January 19, 2024

William Space, Senior Technical Advisor for Climate Programs
Massachusetts Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114

Re: A Better City's Comments on the Clean Energy Standard Discussion Document

Dear Mr. Space:

On behalf of A Better City's nearly 130-member business organizations, thank you for the opportunity to provide comments on the Clean Energy Standard (CES) Draft Framework and Discussion Draft Regulation document. A Better City appreciates the Healey-Driscoll Administration's commitment to ensuring that Massachusetts meets or exceeds its ambitious climate and clean energy goals.

Our comments on the Clean Energy Standard Draft Framework and Regulatory Discussion Document include: 1) dedicating ACP funds; 2) establishing a Just Transition Fee; 3) ensuring the CES does not penalize privately owned renewable energy; and 4) clarifying how the CES will interact with the Clean Heat Standard and other parallel policies.

1) Dedicating ACP Funds to Support CES-Eligible Projects

A Better City supports the recommendation that dedicated ACP funds be used to support future clean energy standard-eligible projects, as opposed to the funds going to the General Fund. In addition, the Department could consider a dedicated CES Fund within the Climate Protection and Mitigation Expendable Trust, for such ACP payments, along with clear guidance on what projects may be eligible for funding. Once established, it will be important for the Department to annually publish online disbursements from the CES Fund for increased transparency and public accountability.

Recommendation: A Better City recommends establishing a dedicated CES Fund within the Climate Protection and Mitigation Expendable Trust, which will collect CES ACP funds overtime to support CES-eligible projects. A Better City recommends the Department publish clear guidance on what projects may be eligible for funding and under what timeline, as well as publish annual disbursements from the CES Fund once established.

2) Establishing a Just Transition Fee

While A Better City supports the concept of a Just Transition Fee and the efforts to support low-income, environmental justice, and energy burdened neighborhoods transition to a clean economy, A Better City is concerned that the Just Transition Fee is penalizing the development of clean energy. Rather than charging an additional fee on top of the CES, perhaps a percentage of the anticipated Fund from ACPs could be dedicated to a just transition program, and projects promoting an equitable transition can be encouraged more broadly throughout Fund disbursements.

Recommendation: A Better City recommends dedicating a percentage of anticipated ACP Fund proceeds to a Just Transition Program, rather than charging an additional Just Transition Fee. Across all Fund disbursements, the Department should encourage projects that benefit low-income, environmental justice, and energy burdened communities whenever possible. As the Department considers designing and implementing a Just Transition Fee, A Better City recommends soliciting input from the Environmental Justice Council and Department of Public Utilities.

3) Ensuring the CES Does Not Penalize Privately Owned Renewable Energy Projects

As with the Clean Heat Standard, A Better City suggests that future regulatory language clarify that the CES does not apply to privately owned renewable energy deployment like solar arrays for community solar projects or geothermal wells for building/campus use. Within A Better City's membership, for example, we have member organizations with large solar arrays or geothermal projects located in Massachusetts across healthcare, commercial real estate, and financial services sectors, that are already in use for compliance with company climate commitments, building performance standards like BERDO 2.0, and community benefits (like Boston Medical Center's Clean Power Prescription Program).

Recommendation: A Better City recommends clarifying in the discussion document and anticipated CES regulatory language that CES requirements will not apply to privately owned renewable energy projects like community solar projects and geothermal wells for private use.

4) Clarify How This Will Interact With the Clean Heat Standard and Other Parallel Policies

A Better City is actively following the development of the Clean Heat Standard, also managed by DEP, as well as parallel policies that will impact the Commonwealth's implementation of climate and clean energy goals. It would be helpful to clarify how the CES proposals would interact with the Clean Heat Standard proposals, the Renewable Portfolio Standard, and the Alternative Portfolio Standard.

Recommendation: A Better City recommends publishing a clarification document with frequently asked questions about how the Clean Energy Standard, Clean Heat Standard, Renewable Portfolio Standard and Alternative Portfolio Standard will interact, as well as timelines for compliance and enforcement.

We remain committed to working with you throughout the development of the Clean Energy Standard and ensuring an effective and equitable transition to a decarbonized economy.

Sincerely,

Y. L. Torrie

Yve Torrie
Director of Climate, Energy & Resilience

Acadia Center

NORTHEAST GRID PLANNING FORUM
A JOINT INITIATIVE OF ACADIA CENTER & NERGICA

NERGICA

January 19, 2024

Massachusetts Department of Environmental Protection
100 Cambridge Street Suite 900
Boston, MA 02114
Via email

Re: Stakeholder input to inform the strengthening of the Clean Energy Standard (CES)

Dear Commissioner Heiple:

On behalf of the Northeast Grid Planning Forum, we are pleased to submit comments and recommendations in response to the Discussion Document released by the Massachusetts Department of Environmental Protection (MassDEP) describing potential options to strengthen the Clean Energy Standard (CES). Please note that Acadia Center will also be submitting its own letter addressing the Discussion Document.

The Northeast Grid Planning Forum (NGPF) is a deliberative stakeholder dialogue designed to formalize and deepen collaboration across northeast U.S. states and Canadian provinces around interregional energy system and grid coordination. The dialogue will be convened via three distinct roundtable processes: 1) environmental justice and community mobilization, 2) interregional planning, and 3) clean energy procurement and market development. Working together and in close coordination with civil society, labour and industry, participating jurisdictions will create and deploy a shared policy, legal, regulatory and market/tariff toolset. This toolset will advance the development of the next-generation power network which will serve as the backbone of the energy transition across the region, capturing the climate, clean energy procurement and consumer benefits of grid integration on an interregional basis. Acadia Center and Nergica, independent US- and Canada-based non-profit corporations, serve as co-convenors for this effort.

The NGPF applauds the efforts of MassDEP in seeking to strengthen the Clean Energy Standard for Massachusetts, which is an essential policy tool for achieving not only the Commonwealth's goals for its Clean Energy and Climate Plan for 2050, but also for supporting decarbonization more broadly across the broader 'Can-Am' northeast. In addition to the specific comments below in response to the Discussion Document, the NGPF encourages MassDEP to consider how improved stakeholder engagement and shared value creation with local communities can support the responsible development of clean energy system infrastructure. Building broad and sustained political legitimacy for clean energy is imperative. Barriers that are slowing the rate of progress must be addressed head-on. These include most notably:

- Reforming how the balancing authorities and system operators' grids across the Can-Am northeast are planned and managed so that they prioritize reliable clean energy, climate, consumer, and equity goals in their mandates;

- Ensuring that clean energy investments prioritize improvements to the buildings and communities of those who suffer from poor health, housing, and transportation services; and
- Addressing community and stakeholder concerns with clean energy projects and infrastructure siting.

Many communities are frustrated by rising power rates, concerns about reliability, and insufficient opportunities to meaningfully participate in planning and siting processes. The legacy approach to energy system development drives conflict over energy system infrastructure issues. A more coordinated and inclusive strategy would build trust by empowering communities and stakeholders to steward their own energy future as ratepayers, who ultimately will grapple with the consequences of failure. Improved community engagement with all energy system stakeholders during the earliest stages of energy system planning can facilitate faster and more successful implementation of the infrastructure needed to achieve net zero goals.

We wish to offer a specific recommendation in response to the MassDEP's request for comment on the following point:

1. **Require long-term planning.** To provide more certainty to clean energy generators than current certificate markets, MassDEP could amend the CES to add some form of planning requirement, such as a requirement that a certain percentage of the compliance obligation be met via multiyear contracts with clean energy generators. One option for implementing such a requirement could be the creation of an organized regional or Massachusetts-specific auction process for advance purchases from planned projects.

We enthusiastically support the proposal that a planning requirement be incorporated into the CES and encourage the MassDEP to think more expansively.

Independent studies[i] show there are enormous mutual benefits to northeast provinces and states if the current piecemeal approach to developing and managing energy systems were supplemented with one based on mutual cooperation. Collaboration on energy system planning across the international border and between grids is an untapped opportunity in the decarbonization toolkit and can advance reliability, load balancing, and cost improvements on both sides of the border. Frameworks for cross-border cooperation already exist: the Northeast Power Coordinating Council (NPCC) ensures grid reliability across the region. Ontario and Québec have launched grid planning discussions, and a DOE-Northeast States Collaborative is in formation. There are immense technical, economic, and environmental benefits to such collaboration. We recommend that MassDEP call for a strong interregional energy system planning mandate as an essential strategic element in reaching the Commonwealth's 2050 climate goals.

Improved interregional planning tools would not commit the Commonwealth to any specific infrastructure choices. Rather, they would empower the Commonwealth to evaluate a broader set of infrastructure proposals that may bring improved value to impacted parties, from rural communities

to ratepayers and regulators. By broadening the lens of analysis to identify a larger set of potential energy system solutions, Massachusetts would be better equipped to cope with future disruptions to individual projects that could threaten its 2050 climate goals and critical reliability needs.

Conclusion

By catalyzing discussions amongst energy planners, government leaders, and community and stakeholder interests, NGPF seeks to deepen the conversation about the potential benefits of coordination and facilitate thoughtful, cross-border responses to the wide range of policy and social concerns regarding energy system planning.

Thank you for the opportunity to comment on MassDEP's work to strengthen the Clean Energy Standard for Massachusetts. Enclosed is a copy of our Framing Paper, which further articulates the value and approach of the Northeast Grid Planning Forum.

Respectfully,

Daniel Sosland
President
Acadia Center
dsosland@acadiacenter.org
(207) 236-6470 x301

Frédéric Côté
General Manager
Nergica
fcote@nergica.com
(418) 368-6162

[i] "Economic, Reliability, and Resiliency Benefits of Interregional Transmission Capacity: Case Study Focusing on the Eastern United States in 2035," GE Energy Consulting, 2022. https://www.nrdc.org/sites/default/files/ge-nrdc-interregionaltransmission-study-report-20221017.pdf

"National Transmission Needs Study," U.S. Department of Energy. October 2023. https://www.energy.gov/sites/default/ files/2023-10/National_Transmission_Needs_Study_2023.pdf

"2050 Transmission Study," Reid Collins. 18 October 2023. https://www.iso-ne.com/static-assets/documents/100004/a05_2023_10_19_pspc_2050_study_pac.pdf

Cowart, Richard et al, "A Collaborative for Greater Coordination and Integration Among the Electric Grids of Eastern Canada and the Northeastern United States: Assessment and Recommendations," Regulatory Assistance Project, Raab Associates, Ltc, and The Transition Accelerator. 5 October 2020. https://www.raponline.org/wp-content/uploads/2023/09/rap-collaborative-greater-coordination-integration-electric-grids-eastern-canada-northeastern-united-states-2020-october.pdf

Dimanchev, Emil, Joshua Hodge, and John Parsons, "Two-Way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower," MIT CEEPR Working Paper 2020-003. https://ceepr.mit.edu/wpcontent/uploads/2021/09/2020-003.pdf

NORTHEAST GRID PLANNING FORUM

A JOINT INITIATIVE OF ACADIA CENTER & NERGICA

Acadia Center

Advancing the Clean Energy Future

NERGICA Renewable Energy Research and Innovation

THE NORTHEAST GRID PLANNING FORUM

A COLLABORATIVE DIALOGUE FOR ENHANCED COORDINATION BETWEEN THE POWER GRIDS OF NORTHEAST NORTH AMERICA

PREPARED BY:
DANIEL SOSLAND, ACADIA CENTER & FRÉDÉRIC CÔTÉ, NERGICA

www.northeastgrid.org

UNITING NORTH AMERICANS FOR OUR NET ZERO FUTURE

THE NORTHEAST GRID PLANNING FORUM sees a future where a novel, collaborative approach to energy system planning empowers diverse stakeholders to ensure the future economic competitiveness and energy resilience of the northeast United States and eastern Canada.

Today, grid planning, development, and operations between the states and provinces occur in silos. Although there is a significant amount of inter-jurisdictional trade, the lack of coordination between jurisdictions is a barrier to capturing substantial mutual benefits.

THE NORTHEAST GRID PLANNING FORUM is a deliberative stakeholder process designed to formalize and deepen collaboration among northeast U.S. states and Canadian provinces around interregional energy system improvements, including grid planning coordination, two-way power flows and community engagement.

The Forum will be convened via three roundtable processes: 1) environmental justice and community mobilization, 2) interregional planning and 3) clean energy procurement and markets development. Working together and in close coordination with civil society, labor and industry, participating jurisdictions will create and deploy a shared policy, legal, regulatory and market/tariff toolset. This toolset will advance the development of the next-generation power network which will serve as the backbone of the energy transition across the region, capturing the climate, clean energy procurement and consumer benefits of grid integration.

