if they have in writing any plans that they wireplace their nuclear or gas contracts with renewable energy once they expire. Also receive full points if they do not have an long term contracts or ownership of nuclear or fossil fuel generation which is represented in the baseline data as an N/A.</li> </ul>		
	No	0			

	Criteria	Score	Explanation		
Additional Sustainable Measures					
	≥3 measures	6			
	2 measures 4 Sustainable measures include LED streetlight rebates, smart meter rebate or program, EV	Sustainable measures include LED streetlight payments, solar rebates, smart meter rebate or program, EV rebate or program,			
	l measure	2	municipal EE upgrades or audit funding, educational events, re- newables sold outside of town, town EVs.		
	None	0			
Transparency on Renewable Energy Credits					
	Yes	10	If an MLP makes explicit in any publication what energy they can count as non-emitting to their customers they recieve ten bonus points.		
	No	0			

## LIMITATIONS

The energy efficiency section does not include data on whether and how Municipal Light Plants might coordinate with MassSave in towns with IOU gas-heating customers. This would be an area for future research. A Municipal Light Plant could improve its energy efficiency programs by coordinating with MassSave. Our preliminary findings were that only three towns mentioned MassSave on their energy efficiency websites: Concord, Wellesley, and Westfield. We do know that the four MLPs that provide gas service—Holyoke, Wakefield, Middleborough, and Westfield—do not have a Mass-Save option for their customers.

There were many aspects of clean energy service that we were not able to analyze in this report card, but hope to do in the future. For energy efficiency we were only able to collect the aggregate data of how many rebates were used and how many kWh were estimated to be saved. At a time when the investor-owned utilities are being pressured to provide and track more detailed data on energy efficiency for renters, low-to-moderate income, and non-English speakers, it would be relevant to have the same information for Municipal Light Plants. Because of the this, we recognize that this report is limited in addressing equity concerns in climate solutions for Municipal Light Plants. Most Municipal Light Plants have not done specific equity related programming in any of the categories. We hope to include more of this in our next report as the Municipal Light Plants progress on information tracking and programming.

We understand that the Department of Energy Resources (DOER) may be requiring plans and reporting on energy efficiency from Municipal Light Plants under the updated Residential Conservation Services Guidelines. If so, we could have more complete and nuanced information to incorporate in our next report card.

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