WHY IS NOW THE TIME TO ACT?

- Communities are frustrated by rising power rates, concerns about reliability, and insufficient opportunities to meaningfully participate in planning and siting processes. The legacy approach to energy system development drives conflict over energy system infrastructure issues. A more coordinated and inclusive strategy would build trust by empowering communities and stakeholders to steward their own energy future as ratepayers, who ultimately will grapple with the consequences of failure.
- Our shared region lacks a process to prioritize and address broad concerns about reliability, affordability, climate, and responsive siting in the face of major grid modernization requirements. Cross-border coordination on these matters will help capture enormous economic and consumer benefits while helping us achieve our decarbonization goals.

A COMMON CHALLENGE, A MUTUAL OPPORTUNITY

THE CHALLENGE

Modernizing energy systems to provide reliable, affordable service that meets the climate challenge is a critical task now squarely facing governments, industry and citizens across the United States and Canada.

- To meet aggressive climate goals, independent studies predict this region must find ways to increase the output of its current power grids by two-fold or more. The required 'build-out' of new generation and transmission capacity will dwarf any recent expansion in the electricity system and touch the pocketbooks and communities of all residents.
- Consumers face issues with energy affordability, while businesses are searching for affordable, reliable low-carbon energy and power grid operators are charged with maintaining the reliability of an increasingly-complex system.

THE CURRENT DYSFUNCTION

There is a significant amount of trade between US and Canadian jurisdictions, but a lack of coordination leads to a fragmented system that fails to fully capture potential mutual benefits.

- **CURRENT FOCUS PLACES PROJECTS AHEAD OF PROCESS:**

  Without any shared framework for planning and procurement, transmission projects are often developed in a highly risky and adversarial manner, creating tensions in communities, and leaving regulators with poor options. This hodgepodge approach does not allow a systematic effort to coordinate resources.

- **CURRENT COOPERATION IS LIMITED TO SHORT- AND MEDIUM-TERM RELIABILITY:**

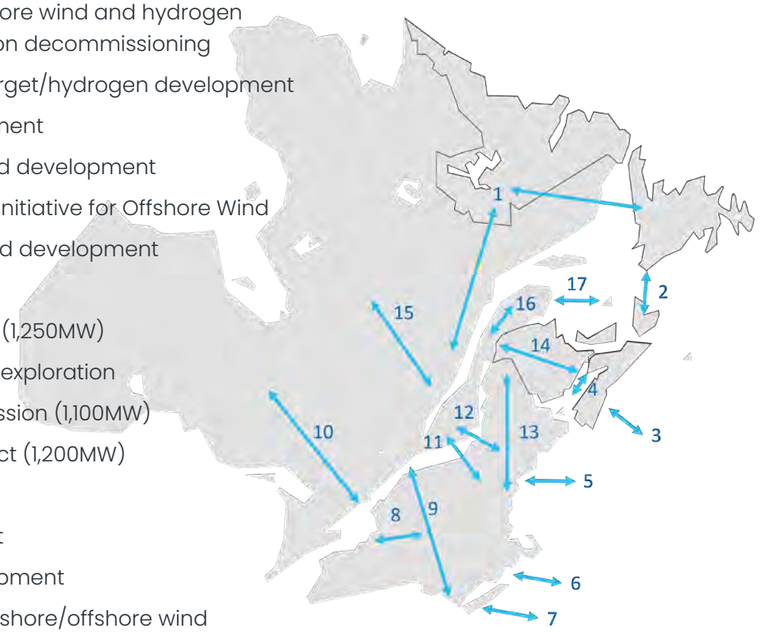
  Frameworks for cross-border cooperation already exist: the Northeast Power Coordinating Council ensures grid reliability across the region. Ontario and Québec have launched grid planning discussions, and a DOE-Northeast States Collaborative is in formation. These collaborations too often focus on short- and medium-term reliability goals rather than solving for long-term decarbonization action that values planning efficiency and justice for stakeholders.

Frameworks for cross-border cooperation already exist: the Northeast Power Coordinating Council ensures grid reliability across the region. Ontario and Québec have launched grid planning discussions, and a DOE-Northeast States Collaborative is in formation.

TARGET REGION: NORTHEAST POWER COORDINATING COUNCIL RELIABILITY ZONE
Source: npcc.org

A SNAPSHOT OF INTERRREGIONAL ISSUES AND OPPORTUNITIES

1. Churchill Falls renegotiation/ Gull Island development/ emerging demand on Québec's North Shore
2. Newfoundland Atlantic Loop/Offshore wind and hydrogen development/Coal-fired generation decommissioning
3. Nova Scotia 5GW offshore wind target/hydrogen development
4. Bay of Fundy tidal power development
5. Gulf of Maine floating offshore wind development
6. New England States Transmission Initiative for Offshore Wind
7. New York/Mid Atlantic offshore wind development
8. Clean Path NY (1,300MW)
9. Champlain Hudson Power Express (1,250MW)
10. OPG new northern hydroelectricity exploration
11. Eversource Northern Pass Transmission (1,100MW)
12. New England Clean Energy Connect (1,200MW)
13. Northern Maine transmission RFP
14. Atlantic Loop/Belledune retirement
15. New Québec hydroelectric development
16. Alliance de l'Estdevelopment of onshore/offshore wind
17. Cable project for the Magdalen Islands



COOPERATION IS A BETTER WAY TO POWER OUR REGION

Independent studies[1] show there are enormous mutual benefits to northeast provinces and states if the current piecemeal approach to developing and managing energy systems were supplemented with one based on mutual cooperation. Collaboration on energy system planning across the international border and between grids is an untapped opportunity in the decarbonization toolkit. The benefits of a decarbonized economy must accrue to everyone and address a century of detrimental impacts from fossil fuel use and we need all the tools available in the toolkit.

LAUNCHING A DIALOGUE FOR INTERREGIONAL ACTION

Building broad and sustained political legitimacy for clean energy is imperative. Barriers that are slowing the rate of progress must be addressed head on. These include most notably:

- Reforming how the balancing authorities and system operators' grids are planned and managed so that they prioritize reliable clean energy, climate, consumer, and equity goals in their mandates;
- Ensuring that clean energy investments prioritize improvements to the buildings and communities of those who suffer from poor health, housing, and transportation services; and
- Addressing community and stakeholder concerns with clean energy projects and infrastructure siting.

[1] *"Economic, Reliability, and Resiliency Benefits of Interregional Transmission Capacity: Case Study Focusing on the Eastern United States in 2035," GE Energy Consulting, 2022. https://www.nrdc.org/sites/default/files/ge-nrdc-interregional-transmission-study-report-20221017.pdf*

"National Transmission Needs Study," U.S. Department of Energy. October 2023. https://www.energy.gov/sites/default/files/2023-10/National_Transmission_Needs_Study_2023.pdf

"2050 Transmission Study," Reid Collins. 18 October 2023. https://www.iso-ne.com/static-assets/documents/100004/a05_2023_10_19_pspc_2050_study_pac.pdf

Dimanchev, Emil, Joshua Hodge, and John Parsons (2020) "Two-Way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower", MIT CEEPR Working Paper 2020-003. https://ceepr.mit.edu/wp-content/uploads/2021/09/2020-003.pdf

SHARED BENEFITS ABOUND

Multilateral grid and energy system coordination and the potential for dynamic, two-way power flows between the provinces and states offers numerous benefits:

Improved power reliability and system balancing

Lower energy costs

Lower decarbonization costs

Faster displacement of polluting fossil fuels

Opportunities to expand investments in energy efficiency

Greater certainty over project development and costs

Improved planning, siting and permitting processes

Greater inclusion of communities and stakeholders who are often sidelined from energy system decision-making

By catalyzing discussions amongst energy planners, government leaders and community and stakeholder interests, NGPF seeks to deepen the conversation about the potential benefits of coordination and facilitate thoughtful, cross-border responses to the wide range of policy and social concerns regarding energy system planning.

Interregional grid coordination can include a wide range of planning, investment, market design, community benefits and operations approaches. Issues to address in any formulation must include:

PRIORITIES

1. **Energy planning processes that forecast demand and consider how clean energy resources can reliably meet that demand in the lowest-emitting manner and at the lowest cost while addressing local stakeholder needs**
2. **Energy infrastructure development to support dynamic, interjurisdictional power flows**
3. **Market mechanisms that provide transparent information on emissions and costs and treat clean energy resources in both countries as complementary to one another**

JOIN THIS GROUNDBREAKING INTERREGIONAL EFFORT

Numerous experts, regulators, political appointees, and advocates in both the US and Canada have given support for these concepts and are interested in participating in further conversations.

We invite your participation and interest. Please connect with us for more information:

Daniel L. Sosland
Acadia Center
dsosland@acadiacenter.org
acadiacenter.org

Frédéric Côté
Nergica
fcote@nergica.com
nergica.com

Abby Watson, project coordinator
Groundwire Strategies
abby@groundwirestrategies.com
groundwirestrategies.com

ACADIA CENTER

Acadia Center's mission is to advance bold, effective clean energy solutions for a livable climate and a stronger, more equitable economy.

Grounded in impactful data analysis and inclusive partnerships and collaboration, we promote economic and environmental policies that will dramatically reduce carbon emissions while providing consumer, economic, and equity benefits. Working at the intersection of government, industry, grassroots organizations, advocates and communities, Acadia Center develops ambitious, effective solutions for our region's systemic energy challenges.

Together with policymakers, environmental justice partners, and donors, we can build an energy system that puts people front and center, shifting conversations to promote equitable solutions. We work to amplify voices that are not always heard or heeded, striving to find common ground so that our communities have clean, healthy, affordable energy so we all can thrive.

NERGICA

Nergica's mission is to accelerate the development and the adoption of renewable energy. Nergica is a nonprofit centre of applied research that stimulates innovation in the renewable energy industry through research, technical assistance, technology transfer and technical support for businesses and communities.

Their accomplished team of experts have access to research infrastructures operating in a unique natural environment.

Firmly entrenched in the applied research networks of Quebec and Canada, Nergica collaborates closely with industry players, research centres, international authorities, developers, and small and medium-sized enterprises. They are a College Centre for Technology Transfer (CCTT) affiliated with the Cégep de la Gaspésie et des Îles, and recognized as a Technology Access Centre (TAC) by the Natural Sciences and Engineering Research Council of Canada (NSERC). Nergica is the representative of Canada for Tasks 19, 32 and 41 of the International Energy Agency (IEA) Wind Technology Collaboration Programme.

NORTHEAST GRID
PLANNING FORUM

A JOINT INITIATIVE OF ACADIA CENTER & NERGICA

Acadia
Center

Advancing the Clean Energy Future

NERGICA Renewable Energy Research and Innovation

www.northeastgrid.org

Acadia Center
Advancing the Clean Energy Future
15 Court Square • Suite 1000
Boston, MA 02108
617.742.0054 • acadiacenter.org

January 19, 2024

via email

Massachusetts Department of Environmental Protection
100 Cambridge Street Suite 900
Boston, MA 02114

Re: Stakeholder input to inform the strengthening of the Clean Energy Standard (CES)

Dear Commissioner Heiple:

Acadia Center appreciates the opportunity to provide feedback on the Discussion Document released by the Massachusetts Department of Environmental Protection (MassDEP) describing potential options to strengthen the Clean Energy Standard (CES). As the Discussion Document notes, this supplemental program review is timely given the significant policy and planning actions that have taken place in the preceding three years. The CES remains an important policy for both the Commonwealth and the region at large, and indeed beyond New England as pertains to collaboration and cooperation with neighboring jurisdictions in New York and Canada. As we outline further below, Acadia Center urges MassDEP to use this program review as an opportunity to further synchronize the role played by the CES with similar energy portfolio standards and procurement frameworks in place across the Northeast U.S. and Eastern Canada, as a means of organizing and catalyzing the significant build-out of renewable and clean energy resources that will be needed to achieve the Commonwealth's Clean Energy and Climate Plan for 2025 and 2030 (2025/2030 CECP), the 2050 CECP, electric power subsector GHG emissions targets in 2025 and 2030, and beyond.

We look forward to working with DEP and to digging in more deeply to analyze the options put forward by the Department and the potential resulting impacts of the CES, throughout the remainder of 2024 and beyond.

Overview of Initial Comments

Acadia Center is pleased to provide comments and recommendations to the Department in response to the CES Discussion Document, released in late 2023. We note at the outset that we have also contributed to and signed a separate set of comments on behalf of the Northeast Grid Planning Forum (NGPF), which we co-convene with Nergica (discussed in more detail below). Those comments reinforce many of the comments offered below regarding long-term planning and regional/interregional coordination. However, this set of comments from Acadia Center also elaborates further on a number of other more granular elements of DEP's Discussion Document.

In the sections below, Acadia Center's initial comments focus on five main categories of recommendations and input.

- Recommendations pertaining to long-term planning and regional/interregional coordination;
- Alternative Compliance Payment (ACP)-related options and impacts of policy changes on affordability;
- Proposed new/recent project requirements option and ways for the CES to drive additionality;
- Proposed options regarding ensuring clean energy delivery when it is needed; and
- Feedback on resource eligibility questions vis-à-vis emissions-related stringency, plus other miscellaneous recommendations and reflections.

All of our comments are tied together by an over-arching desire to help the Department refine the CES so as to drive greater clean energy adoption and additionality while maximizing affordability for ratepayers through the benefits of regional coordination and long-term planning.

Main Comments and Recommendations

Acadia Center provides the following comments and recommendations to the Department in reaction to the released Discussion Document, categorized by topic and theme.

Long-Term Planning and Regional/Interregional Coordination

Acadia Center supports the option proposed by MassDEP to require long-term planning around the CES, and we recommend that a regional (and even inter-regional) planning approach be pursued to the greatest extent possible. The Department wrote that it could amend the CES to add some form of planning requirement, such as requiring that a portion of the CES obligation be met via multiyear contracts with clean energy generators, including through an organized regional or Massachusetts-specific auction process. While the description of this option is high-level and many design details would need to be addressed, we believe this model could be very promising for the Department to pursue and develop working in tandem with neighboring jurisdictions and ISO-New England (as well as sister agencies in Massachusetts).

As the Department is likely aware, the CES in place in New York State essentially provides this centralized, long-term planning function for the analogous renewable energy deployment mandates currently in place there (for NY: achieving 70% renewable electricity by 2030).[1] In New York, the CES is the umbrella policy covering all renewable resource types, both existing and new, and it has driven essentially all of the ongoing procurements of renewable energy attributes toward fulfillment of the 70-by-30 target and its component tiers since replacing the predecessor Renewable Portfolio Standard (RPS) regime in New York (in ~2016). The NY CES is administered by NYSERDA (the "big buyer") and overseen/approved by the New York State Public Service Commission (PSC), and it functions in a manner similar to what MassDEP appears to be describing in this option.

Through a robust planning proceeding,[2] New York established an estimate of grid demand in the planning year (2030), established a baseline of existing renewables in place and operating, and determined the gap between that baseline and the 2030 compliance obligation that would need to be met with contributions from newly procured eligible resources. Once that gap was identified, New York was then able to lay out a specific frequency and volume of procurements by tier/resource type, which NYSERDA has been conducting annually via RFP since the approval of the CES in 2016 – including regular separate solicitations for large-scale land-based renewables (mostly solar/wind and some small hydro) and offshore wind projects. These auctions result in the award and execution of long-term contracts (20-25 years) with new clean energy generators for the purchase of renewable energy certificates (RECs), which together are envisioned to fulfill the lion's share of the 2030 compliance obligation – factoring in relatively small but meaningful contributions from distributed solar and other smaller-scale resources.

In light of this model, Massachusetts would be well served by exploring, developing, coordinating, and potentially integrating a comparable CES procurement framework and auction/RFP process for Massachusetts, New England, and beyond. Although New York has, like the rest of the region, endured significant issues relating to the economic viability of specific project contracts resulting from CES procurements, the overarching CES framework has demonstrated itself to be a highly effective platform for organizing market participation and driving new resource investments, using a competitive process to deliver savings and economies of scale for ratepayers. Massachusetts has fortunately already shown a willingness to engage in multistate procurements, as evidenced in the recent joint offshore wind procurement framework with Rhode Island and Connecticut (among other prior tri-state procurement efforts).

Going forward, an updated CES with long-term planning requirements, a centralized auction process, and a contracting framework could be one means of cementing this type of multi-state/regional collaboration around procurements – potentially by working in harmony with the RPS in Massachusetts and other states. This type of approach would require some degree of reconciliation or agreement between states with RPS/CES regulations that vary slightly in many ways, including with respect to resource eligibility and project vintage. This approach would also require a significant administrative apparatus for solicitations and contracting, and we recommend that it may be most efficient to align those

[1] See NYSERDA CES webpage: https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Standard.
[2] See New York State Public Service Commission (PSC) - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard, available at: https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=15-e-0302. See also 2020 Clean Energy Standard Order: https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={EAAF1A1E-2A05-49A7-A4D1-C5755E5BE536}.

administrative activities with those already in place through the DOER-led procurements primarily oriented around fulfillment of the RPS.

Across the wider region, we urge that MassDEP and the Healey-Driscoll Administration think broadly about opportunities to engage with other jurisdictions in the region on grid planning and coordination. Of relevance, Acadia Center is the U.S. co-convenor of the Northeast Grid Planning Forum (NGPF), which is a deliberative stakeholder dialogue designed to formalize and deepen collaboration across northeast U.S. states and Canadian provinces around interregional energy system and grid coordination. The dialogue will be convened via three distinct roundtable processes: 1) environmental justice and community mobilization, 2) interregional planning, and 3) clean energy procurement and market development. Working together and in close coordination with civil society, labor and industry, participating jurisdictions will create and deploy a shared policy, legal, regulatory and market/tariff toolset. We intend for this toolset to advance the development of the next-generation power network that will serve as the backbone of the energy transition across the region, capturing the climate, clean energy procurement and consumer benefits of grid integration. While this Forum is nascent, we offer it up to MassDEP and sister agencies as a resource for thinking about the CES and broader energy system planning priorities in a regional and interregional context. Given the existence of certificate markets, procurement frameworks, and opportunities for new transmission to expand inter-tie capacity between regions, it is vital that the ongoing design and development of the CES factor in Massachusetts' role within not only its regional transmission organization (RTO) but the even broader Northeast Power Coordinating Council (NPCC) cross-border region.

In Massachusetts' own long-term climate plans and decarbonization roadmaps, the importance of this regional planning and coordination is already abundantly evident. Two headline takeaways from the Energy Pathways to Deep Decarbonization[3] technical report are worth underscoring:

- *"Expanded transmission capacity between Quebec and Massachusetts was important in all pathways, with a minimum of 2.7 GW and a maximum of 4.8 GW required above today's level. In the near term, these lines were used to import carbon-free electricity from Quebec, largely from new onshore wind projects. In the long term, the lines were used to allow bi-directional power flow for balancing a high renewables power system throughout the Northeast region."*
- *"New inter-regional transmission was a critical part of all pathways because of its importance as a balancing strategy in high renewables systems. Its value stems from three factors: weather diversity across zones, complementary resource endowments, and the flexibility of the Quebec hydro system."*

As a final set of evidence about the merits of this regional/interregional approach, independent studies have shown that there are enormous mutual benefits to northeast provinces and states in supplementing the current piecemeal approach to developing and managing energy systems with an approach rooted in mutual cooperation.[4] We and our partners in NGPF

---

[3] See Energy Pathways to Deep Decarbonization Technical Report, available at: https://www.mass.gov/info-details/ma-decarbonization-roadmap.

[4] "Economic, Reliability, and Resiliency Benefits of Interregional Transmission Capacity: Case Study Focusing on the Eastern United States in 2035," GE Energy Consulting, 2022. https://www.nrdc.org/sites/default/files/ge-nrdc-interregional-transmission-study-report-20221017.pdf.

"National Transmission Needs Study," U.S. Department of Energy. October 2023. https://www.energy.gov/sites/default/files/2023-10/National_Transmission_Needs_Study_2023.pdf.

"2050 Transmission Study," Reid Collins. 18 October 2023. https://www.iso-ne.com/static-assets/documents/100004/a05_2023_10_19_pspc_2050_study_pac.pdf.

Cowart, Richard et al, "A Collaborative for Greater Coordination and Integration Among the Electric Grids of Eastern Canada and the Northeastern United States: Assessment and Recommendations," Regulatory Assistance Project, Raab Associates, Ltc, and The Transition

believe that collaboration on energy system planning across the international border and between grids is an untapped opportunity in the decarbonization toolkit, one that can advance reliability, load balancing, and cost improvements on both sides of the border. Frameworks for cross-border cooperation already exist: the NPCC ensures grid reliability across the region; Ontario and Québec have launched grid planning discussions, and a DOE-Northeast States Collaborative is in formation; some western Canadian provinces are already engaged in limited cross-border planning activities; Saskatchewan recently joined the Southwest Power Pool (SPP), and Manitoba is a member of the Midcontinent System Operator; and British Columbia is a member of the SPP Markets+ initiative and the Western Electricity Coordinating Council. The Department can and should be informed and inspired by these fruitful collaborations to more centrally consider opportunities for the CES to drive such regional and interregional linkages and outcomes.

Alternative Compliance Payment (ACP) Provisions and Affordability

The Department also proposed a set of options related to the ACP levels in effect for the CES program, as well as for the use of CES ACP proceeds. Of course, we support program design refinements that help ensure that there is enough clean energy in future years to avoid over-reliance on ACPs, but the setting of the ACP level does itself have meaningful impact on the CES certificate market as a whole and in comparison to the RPS and other similar markets. For that reason, we do generally support DEP's proposed option to raise the ACP rate for the CES as a means of supporting development of additional clean energy. This is relevant both for the resultant market prices of certificates and to ensure a robust pricing window for competitive bidding in any future CES procurements, rather than effectively capping future bids at the outset at the current low ACP rate. Competitive bidding and long-term contracting can therefore provide important cost containment functions for the CES rather than exclusive/primary reliance on ACP rates. See below for further discussion of affordability and impacts on electricity rates.

Secondly, as the Discussion Document observes, there is also an important regional benefit in raising the CES ACP level, with positive implications for Massachusetts as well. To remedy the currently fragmented certificate markets in the Northeast, raising the CES ACP to a level consistent with other regional programs would have the benefit of aligning these respective state-based markets, giving better certainty to renewable developers pursuing projects in the region, and preventing year-to-year swings in compliance across jurisdictions based on mismatches between ACP rates. We also agree with the Department that raising the ACP rate would ensure that when the regional supply of clean energy increases due to Massachusetts' clean energy contracts, the increase in regional supply is fully counted toward Massachusetts' clean energy goals rather than those of other states that have similar programs with higher ACP rates. This will undoubtedly be important for Massachusetts in the context of accounting for progress and documenting achievement of electric-sector and economy-wide emissions reductions targets. However, depending on the level of the CES ACP increase vis-à-vis other states in the region, parallel action may also be needed to increase the Massachusetts RPS ACP rate as well, given that three other states currently have ACP rates exceeding the RPS Class I ACP rate.

With respect to the Department's proposed options for dedicating CES ACP funds to supporting new CES-eligible projects, Acadia Center is generally supportive of the Department exploring these tweaks around the use of ACP funds. Offering competitive grant opportunities to new CES-eligible projects appears to be a positive use of ACP funds; however, the amount of these funds is typically small (relative to the overall market) and may vary from year to year, making the opportunity presented by these grants more limited and uncertain to the market. So, it may be easier and less administratively burdensome for MassDEP to use ACP revenues to purchase additional CECs (above the CES requirement) in future years, including when CECs may be available at lower prices.

Regarding overall affordability and ratepayer impacts, Acadia Center is very closely focused on understanding and minimizing any potential impacts of policies on bills for electric ratepayers. This is true both for the CES as well as for other

---

Accelerator. 5 October 2020. https://www.raponline.org/wp-content/uploads/2023/09/rap-collaborative-greater-coordination-integration-electric-grids-eastern-canada-northeastern-united-states-2020-october.pdf.

Dimanchev, Emil, Joshua Hodge, and John Parsons, "Two-Way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower," MIT CEEPR Working Paper 2020-003. https://ceepr.mit.edu/wpcontent/uploads/2021/09/2020-003.pdf.

programs being designed/considered by the Department, including the Clean Heat Standard (CHS). Massachusetts must ensure that electricity rates remain affordable to customers, both in general and as compared to fossil fuel alternatives, as they consider adopting heat pumps, EVs, and other electric technologies that will tend to increase their electricity consumption. Rapid adoption of these technologies is, of course, vital to the achievement of the Commonwealth's sector-specific and economywide emissions reductions mandates, and as a result, policies designed to drive emissions reductions in one-sector – like the CES – must not unintentionally and indirectly stymie that adoption in other sectors through overly onerous upward pressure on electric rates.

Given this imperative, we provide our general support for the Department's proposed ACP options with the addendum that the Department must 1) ensure the resulting program is not at risk of being overly costly, and 2) prevent undue electric rate impacts. Given the number of active policymaking activities happening concurrently, there should be an ongoing, holistic review of affordability with respect to not only the CES but the RPS and CHS, as well as the analysis underway before the Department of Public Utilities (D.P.U.) and DOER/MassCEC. Again, we do believe that new program design elements like long-term contracting and competitive procurements can and will help insulate ratepayers from undue bill impacts and year-to-year swings in compliance costs. But the over-arching priority of affordability remains true even as we look to accelerate deployment of new clean energy to fulfill and exceed the CES.

New/Recent Project Requirements and Additionality

DEP raises the potential option of adding a 'vintage requirement' for the CES, which would require that a fraction of each year's compliance obligation be met with credits from projects with a commercial operation date in the prior three years and which would include a relatively high ACP rate to allow new projects to quickly recoup construction costs. While we understand the objective behind such a proposal, we have questions and concerns about the feasibility and efficacy of this option given the prevailing models for large-scale renewable resource procurement that have evolved in the region. Project development and financing for new large-scale generation facilities have oriented around the much longer-term contracting periods of 10-20 years, and even for smaller-scale resources (e.g., behind-the-meter [BTM] and community solar), the approaches taken in Massachusetts in recent years have also evolved toward a longer-term stream of tariff-based incentive payments (under SMART).

For these reasons, we have doubts that a three-year period of eligibility for more remunerative Clean Energy Credits would be able to attract and sustain the requisite interest and financial investment to drive new projects forward. It's not clear if the Department envisioned these elevated ACP rates to be high enough to *fully* recoup project construction costs and Internal Rate of Return (IRR), but it would seem likely that the ACP rates would need to be considerably higher than normal – thereby posing a potential risk of compliance costs being concentrated in a short period of time. In our view, it would be more prudent to stay with a longer-term contracting and eligibility period as a means of spurring new project additions (in line with our comments above regarding long-term planning and regional coordination) and avoid further complicating the already highly segmented CES-RPS framework with a new "recent vintage" sub requirement.

Ensuring Clean Energy Delivery "When It Is Needed"

The Department also provides an option related to improving temporal matching under the CES, intended to address the fact that clean electricity counted under the CES does not currently need to be generated when there is corresponding demand for electricity in Massachusetts. DEP proposes multiple solutions, including i) preventing generation delivered during periods of negative wholesale LMPs from receiving CECs, and ii) implementing quarterly or monthly compliance periods, to better match the timing of supply with the timing of electricity sales/demand. There may be value in exploring these approaches further, with some modifications and qualifications. In general, changes to disincentivize delivery during periods of negative LMPs would be a positive boost to energy storage technologies (defined broadly – including electric, chemical, and thermal media) and to other sources of flexible demand (e.g., EV charging, electric hot water heaters, etc.), sending a signal to project developers to consider adding storage to their clean energy projects or partnering with storage providers and end-use customers or aggregators to ensure sufficient demand can be there to match supply. However, such a policy would need to be designed to prevent generators from simply curtailing their clean energy deliveries, which – even during periods of negative LMPs – can provide value to the grid and to neighboring control areas via export. Any program changes to effectuate this objective must also not be in conflict with other existing storage programs and policies.

We do note that other policy mechanisms have been pursued and may also provide an effective means of driving this type of improved temporal matching, including the Clean Peak Standard, although these are generally geared more toward the flipside of the challenge – ensuring clean energy is there during peaks in demand rather than avoiding less valuable clean energy deliveries during troughs in demand. Storage and flexible demand resources, of course, can address both sides of this equation by shifting their charging/discharging and consumption accordingly. As a result, this may be an instance where a 'both-and' approach is warranted, especially if CES provisions can help give a longer-term signal for the multi-day and seasonal balancing needs foreseen down the line as penetration of variable renewable resources increases. In the years ahead, this signal may be relevant for increasing '24/7' clean energy matching efforts and could potentially evolve into the CES serving as a procurement and attribute mechanism for so-called "dispatchable, emissions free resources" (or DEFRs), which will likely be needed to provide supply on a small number of days each year during periods of extended dips in production from wind and solar resources.

With respect to DEP's proposal to consider establishing quarterly or monthly compliance periods, we have some questions on the feasibility and administrative burden of such a construct, at least for the program as a whole rather than within a contracting/procurement framework. However, DEP is right to consider the relationship between periods of negative LMPs and compliance periods as related levers for improving temporal matching. In further exploring these design options, MassDEP may find it valuable to consider relevant provisions contained in some of the recent renewable procurements from around the Northeast, which may prove informative for purposes of CES program design, especially if auctions and contracting are seriously pursued. These include:

- **Multiple New England procurements**: Many of the recent regional RFPs include language similar to "in the event that the LMP for the Qualified Clean Energy at Delivery point is less than $0.00 per MWh in any hour, then the Buyer will purchase the Delivered Energy and or RECs at the contract rate and the seller shall credit to buyer, on the appropriate monthly invoice, an amount equal to the product of (i) such Qualified Clean Energy Delivered in each such hour and (ii) the absolute value of the hourly LMP at that Delivery point." As a result, contracted generators are already on the hook to pay utilities/counterparties back for the simple absolute value of negative LMPs during hours of delivery.[5]

- **MA/RI/CT Tri-State Procurement**: The Tri-State RFP required Eligible Bidders to provide a schedule of Qualified Clean Energy Deliveries with their bid. The Soliciting Parties sought firm delivery commitments of Qualified Clean Energy Deliveries particularly during on-peak hours in peak demand periods, i.e. the five peak months of January, February, July, August, and December. On-peak hours were defined as hours ending 0800 to hour ending 2300 on Monday through Friday, excluding NERC holidays.[6]

- **Massachusetts 83D procurement**: Section 83D required the bidder to guarantee energy delivery in winter months. For new Class I RE resources, bidders were required to guarantee that 70% of energy in their delivery profile of the Winter Peak Period is delivered over the course of every Winter Peak Period (Winter Peak Period is defined as: "the peak winter months of January, February, and December," with the same on-peak hours described above in the Tri-State procurement); for firm service hydro, bidders had to guarantee at least 60% of the highest annual single hourly delivery in every winter peak period hour (as claimed in their annual delivery profile as submitted as a part of their Certification, Project and Pricing Data ("CPPD") Form in their Bidder Response Package).[7]

- **New York Tier 4 procurement**: As part of NY's CES, an RFP to fulfill the CES's 'Tier 4' sought bids to deliver firm clean energy to New York City/NY-ISO Zone J via new transmission. That RFP included requirements for bidders to submit minimum summer and winter season bid quantities, i.e. minimum volumes of energy delivered during specified periods of the year. Summer Minimum Bid Quantity was defined as the minimum

[5] See, for example, the 2023 joint offshore wind RFP released by MA, RI, and CT: RFP for Long-term Contracts for Offshore Wind Energy Projects – August 30, 2023.
[6] Link to RFP website no longer appears active. RFP documents may be available via DPU Docket Search or from DOER.
[7] See 83D RFP Revised June 16, 2017 – Clean.

quantity of Tier 4 RECs that must be delivered during the Summer Capability Period, May through October, as a percentage of bid quantity. In Tier 4, the default minimum was 40% of the annual bid quantity, measured in MWh of energy (technically, RECs). Winter Minimum Bid Quantity was similarly defined as the minimum quantity of Tier 4 RECs that must be delivered during the Winter Capability Period, November through April. The RFP included allowable reductions or shortfalls in summer/winter deliveries for reductions caused by: i) reliability curtailments; ii) force majeure events; and iii) negative LMPs, which triggered another contract provision.[8]

Resource Eligibility and Emissions Stringency

DEP also proposes the option of strengthening eligibility requirements around emissions intensiveness, proposing to increase the emissions benchmark for resources that do not qualify for RPS Class I to a 90% reduction in GHG emissions relative to an existing efficient natural gas-powered facility on a lifecycle basis, consistent with recently proposed EPA standards for natural gas-fired facilities. In general, Acadia Center expresses support for strengthened emissions stringency for this pathway for CES eligibility, and it seems logical to benchmark any updated CES requirements to newly added federal rules such as those from the EPA.

Acadia Center's understanding of the RPS Class I eligibility criteria is that on-site electricity generation from "landfill methane gas" facilities meets the RPS Class I eligibility criteria. Additionally, "eligible biogas fuel," for example produced via anaerobic digestion at facilities including wastewater treatment plants, meets RPS Class I eligibility criteria if the facility in question demonstrates a 50% reduction in life cycle GHG emissions relative to a new combined cycle natural gas electric generating facility. Acadia Center supports RPS Class I eligibility for these two specific biomass generation pathways, because they 1) help to minimize direct, on-site methane emissions from these facilities, 2) provide a source of firm generation to complement variable renewable resources (e.g., wind and solar), and 3) provide a "methane destruction pathway" that, unlike 'renewable natural gas' (RNG), does not rely upon the transportation of methane gas through the leak-prone gas distribution system. Given these RPS eligibility criteria, it seems reasonable that the CES would clearly state that biomass energy pathways deemed ineligible under the RPS Class I requirements (i.e. not achieving a 50% life cycle GHG reduction) are also not eligible for the CES.

Other Recommendations

Acadia Center also provides the following recommendations:

- Regarding comprehensive accounting, we support accounting adjustments to ensure BTM generation is appropriately reflected in calculations of total electricity consumption and adjusted commensurately in retail providers' compliance obligations.
- Regarding the universe of covered electricity suppliers, we support extending the Clean Energy Standard (CES) to apply to Municipal Light Plants (MLP) in addition to existing retail electricity providers, as the depth of statewide emissions reductions targets require an 'everyone do their share' approach to supporting clean energy and decarbonizing the electricity sector (and the full economy).
- Regarding the proposed Just Transition Fee, we are supportive of using any new fees collected to deliver benefits to low-income, environmental justice, and other historically underserved communities. DEP's proposal to support equitable siting of CES eligible projects, such as solar on rooftops in low-income communities, is one promising avenue to get at this objective. However, we expect that the amount of fees collected would be relatively small on an annual basis, meaning that funds available to support these types of projects would be limited in their reach and impact. So, whether in addition to or instead of this fee approach, we recommend DEP consider novel program design elements that would help benefit all underserved communities or as wide a coverage as possible, including broader community shared project

[8] See NYSERDA's 2021 Tier 4 solicitation, available at: https://www.nyserda.ny.gov/All-Programs/Large-Scale-Renewables/Tier-Four/Solicitation-and-Award/RFP-Appendices-and-Schedule

subscription/enrollment opportunities, connectivity with municipal aggregations, linkages with the low-income discount rate program, and beyond.

Conclusion

Acadia Center thanks MassDEP in advance for the consideration of these comments and recommendations on the Clean Energy Standard (CES). We believe this program review offers Massachusetts the opportunity to evolve the CES into an even more meaningful driver of clean energy with a focus on additionality and affordability. We underscore our recommendations above pertaining to the benefits of long-term planning, regional and interregional coordination, and competitive procurements to drive these imperatives of additionality (new clean resources) and affordability (at lower costs) for ratepayers in the Commonwealth.

Please do not hesitate to contact a member of our team if we can be of further assistance as pertains to these comments and DEP's broader work on the CES. Thank you to MassDEP's leadership and staff for the hard work to produce, explore, and refine proposals to advance this important policy framework.

Sincerely,

/s/
Jamie Dickerson
Senior Director,
Climate and Clean Energy Programs
Acadia Center

/s/
Kyle Murray
Director, State Program Implementation,
Massachusetts Program Director
Acadia Center

Great River Hydro

Brandon Kibbe
Vice President, External Affairs
69 Milk Street, Suite 306
Westborough, MA 01581
mob 413.834.1909
em bkibbe@greatriverhydro.com

January 19, 2024

Massachusetts Department of Environmental Protection
100 Cambridge Street, Suite 900
Boston, MA 02114 VIA EMAIL: climate.strategies@mass.gov

RE: MassDEP Request for Clean Energy Standard Comments

Dear Commissioner Heiple:

Great River Hydro, LLC ("Great River Hydro" or "GRH") appreciates the opportunity to respond to the Massachusetts Department of Environmental Protection's ("MassDEP") request for written comments regarding the Clean Energy Standard ("CES") regulations, 310 CMR 7.75.

Great River Hydro owns and operates thirteen conventional hydroelectric generating facilities located on the Connecticut and Deerfield Rivers in Massachusetts, Vermont and New Hampshire. At a nominal rating of 589 MWs, our portfolio of forty-five generating units at 13 generating stations produces approximately 1.6 terawatt hours (TWhs) of carbon-free generation annually. Many of these units provide the ISO New England system with critical ancillary services including dispatchable fast start capabilities, reserves, and system restoration services that are extremely important to the clean energy transition.

Our recommendation simply stated: Strike 310 CMR 7.75 (7)(c)(2).

The rule arbitrarily restricts domestic existing "large" (>30MW) hydropower from qualifying under the Clean Energy Standard as a Clean Existing Generation Unit, and thus limits Massachusetts from competing for the clean air benefits that these generators provide. Below, we outline more detailed reasoning to support such a change.

Reason 1: Large domestic dispatchable hydro enables the penetration of variable renewables, thus furthering the Commonwealth's emission reduction goals without creating "resource shuffling."

There are 1,043 MW of existing conventional hydro (i.e. NOT pumped storage) that are greater than 30 MW in size interconnected in New England, 90% of which are all hydros with weekly or daily pondage (i.e. NOT run-of-river)[1]. These clean energy generators accounted for more than

[1] 2023 CELT Report, ISO New England Inc. https://www.iso-ne.com/static-assets/documents/2023/05/2023_celt_report.xlsx

3.4 TWhs of generation in 2022 alone[2]. What's more, conventional hydro with pondage is fast-start and dispatchable, being able to respond to grid demands as needed. According to the International Renewable Energy Agency, hydro with this type of operating characteristic "enables a higher penetration of variable renewables such as solar and wind by providing balancing and flexibility services."[3]

> Hydropower today has a key role in the transition to clean energy…providing flexibility and storage…for integrating greater amounts of wind and solar power, whose output can vary, depending on factors like the weather and the time of day or year.
>
> ---
>
> *International Energy Agency*

According to the International Energy Agency (IEA), "Hydropower today has a key role in the transition to clean energy not only through the massive quantities of low-carbon electricity it produces but also because of its unmatched capabilities for providing flexibility and storage. Many hydropower plants can ramp their electricity generation up and down very rapidly compared with other power plants such as nuclear, coal and natural gas. This makes sustainable hydropower an attractive foundation for integrating greater amounts of wind and solar power, whose output can vary, depending on factors like the weather and the time of day or year."[4] The IEA continues, the "'Forgotten giant' of low-carbon electricity needs a sweeping policy and investment push to put it in line with net zero goals and to support a faster expansion of solar and wind."

From an emissions reduction standpoint, increasing the penetration of variable renewable generation is making an important contribution by supplanting carbon-based electricity generators, particularly from coal. According to the U.S. Energy Information Administration, 2023 is estimated to have as much as a 3% reduction in CO_2 emissions from 2022. "Much of this decline results from lower electricity generation from coal-fired power plants due to higher generation from renewable sources such as solar power. We expect this trend to continue into 2024, with CO2 emissions declining 1% relative to 2023."[5]

This trend is amplified here in New England. According to ISO New England, "Coal- and oil-fired power plants make up almost 20% of the region's electricity generating capacity." The grid operator also notes, "Since 2013, more than 7,000 MW of primarily coal, oil, and nuclear generating

---

[2] *EIA-923 Monthly Generation and Fuel Consumption Time Series File, 2022 Final Data*. U.S. Department of Energy, The Energy Information Administration.

[3] *The Changing Role of Hydropower: Challenges and Opportunities,* International Renewable Energy Agency. February 2023. https://www.irena.org/Publications/2023/Feb/The-changing-role-of-hydropower-Challenges-and-opportunities

[4] *Hydropower has a crucial role in accelerating clean energy transitions to achieve countries' climate ambitions securely*. International Energy Agency. June 30, 2021. https://www.iea.org/news/hydropower-has-a-crucial-role-in-accelerating-clean-energy-transitions-to-achieve-countries-climate-ambitions-securely

[5] *Lower CO2 emissions are partially due to shifts in power generation sources*. U.S. Department of Energy, The Energy Information Administration. November 28, 2023. https://www.eia.gov/todayinenergy/detail.php?id=61023

capacity have retired or announced retirement as of mid-2020; Another 5,000 MW of coal- and oil-fired generators are at risk for retirement in coming years. Developers have proposed nearly 32,000 MW of new generating resources as of January 2023." Their conclusion: "Adding renewable resources will displace fossil-fueled resources and help achieve state policy objectives. This will require fast-responding resources…to help balance the variability of renewables."[6]

Because large dispatchable hydro enables deeper penetration of variable renewables like solar, and because that deeper penetration of variable renewables is supplanting the worst-emitting fossil generators, large dispatchable hydro is directly contributing to the greenhouse gas reductions that the Commonwealth is required to achieve.

Reason 2: Legacy generation resources with substantial infrastructure requires consistent capital investment to remain viable, which is the driving purpose for having an "existing class" in any well-designed renewable portfolio standard.

Hydropower is New England's longest-tenured generator and most enduring renewable energy resource. But because of this tenure, it is often taken for granted because it has "always" been there and it is assumed to be fully depreciated as a result. However, as generator owners, we understand the amount of investment it takes to maintain and upgrade our facilities, most of which have been operating for 50 to 100+ years. Maintaining legacy fleets of large infrastructure, such as dams on major rivers, to be safe, operationally reliable, environmentally responsible, and resilient to evolving conditions presented by climate change, requires constant and significant investment. The U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, recognizes the need for this continued investment.[7]

> It's important to support the continued operation of existing [hydro] facilities. Many of today's plants are decades or even half a century old. With modern upgrades or refurbishments, these facilities will continue to play an important role on the grid.
>
> ---
>
> *U.S. Department of Energy*

This is, after all, the entire purpose of having an "existing class" renewable portfolio standard such as the Massachusetts CES-E: to support the continued investment in legacy renewable generation resources and ensure their continued contributions – both direct and indirect – to the decarbonization goals of Massachusetts. A market-based approach to providing this investment incentive is the most cost-effective and manner for providing this support.

---

[6] *New England Power Grid 2022-2023 Profile.* ISO New England, Inc. February 2023. https://www.iso-ne.com/static-assets/documents/2021/03/new_england_power_grid_regional_profile.pdf

[7] *Hydropower Is Key to a Clean Energy Future—Here's Why*. US Department of Energy Water Power Technologies Office. August 24, 2023. https://www.energy.gov/eere/water/articles/hydropower-key-clean-energy-future-heres-why

Reason 3: Renewable attribute markets are regional, and existing class renewable resources are finite. Massachusetts should compete aggressively to secure the benefits of existing renewables to achieve its greenhouse gas emissions reductions goals.

Every healthy, functioning market requires competition. The more competition, the better the outcome for consumers. This basic economic principle is a cornerstone of our democratic market economy. RPS markets are regional in nature, and existing resource class renewable energy credits in various New England jurisdictions compete with one another for a relatively flat available pool of supply (you can't make more "existing" resources, after all). However, large dispatchable hydropower generators, like those that would otherwise qualify for the CES-E program, are mostly excluded from those markets.[8]

Take Massachusetts as an example, which has a 7.5 MW limit for its existing class (Class II) RPS. Connecticut limits hydropower participation to 30 MW and under, and facilities are required to be run-of-river. New Hampshire's requirement in its Class IV is even more stringent – no larger than 5 MW. For the remaining three New England States, only Maine has an upper limit of 100 MW in size for existing resources (Class II). However, a ruling by the Maine PUC in 2022 kicked out a full third of the generators who would otherwise qualify for the MA CES-E from its Class II program on account of aggregation. This means that large dispatchable hydro (>30 MW) has limited opportunity in New England to participate in existing-class RPS programs, and where they can participate is in the states that have among the lowest demand anywhere in the region.

> Hydropower, as an abundant, clean, and renewable energy resource, can help states not only meet their increasing renewable energy targets, but also help to integrate higher levels of intermittent renewables into the grid. However, hydropower faces a number of challenges in its inclusion in state renewable energy policies, including RPS restrictions based on system size and in-service date.
>
> ---
>
> *Clean Energy States Alliance*

Again, basic economics: low demand coupled with high supply equals low prices.

Low prices are good for the consumers in those states. They are able to meet their renewable generation and greenhouse gas emissions reduction targets at very low cost to them. But why wouldn't Massachusetts compete for those attributes to meet its own climate goals? It is almost unthinkable that Massachusetts wouldn't use its extensive buying power to compete in this regional marketplace to secure these low-cost resources for itself. CES-E offers a clear path to achieving this goal.

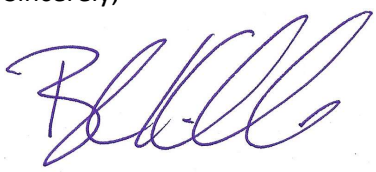
---

[8] *The Role of Hydropower in State Clean Energy Policy.* Clean Energy States Alliance, by Val Stori. August 3, 2020. The Role of Hydropower in State Clean Energy Policy - Clean Energy States Alliance (cesa.org)

310 CMR 7.75 (7)(c)(2) arbitrarily restricts the participation of otherwise-qualified generators from participation because they had previously participated in other regional RPS markets. But within NEPOOL GIS, units can be qualified in multiple jurisdictions, but the environmental attribute can only be retired once. Why not allow these incumbent, domestic sources to also qualify for CES-E and compete equally within these limited regional markets? It is clear that resource shuffling is not occurring given the expansion of renewable generation and the retirements of fossil generators, so we strongly recommend that MA DEP consider striking this clause from its regulation and open its CES-E market to broader participation.

Thank you for the opportunity to comment on options for amending Massachusetts' Clean Energy Standard.

Sincerely,



Brandon Kibbe
Vice President, External Affairs

Bloomenergy®

January 19, 2024

Massachusetts Department of Environmental Protection
100 Cambridge Street Suite 900
Boston, MA 02114

SUBMITTED ELECTRONICALLY

Re: Comments of Bloom Energy for Consideration as Stakeholder Input on the Clean Energy Standard

Dear Commissioner Heiple,

Bloom Energy hereby respectfully submits the following comments in response to the Massachusetts Department of Environmental Protection's (MassDEP) call for stakeholder input on options for strengthening the Massachusetts Clean Energy Standard (CES). Bloom Energy appreciates the opportunity to provide written comments to inform the ongoing improvements MassDEP seeks to make to the CES and thanks the Department for proactively seeking stakeholder input early in the process. Below, we have provided detailed feedback on select components of the proposal and are particularly interested in the "Update CES Eligibility Criteria" item presented in the Discussion Document.

Options for Strengthening the Standard:

Increase the CES ACP rate.

Bloom Energy supports increasing the CES alternative compliance payment (ACP). Aligning the CES ACP with other regional programs such as the Massachusetts and Connecticut Renewable Portfolio Standard (RPS) Class I ACPs will further bolster investment in CES-eligible resources, reducing the emissions of the resource mix across the New England grid.

Dedicate CES ACP funds to supporting new CES-eligible projects.

We support creative uses of the ACP funds to further enable CES-eligible projects. In doing so, MassDEP should ensure that any funds or programmatic support are equally available to all CES-eligible resources.

Add a new project requirement.

Bloom Energy strongly supports the addition of a "recent vintage" requirement to further incentivize CES-eligible projects in their early years of operation which would allow projects to recoup the cost of development more rapidly, in turn lowering overall project costs. Along with an increased ACP, this change would make CES projects more attractive for developers and increase the program's likelihood of spurring new clean energy development. For the avoidance of doubt, the regulation should clearly state that projects can generate "recent vintage" Clean Energy Certificates (CECs) of high value during the first three years, while still generating CECs of traditional value for the operational life of the project.

We recommend doing so via a CEC multiplier for attributes minted in a project's first few years, as multipliers are an existing concept within other Massachusetts programs such as the Department of

Bloom Energy Corporation
4353 North First Street, San Jose, CA 95134
408 543 1500
www.bloomenergy.com

Energy Resources' Clean Peak Energy Standard and Alternative Energy Portfolio Standard. Alternatively, MassDEP could establish a carveout in the CES attribute which projects only generate in the first few years (e.g. a CEC-N for new projects). This could be expressed as a subset of the overall compliance obligation, similar to SRECs in the RPS, creating a specific requirement to buy these attributes. However, this would establish a new independent market separate from traditional CEC prices, adding a layer of uncertainty regarding the actual value. A CEC multiplier, by contrast, would build upon a known attribute with market history (CECs).

Options for More Comprehensive Clean Electricity Accounting:

Adjust for electricity consumption at sites with behind-the-meter generation.

Bloom Energy supports MassDEP's intention to ensure that the energy actually being used, not just sold by retail suppliers subject to the CES, is being accounted for within the CES. The proposed methodology is sound and would do just that without devaluing behind-the-meter energy resources.

Improve the ability of the CES to deliver clean energy when it is needed.

Bloom Energy strongly supports temporal considerations that value clean energy being generated when the system demands it. Programs such as CES can encourage proper matching of clean energy supply and demand – the key element of a truly decarbonized grid. An alternative with similar impact may be to include certificate multipliers for CECs generated during certain hours, comparable to the option proposed above related to "recent vintage."

Other potential program improvements

Update CES eligibility criteria.

Baseline Understanding: Based on review of the Discussion Document, it is our understanding that MassDEP is proposing a change to the emissions threshold utilized in 310 CMR 7.75(7)(a)1.a.ii.[1] To summarize, the current regulation states that a clean generation unit must have net lifecycle greenhouse gas (GHG) emissions of 50% less than those from the most efficient commercially available combined cycle natural gas plant. In its place, the proposed change would require a clean generation unit to have lifecycle emissions *no higher than* the lifecycle emissions of a facility that meets the proposed EPA rule for Greenhouse Gas Standards and Guidelines for Fossil Fuel-Fired Power Plants.[2] MassDEP has focused specifically on a subset of the EPA proposal which would require 90% carbon capture of tailpipe emissions on select power plants, and has proposed to use this as the baseline comparison point for any CES resource seeking approval under 310 CMR 7.75(7)(a)1.a.ii.

Therefore our understanding is that ultimately the proposed change to 310 CMR 7.75(7)(a)1.a.ii would require a project submitting a CES statement of qualification application to demonstrate it has lifecycle

[1] 310 CMR 7.75(7)(a)1.a.ii "The generation unit has net lifecycle GHG emissions, over a 20-year life cycle, that yield at least a 50% reduction of greenhouse gas emissions per unit of useful energy relative to the lifecycle greenhouse gas emissions from the aggregate use of the operation of a new combined cycle natural gas electric generating facility using the most efficient commercially available technology as of the date of the statement of qualification application for the portion of electricity delivered by the generation unit"

[2] https://www.epa.gov/stationary-sources-air-pollution/greenhouse-gas-standards-and-guidelines-fossil-fuel-fired-power

emissions no higher than the lifecycle emissions associated with a facility in compliance with the EPA rule requiring 90% carbon capture. We respectfully request that MassDEP explicitly confirm or correct this understanding such that the industry may have clarity on the proposed CES changes.

Notes on Proposed EPA Rule: Bloom Energy deferentially points out that the emissions threshold suggested in the Discussion Document references a *proposed* EPA rule that may not be finalized as drafted and, if finalized, is subject to future changes that would inject additional ambiguity into the CES. Referencing a proposed federal rule in amending a state program adds a layer of complexity and regulatory uncertainty and may inadvertently dissuade investment in CES-eligible resources.

It is also critically important to note that the proposed EPA rule regulates only tailpipe emissions and does not consider the full lifecycle emissions associated with the power plant. Thus, a Lifecycle Assessment (LCA) would be required of the hypothetical, compliant unit in order to serve as a known comparison point used to determine CES eligibility. We understand that this would likely entail MassDEP commissioning an LCA from a third party to determine a numerical value for the program's emissions threshold.

Regulatory Certainty: Power generation project development is a costly and time-consuming endeavor, and projects are taking longer than ever. Lawrence Berkley National Lab's *Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection* study showed that projects built in 2022 had spent a median of 5 years in interconnection queues alone.[3] Therefore regulatory certainty is paramount for programs that are designed to stimulate clean energy investment and development. Regulatory certainty is a cornerstone of energy project development and is essential to a thriving and growing energy landscape at such a critical juncture in the energy transition. The immediate need to decarbonize our economy, as required in statute by 2050 here in the Commonwealth, could be negatively impacted without thoughtful transition planning of any CES adaptations.

Although thorough program reviews and periodic strategic rule changes are essential to continued program success, the industry must have confidence that projects based on existing rules are not subject to changing requirements mid-development. Program changes that impact project development should be infrequent, and when they do occur must include sufficient lead time for projects currently under development to proceed based on original regulations.

Transition Planning: If a fundamental change to project eligibility is ultimately approved for implementation, we respectfully urge MassDEP to plan for a transitional period accounting for the scope of the change and the long lead time energy projects require. This enables the industry to invest the considerable time and resources necessary to initiate a project without the concern of rule changes that would negatively impact, and potentially disqualify, a project. For any eligibility changes, we encourage an exemption for projects under way prior to the end of 2025.

Numerical Emissions Threshold: In order for the industry to build CES-compliant projects, there must be clarity surrounding what can qualify in technology-agnostic terms. The proposed approach would require MassDEP to complete and publish an LCA for an EPA-compliant natural gas plant capturing 90% of tailpipe emissions operating in Massachusetts. Once the study is complete, MassDEP should provide a distinct emissions number, expressed in lbs CO_2e/MWh, that provides a definitive threshold for numerical comparison by projects seeking eligibility under the CES.

[3] https://emp.lbl.gov/queues

Ultimately the emissions per megawatt hour of electricity is the single most important factor in eligibility under the CES, and currently the most uncertain. We strongly encourage MassDEP to establish a numerical threshold in lbs CO_2e/MWh for CES compliance, either in the rule itself or by follow-up action, rather than referencing a proposed federal rule. Clarity and certainty regarding the emissions threshold is paramount for project entry into the program.

Proposed Change to Existing Rule: To accomplish the change contemplated in the Discussion Document while taking into account the challenges mentioned above, MassDEP could consider the following proposed language for updating the existing regulation:

> 310 CMR 7.75(2)
> CES Eligibility Emissions Rate means the emissions rate on a lifecycle basis, established by the Department and required by a Clean Generation Unit, expressed as lbs of CO_2e/MWh.
>
> 310 CMR 7.75(7)(a)1.a.
> a. A generation unit must satisfy at least one of the following ~~two~~ three eligibility criteria:
> i. The generation unit has been issued an RPS statement of qualification as an RPS Class I renewable generation unit pursuant to 225 CMR 14.06(3): *Issuance or Non-issuance of a Statement of Qualification*;
> ii. For projects that have submitted a CES Statement of Qualification Application to the Department on or before December 31, 2025, the generation unit has net lifecycle GHG emissions, over a 20-year life cycle, that yield at least a 50% reduction of greenhouse gas emissions per unit of useful energy relative to the lifecycle greenhouse gas emissions from the aggregate use of the operation of a new combined cycle natural gas electric generating facility using the most efficient commercially available technology as of the date of the statement of qualification application for the portion of electricity delivered by the generation unit;
> iii. For projects that have submitted a CES Statement of Qualification Application to the Department after December 31, 2025, the generation unit has net lifecycle GHG emissions, over a 20-year life, that do not exceed the CES Eligibility Emissions Rate, as determined by the Department. If no CES Eligibility Emissions Rate has been established by the Department, applicants may demonstrate compliance with 310 CMR 7.75(7)(a)1.a.ii.

Alternatively, it is possible that MassDEP's primary concern is with establishing a threshold that prevents fossil fuel-based power generation from qualifying under the CES without sufficiently stringent emissions requirements – a reasonable and insightful objective. If that is in fact a key goal, we suggest that a more straightforward approach may be to simply require that fossil fuel projects with carbon capture achieve a certain minimum level of capture. For example, the Department could explicitly require 90% (or "greater than 90%") carbon capture on tailpipe emissions from fossil fuel plants submitting a statement of qualification application under the CES – the threshold mentioned in the proposed EPA rule referenced in the Discussion Document.

About Bloom Energy

Bloom Energy is a manufacturer of solid oxide fuel cell technology that utilizes a fuel flexible electrochemical process to power non-combustion microgrids as well as advanced electrolyzer systems capable of converting renewable electricity into renewable hydrogen. Notably Bloom fuel cells can run on natural gas, biogas or hydrogen and, when utilizing methane-based fuels, can be deployed in a carbon capture configuration resulting in ultra-low emissions, firm baseload power. Our solid oxide platform is designed in a modular fault-tolerant format that provides mission critical reliability with no downtime for maintenance. Bloom Energy has installed over 1000 of its non-combustion solid oxide fuel cell systems for customers in eleven U.S. states as well as in India, Italy, Japan, and South Korea, with nearly 40 systems operating in Massachusetts. Our systems have proven resilient through outages caused by hurricanes, winter storms, earthquakes, forest fires, and other extreme weather and natural disasters.

Thank you for your consideration of these comments and for supporting the robust stakeholder process to improve the Clean Energy Standard. Please do not hesitate to reach out if we can provide additional information.

Sincerely,

/S/Maryette Haggerty Perrault

Maryette Haggerty Perrault
Senior Policy Manager, New England
Bloom Energy

857-408-8681
Maryette.haggerty-perrault@bloomenergy.com
www.bloomenergy.com

January 19, 2024

Bonnie Heiple, Commissioner
MassDEP
1 Winter Street
Boston, MA 02108
VIA Email to: climate.strategies@mass.gov

Dear Commissioner Heiple,

Re: Comments on MassDEP's Clean Energy Standard Supplemental Program Review

Clean Asset Partners appreciates the opportunity to provide input on the Massachusetts Department of Environmental Protection's ("MassDEP's") review of measures to strengthen the Clean Energy Standard ("CES"). MassDEP's supplemental review is timely in light of the recent Massachusetts Climate Report Card, and confirmation that 2023 set a new record for the hottest year in recorded history. Clean Asset Partners is a Massachusetts company founded in 2010 that manages renewable energy system participation in the Renewable Energy Portfolio Standard ("RPS") and Clean Energy Standard programs and markets, and represents owners of over 200 CES-qualified Clean Generation Units. We comment below on each of the measures MassDEP described in its discussion document, and offer an additional recommendation to address the significant CES oversupply that appears likely in the later part of 2020's.

Increase the CES ACP Rate:

Clean Asset Partners supports MassDEP's outlined measure to raise the CES alternative compliance payment ("ACP") rate. To implement a CES ACP rate increase, we suggest segmenting the CES into three tiers, each with its own ACP, as a way to limit electricity ratepayer costs. One tier would cover the CES's Massachusetts Class I compliance portion. For illustrative purposes we call this tier here "CEC-1." Another tier would account for the CES increment above the MA Class I component, called here "CES+." A third tier would cover the "recent vintage" carve-out proposed by MassDEP (see comments on that, below).

Of the three tiers, the CES+ (i.e., the CES increment) could have the lowest ACP rate, but should be no less $40. The rationale for a minimum CES+ ACP of $40 is based on the realities of 2021 CES compliance, similar reasonable expectations for 2022 compliance, regional market dynamics, and a desire to increase the level of CES compliance by settled market-based certificates versus ACPs. In 2021, MA Class I RECs generally traded in the upper $30's, above the CES ACP ($30 for 2021, then $35 effective as of 2022) but below $40. As a result, the 2021 CES increment's compliance from retail electric suppliers was met almost entirely (90+%) by ACPs, with 1,730,094 ACP credits used versus 181,572 settled Clean Energy Certificates ("CECs"), all of which were also MA Class I qualified. We think this pattern likely continued in 2022 and will again in 2023, too, as Class I RECs have continued to trade in roughly the same upper $30's range, above the $35 CES ACP applicable for that timeframe. In 2021, 672,704 surplus MA Class I

RECs were banked by electricity suppliers for future compliance. If the CES ACP were $40 or more, suppliers would likely have used many of those Class I certificates purchased in the upper $30s/REC price range for CES compliance instead as the lower-priced option, and more compliance by certificate retirements means more revenue for MA clean energy project owners. Additionally, and similarly, of the 12,564,023 MA Class I RECs reported as generated in NEPOOL GIS in 2021, 8,140,615 were reported as settled in Massachusetts (for Class I, SREC I & II, and CES above Class I) by electricity suppliers that year; due to cross-qualification, thousands of MA CES eligible Class I certificates were likely used for compliance with programs in other jurisdictions with higher ACPs rather than settled for Massachusetts CES compliance. Had the CES ACP been $40 or more, it is likely that a greater number of Class I certificates would have stayed in state and been used for CES compliance, more directly increasing demand for additional clean energy.

Regarding the CES-1 tier, an ACP higher than CES+ that is consistent with or higher than other regional Class I RPS programs would provide a stronger driver for new renewable energy investments. It would also help to support the continued operation and maintenance of solar and other Class I renewable generators, which, especially later in their usable life, can struggle when repairs are needed, which sometimes leads to the removal of renewable generation, undermining climate change and other goals. Furthermore, a higher ACP for the CES-1 tier that is regionally competitive would help assure that certificates from Massachusetts' Class I procurements get settled in Massachusetts rather than jurisdictions with higher ACPs, and would be consistent with the CES program's intention to prioritize Class I renewables.

The CES recent vintage carve-out could have the highest ACP, and could serve as an important driver of crucial *new* renewable energy projects and investments. We urge MassDEP to undertake an analytic assessment to help determine the specific ACP levels best suited for the recent vintage carve-out and other CES tiers as well.

Dedicate CES ACP Funds to Supporting New CES-Eligible Projects:

Clean Asset Partners supports dedicating CES ACPs deposited into the Climate Protection and Mitigation Expendable Trust for the exclusive use of advancing clean energy projects. We support the idea of using ACP funds to purchase CECs in future years during comparatively oversupplied periods. Along those lines, the DOER used ACP funds to procure certificates from the first SREC I Clearinghouse Auction during a period of substantial oversupply, which successfully built confidence in the SREC program and helped balance the market and led to the SREC program's impressive results. Using ACP funds to support developers in exchange for future CECs could be another good use of funds. In addition to those two good ideas, we also suggest a targeted loan and/or grant program for new clean energy customers, entrepreneurs, and projects through a grant to the Massachusetts Clean Energy Center. Those measures could help correct a supply imbalance and/or support new clean energy projects and investments in Massachusetts. Clean Asset Partners supports all of these approaches; perhaps all could be implemented on a pilot/trial basis.

Add a New Project Requirement:

Clean Asset Partners supports this innovative idea. We think it should only apply to Class I eligible projects versus ones not eligible for MA Class I, to be consistent with the intent for the CES to signal that Class I renewables are valued more highly through a higher ACP. We also suggest considering additional eligibility requirements for a recent vintage carve-out. For example, unless it was determined necessary

to assure that attributes get settled in Massachusetts, perhaps projects participating in Section 83C and similar procurements should be ineligible for this carve-out or have a reasonable generation or project-based limitation, similar in concept to the Existing Clean Energy Generation cap in 310 CMR 7.75(7)(c). Without some limitation, given their relatively large size, their eligibility might overwhelm the percentage set-aside to the detriment of valuable small to medium-sized projects and other projects entering the market on a competitive basis outside the large-scale procurement process that provide generation diversity, reliability, bring diverse capital to market, and allow for multiple players and business models to benefit. Overall, we think a recent vintage carve-out could work well at helping to drive new renewable energy development.

Require Long-term Planning:

Multi-year contracts with electricity suppliers for environmental attributes are already generally available in the private market, with the main barriers to obtaining such contracts, especially for projects not yet online and/or developed by smaller developers, being perceived credit and commercial risk. Perhaps a credit enhancement vehicle could be used to enable greater access to multiyear agreements for projects that are still in the development stage and/or by smaller developers. That said, an auction and associated contracting arrangements may be complex to create, understand, and enforce. If MassDEP's desire is to proceed with an auction and/or longer-term minimum contracting requirement, we would recommend a robust review and development process to understand the risks and create as simple a program as possible.

Adjust for Electricity Consumption at Sites with Behind-the-Meter Generation:

Clean Asset Partners sees this as a sensible idea to more fully account for electricity consumed in Massachusetts. It may be simplest and most effective to have a factor calculated based on statewide onsite generated behind-the-meter consumption applied across just the electric distribution company territories covered by the CES. Alternatively, a statewide factor based on statewide onsite generated behind-the-meter consumption applied across all service territories could be used if the MLP's all used that same factor for their Greenhouse Gas Emission Standard programs or switched to the CES. Clean energy policies and programs applied consistently across the state would be best, to the extent possible.

Redefine the Numerical Percentage Standard:

Clean Asset Partners generally supports this but recommends implementing it in a way that helps allay what may otherwise cause electricity suppliers concern about not knowing the specific CES percentage requirement in advance. Many suppliers use forward contracts for RECs to provide a reasonable idea of what their future compliance costs will be. If the CES requirement is not set as a fixed percentage in advance, it would be helpful if MassDEP could provide regular projections, e.g., based on a specified data set and methodology outlined in a guidance document (perhaps including some sensitivity analysis) provided with the caveat that the final percentage would likely differ, or indicate a minimum and/or maximum percentage to allow suppliers to set reasonable scenarios when planning their CES compliance, and for other market participants to use in assessing expected market conditions.

Count Hydropower Used to Comply with MA RPS Class II Toward CES-E Compliance:

Clean Asset Partners supports this as a way to help simplify clean energy accounting without double-counting.

Improve the Ability of the CES to Deliver Clean Energy When it is Needed:

Not allowing CEC creation from clean energy generated during periods of negative wholesale electricity prices could be quite complicated and could create substantial difficulty for smaller and behind-the-meter generators that are not primarily in the wholesale power business. Possibly such a requirement could reasonably apply to large generators that participate directly in the wholesale electric market, although it still seems potentially challenging. The option of shifting to quarterly or monthly compliance also seems complicated, although having a longer period would offset short periods of negative wholesale prices through aggregation of load over time. Advanced customer meters/AMI are also just being integrated into Massachusetts, with mandated electric distribution company installations likely starting in 2024 and ending in 2027, so most residential customers, in particular, currently have gross monthly load that is priced according to a class load curve, and most meters for all customers are read and billed across monthly calendar periods; so this policy, while forward-looking and innovative, might be a bit early from a practical perspective. Finally, if MassDEP moves forward with this policy, we would urge shifting to twice-yearly compliance, with a winter month compliance period and a summer month one as less complicated, but that still might help to achieve some of the desired benefits. Perhaps the objectives could be better addressed through enhancements and/or changes to the Clean Peak Energy Standard.

Update CES Eligibility Criteria:

Clean Asset Partners supports a CES eligibility revision consistent with EPA standards and the clarification regarding biomass energy.

Just Transition Fee:

While advancing equitable siting of CES-eligible projects such as rooftop solar in low-income communities is a laudable goal, Clean Asset Partners does not support requiring all qualifying clean energy resources to pay a fee associated with CES qualification or CEC transfers. Due to the costs associated with required monitoring and reporting, and the possibility for, and demonstrated reality of, very low certificate prices during oversupplied periods, it is hard for smaller generators to be able to participate as is, which has already resulted in at least some residential and smaller business customers no longer tracking or monetizing their Class I RECs. Imposing fees could make it more difficult. It would also require the development and implementation of a new administrative mechanism to collect the new fees. We recommend that a minimum scale should apply if this approach is used on the supply side, and urge seeking other approaches that would more evenly spread costs across ratepayers.

Address the CES Oversupply Expected When the NECEC Transmission Line Becomes Operational:

Clean Asset Partners believes an adjustment to the CES compliance requirement at the time the Northeast Clean Energy Connect ("NECEC") transmission project is placed into service will be necessary to avoid a period of deep and sustained CES oversupply. The demand created by the CES requirement will be far exceeded by the massive supply of ~9.5 TWh of CECs per year expected to become available within about two years. The oversupply of CECs will likely last until 2030, and perhaps longer. In its Background Document on Proposed Amendments to: 310 CMR 7.75 Clean Energy Standard in April, 2022, regarding the economic impact of accelerating the CES compliance requirement to reach 60% by 2030, MassDEP said "Clean generation attributes from section 83D power would be sufficient to meet

the increase in stringency of the CES above the RPS Class I obligation through 2030. Consequently, retail sellers would not need to procure additional RECs or CECs to meet this increased stringency."

To avoid a deep and sustained oversupply, we recommend a one-time upward adjustment to the CES compliance requirement that would accommodate the ~9.5TWh of CECs from Hydro Quebec, with the adjustment being triggered only at the time NECEC is completed based on the expected volume and trajectory of supply. This sort of adjustment has historical precedents from the Massachusetts DOER's prior measures to avoid oversupplies in the RPS Class II and SREC I programs. In this case, the adjustment to the compliance requirement could be planned and made known well in advance, and start only when the expected additional CEC supply becomes available. As an example, if NECEC were to come online at the start of 2026, the CES compliance requirement could be adjusted upward from the current 36% for 2026 (30% MA Class I plus 6% CES increment) to 50%, with the 14% increase in the CES increment, bringing it to 20%, reflecting the ~9.5 TWh to be supplied by the Hydro Quebec CECs which would satisfy the full CES increment. The CES+ compliance obligation could then be held steady, perhaps with the only annual adjustments being set to accommodate the new vintage carve-out at whatever percentage MassDEP determined was appropriate, until 2030. Alternatively, the CES would likely be oversupplied for a multiyear period in the latter part of the 2020's. Another idea would be to initially limit the amount of CECs the NECEC generators would be allowed to create or supply per year, similar to the capping of Existing Clean Energy Generation in 310 CMR 7.75(7)(c), and allow that to increase annually to integrate the additional CECs into the CES on a reasonable basis that will allow for a stable CES market.

We appreciate MassDEP's work to develop options for strengthening the CES, and to seek and review stakeholder input, to enable the program to improve and function well over time.

Sincerely,

Steven Kaufman
Managing Director
Clean Asset Partners Corp.

Douglas Denny-Brown
Director
Clean Asset Partners Corp.

Conservation
Law Foundation

For a thriving New England

CLF Massachusetts 62 Summer Street
Boston, MA 02110
P: 617.350.0990
F: 617.350.4030
www.clf.org

Massachusetts Department of Environmental Protection
Attn: Commissioner Bonnie Heiple
One Hundred Cambridge Street
Suite 900
Boston, Massachusetts 02114
climate.strategies@mass.gov

Subject: Comments on MassDEP Discussion Document, 'Strengthening the Clean Energy Standard December 2023'

Dear Commissioner Heiple:

Conservation Law Foundation (CLF) and the Pipe Line Awareness Network for the Northeast (PLAN-NE) appreciates the opportunity to comment on Massachusetts Department of Environmental Protection's (MassDEP) Discussion Document, dated December 2023. CLF has previously submitted comments on proposed amendments to 310 CMR 7.75, the Clean Energy Standard (CES), in June of last year. The comments below respond to certain options proposed for strengthening the CES and offer some recommendations for moving forward.

CLF is a non-profit, member-supported environmental advocacy organization working in Massachusetts and across New England to protect our environment for the benefit of all people, to build healthy communities, and to sustain a vibrant economy. CLF advocates for policies and decision-making processes that reduce greenhouse gas emissions and incentivize clean energy resources.

PLAN-NE is non-profit organization working to prevent the overbuild of fossil fuel infrastructure and to champion clean, sustainable energy solutions.

I. Options for Strengthening the CES

1. Raising the Alternative Compliance Payment (ACP) Rate

We support measures to increase the stringency of the CES program requirements, including a raise of the ACP rate. As the Commonwealth transitions from dirty energy sources, the availability of additional funds due to raising the ACP rate will help ensure the continued operation of baseload clean energy resources. As noted in CLF's 2022 comments, MassDEP should ensure that the proposed rates are reviewed regularly and updated as necessary to ensure that ACP payment rates remain an effective market mechanism to signal the Commonwealth's preference for renewable clean energy.

2. Dedication of ACP Funds for New CES-Eligible Projects

We support the proposed option to specifically dedicate ACP funding for the development of new, clean energy resources. The intention of the CES program is to "increase the level of clean electricity that is purchased from the regional electric grid for consumption in Massachusetts"[1], and this proposed option promotes efforts to do so. MassDEP should ensure such ACP funding is directed towards CES-eligible projects that benefit environmental justice neighborhoods and low-income electricity customers.[2]

3. 'Recent Vintage' Requirement

We support the proposed option to amend the CES to add a 'recent vintage' requirement coupled with a high per-MWh ACP rate in support of the deployment of new, clean generation resources, as this both incentivizes ACP compliance and financially supports clean energy projects. MassDEP should work with the Massachusetts Department of Energy Resources (DOER) to optimize the interplay between the RPS and CES.

4. Long-Term Planning Requirement

We are generally supportive of amending the CES to add a long-term planning requirement with multi-year contracts to provide economic stability for developers and investors. However, if a regional or Massachusetts-specific auction process is created to implement this requirement, MassDEP should ensure that planned clean energy certificates cannot be used for purposes of CES compliance until the planned project is operational. Similar to ACPs, it is crucial to limit compliance pathways through means other than the purchase and distribution of clean energy. This requirement should be postured to merge with any future, regional long-term market intended to better incentivize renewable energy development.

II. Options for More Comprehensive Clean Electricity Accounting

1. Adjusting for Behind-the-Meter Production

We support an adjustment for electricity consumption at sites with behind-the-meter generation as proposed. As the CES program is assisting Massachusetts in achieving its decarbonization goals, it is critical that all electricity consumption is accounted for, not solely consumption deriving from retail sales.

[1] 310 CMR 7.75.

[2] "It is the policy of the Executive Office of Energy and Environmental Affairs that environmental justice principles shall be an integral consideration, to the extent applicable and allowable by law, in making any policy, making any determination or other action related to project review, in undertaking any project…and related regulations that are likely to affect environmental justice populations, and in the implementation of all EEA programs, including but not limited to…*the promulgation, implementation and enforcement of laws, regulations, and policies…and the diversification of energy sources, including energy efficiency and renewable energy generation*" (emphasis added). *See*, Environmental Justice Policy of the Executive Office of energy and Environmental Affairs (June 24, 2021) at 5.

2. Redefining the Numerical Percentage Standard

We understand the benefit provided to electricity generators from advance knowledge of the total (CES and CES-E) percentage requirements. However, if MassDEP exercises this proposed option, we encourage the Department to ensure newly set percentages do not result in a decrease in future-year CES percentage requirements.

3. Counting RPS Class II Hydropower

We support MassDEP's proposed hydropower accounting clarification for purposes of CES-E compliance, assuming that in no circumstance would the CES-E standard be modified resulting in an overall decrease in clean energy consumption.

We further encourage MassDEP to amend CES regulations to require the reporting of the greenhouse gas emissions from the electricity production by electricity retailers of hydroelectric, or importers or producers. In addition, these reported greenhouse gas emissions should be included in the annual greenhouse gas inventory to ensure accurate accounting from all sources.

4. Improving the Ability of CES to Deliver Clean Energy When it is Needed

We are supportive of MassDEP's efforts to address peak emission dynamics in the generating system. MassDEP should work with DOER to further investigate how the CES program may help in achieving this goal. It is unclear from this proposed option how transitioning the timescale compliance period would meet this objective without undercutting the emissions accounting purpose of the CES program.

We further encourage MassDEP to integrate into the CES a requirement for each electric distribution company to file with the agency a plan to reduce peak demand by 50% by 2025 and to file with the Department of Public Utilities a plan to pay for combined strategies, such as energy storage systems, time-of-use rates, and energy efficiency services. This innovative requirement would help fill an existing gap between the MassSave program (which encourages overall demand reduction) and the Clean Peak Standard (which attempts to encourage use of lower-emitting sources to meet peak demand).

III. Other Potential Program Improvements

1. Update of CES Eligibility Criteria

We support the updating of CES eligibility criteria but encourage MassDEP to take this even further by removing eligibility of all biomass or natural gas-fired facilities from CES compliance. As the Commonwealth is working toward its net-zero greenhouse gas emissions by 2050 statutory mandate, it is preferable to increase RPS Class I renewable requirements rather than continuing to allow electricity production from combustion generators.

MassDEP, as the air pollution control agency for the Commonwealth, is in a unique position to improve the CES program by placing the electricity generation sector on a path towards the state's required decarbonization goals. While DOER is limited in its ability to remove outdated polluting technology from RPS eligibility by its authorizing statute, MassDEP has the discretion to revise the eligibility categories for the CES as necessary to achieve the Commonwealth's climate requirements. MassDEP should take this opportunity to fully remove woody biomass from CES eligibility. Biomass facilities, even when they are ostensibly low-emitting, still release harmful pollutants—risking the health of nearby communities and especially overburdened environmental justice populations who are particularly vulnerable to any further decrease in their air quality. The removal of these technologies from the CES, along with other attribute markets, will be essential for the Commonwealth to achieve its environmental and climate justice goals, as well as the net-zero by 2050 requirement set out in the Roadmap Law.[3]

2. Just Transition Fee

We support the imposition of a fee associated with CES qualification, CEC transfers, or the use of CECs for compliance with the CES for the benefit and support of equitable siting of CES-eligible projects in environmental justice and low-income communities.

3. Limiting Banking

We propose that there should be strong limitations placed on any banking of Clean Generation Attributes. MassDEP is taking an important step in the right direction by increasing the stringency of the CES; however, any part of this program that allows retail sellers of electricity to procure less electricity from renewable energy sources, including through attribute banking, should be curtailed.

Thank you for your consideration of these comments. We look forward to working with MassDEP as it continues the process of strengthening the Massachusetts Clean Energy Standard.

Sincerely,

Katherine Lee Goyette
Staff Attorney
Conservation Law Foundation

Annika Hellweg
Paralegal
Conservation Law Foundation

Cathy Kristofferson
Pipe Line Awareness Network for the Northeast
kristofferson@plan-ne.org

[3] 2021 Mass. Acts. Ch. 8, An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy.

January 19, 2024

Re: MassDEP Inquiry into Strengthening the Clean Energy Standard

To Whom It May Concern:

Pursuant to the December 2023 Discussion Document related to possible changes to the Clean Energy Standard ("CES") in Massachusetts issued by the Massachusetts Department of Environmental Protection ("MassDEP"), Constellation NewEnergy, Inc. ("CNE") hereby respectfully submits these comments on several of the topics addressed in the Discussion Document. CNE appreciates MassDEP Staff's efforts on these topics and looks forward to continued discussions.

As a general comment, CNE would request that for any modifications to the CES there be an exemption for existing contracts or, alternatively, suppliers like CNE would need a transitionary period while planning for future requirements.

Add a New Project Requirement

The Discussion Document includes a possible change to the CES to add a "recent vintage" requirement, which could require that some fraction of each year's compliance obligation be met with clean energy certificates ("CECs") from generation with a commercial operation date in the prior three years. CNE appreciates the intent behind this suggestion, but stresses that the goal must be a properly functioning market for clean energy. Establishing a new project requirement further fractures the market into smaller sub-markets, diminishes overall liquidity, and creates a preferred tier or resources while implicitly diminishing the value of existing assets. CNE offers that this change is unnecessary and would not have the desired result in the market.

Require Long-Term Planning

The Discussion Document also suggests that adding some form of planning requirement, such as a requirement that a certain percentage of the compliance obligation be met via multi-year contracts with clean energy generators, could provide more certainty to clean energy generators. One option for implementing such a requirement could be the creation of an organized regional or Massachusetts-specific auction process for advance purchases from planned projects.

Again, CNE recognizes the motivations behind the suggested change, but offers that this change will not reach the intended result. The requirement for multi-year contracts removes the competitive market and mismatches the timing of competitive contracts. While CNE applauds efforts by the state to conduct long term planning and send appropriate market signals, doing so by intervening in the market with long-term contract requirements is not the best path to this goal. The problems with long-term procurement in New England are myriad and well known. The state can engage in long-term planning to identify the quantities and characteristics of the clean energy resources that will likely be needed, and this exercise may provide the right signals to market participants without the state needing to resort to

direct procurement. In addition, regulatory certainty is critical. With the right regulatory framework in place, market participants can better anticipate resource needs. Therefore, CNE encourages MassDEP to explore alternate approaches to provide the certainty sought by this suggestion.

Redefine the Numerical Percentage Standard

The Discussion Document also proposes to change the numerical percentage standard from the current system, where the CES is a set percentage of electricity sales and the CES-E percentage is established using electricity sales from four years before the compliance deadline to maintain the contribution of existing generators over time on a MWh basis. The new proposal would set a total standard, and the CES requirement would be the different between the total and the CES-E, once determined. In this system, neither CES nor CES-E are known in advance, thought their total is a set value.

CNE notes that the load obligations for the near future are expected to undergo a large increase as the grid moves towards electrification. As a result, certainty in expectations and requirements is important to market participants as they attempt to plan ahead through this increase. Floating requirements and unknown obligations, such as the proposed change, can create challenges to effective planning and potentially unnecessary customer costs. CNE believes that the current percentage standard is best for long-term certainty around CES obligations.

Improve the Ability of the CES to Deliver Clean Energy When it is Needed

The Discussion Document proposes to exclude clean energy generated during periods of negative wholesale electricity prices from generating CECs to attempt to avoid rewarding the production of clean electricity when it is not needed. Another option would be to transition the CES to quarterly or monthly compliance periods such that the clean electricity used for compliance would need to be generated in the quarter or month when the electricity sales occurred. CNE supports this change, and would encourage MassDEP to investigate the feasibility of implementing matching clean energy on an hourly basis. Matching clean energy procurement with load incentivizes the development of a balanced portfolio of clean energy resources and obviates the need to directly penalize overproduction during periods of low load.

Please do not hesitate to contact me if you have any questions or require additional information. Thank you.

Sincerely,

David Creer
Manager State Government Affairs

Comments on the Clean Energy Standard Discussion Document, "MassDEP Discussion Document: Strengthening the Clean Energy Standard, December 2023" (https://www.mass.gov/doc/discussion-document-strengthening-the-ces/download)[1].

Eve Vogel, UMass Energy Geographies and Politics Project

General comments on this effort:

- I thank you for your effort to continue to improve the Commonwealth's support for clean energy, and in particular, for thinking through possible revisions to the Clean Energy Standard program. The original Clean Energy Standard program was passed and defined without adequate review by some stakeholders, and I welcome this opportunity to provide broader consideration. I appreciate the DEP's approach of "brainstorming" and gathering comment before proceeding with rulemaking.

- Note: To avoid confusion, in this document I use
    - "Clean Energy Standard program" for the program as a whole,
    - CES for the Clean Energy Standard for newer generators (started running 2011 and after) that requires purchase of clean energy credits (CECs); and
    - CES-E for the Clean Existing Energy Standard program for older generators (started running 2010 and before) that requires purchase of clean energy credits (ECECs).

General comments on the Clean Energy Standard program, the CES, and the CES-E:

1. The Clean Energy Standard program must do a better job of transparency, outreach, cost-effective GHG reductions, and limiting environmental and EJ impacts, consistent with the RPS and other Massachusetts policies and programs.

Before diving into the details of how to "strengthen" the Clean Energy Standard program, which includes the CES (Clean Energy Std) and the CES-E (Clean Existing Energy Std), I offer an overarching recommendation: the DEP must bring the CES in line with the RPS in terms of outreach, cost-effective GHG reductions, and limiting environmental and EJ impacts. There are two key aspects of this: a) public and stakeholder interface with the RPS; b) Programmatic aims, conditions, and content of the Clean Energy Standards program.

a. Bring public and stakeholder interface in line with the RPS

The Clean Energy Standards program has inadequate transparency, stakeholder outreach and involvement, and public understanding. To change this, the DEP needs to improve how the Clean Energy Standard program interfaces with the DOER-administered RPS.

The RPS and the Clean Energy Standard program are intertwined but administered by different agencies (DOER and DEP, respectively). This bifurcation shows up in public-facing information about and input on both programs. This is confusing and obstructs comprehensive program

[1] See also other materials from the Clean Energy Standard website, https://www.mass.gov/guides/clean-energy-standard-310-cmr-775#-news-&-updates- .

review and informed public comment on the Clean Energy Standard program. DOER has the greater staff and technical expertise related to renewable and clean energy, and it has extensive established relationships with many energy stakeholders. Many of the DOER's documents and studies inform the Clean Energy Standard program, but the DEP has a much smaller group working on the Clean Energy Standard program, and many people and institutions who track the Massachusetts RPS closely know little to nothing about the Clean Energy Standard program. This administrative complexity should be ended; if not, its negative consequences must be remedied.

Approaches to alleviate this problem:

Recommended: It would be best to put the Clean Energy Standard program under DOER and fully integrate its reviews, analyses, and public-facing information with the RPS.

A second-best alternative that might not require legislative or regulatory change would be to have DOER co-manage the program's website and other public information, and have DOER co-lead reviews and public comments.

Minimum: If neither of the above can be achieved, the following should be a minimum for transparency and coordination:

- Both the RPS and Clean Energy Standard program websites should keep a regularly updated version of the following table on their websites to show the relationship between the Clean Energy Standard program and the RPS, with web links to the other's explanatory web pages.

	Clean Energy Standard (CES) [1]							Other Mandates (Excluded)**	
	"Clean Generation"			"Clean Existing Generation"					
Year	RPS Class I [2]	Other "Clean Generation"	Total CES	CES-E	RPS Class II [3]	RPS Class II Waste Energy [3]	MA Renewable Energy Requirement *	APS [4]	CPES [5]
2019	14%	4%	18%		2.7%	3.5%	24.2%	4.75%	0.0%
2020	16%	4%	20%		3.2%	3.5%	26.7%	5.00%	1.5%
2021	18%	4%	22%	20%	3.6%	3.5%	49.1%	5.25%	3.0%
2022	20%	4%	24%	20%	3.6%	3.5%	51.1%	5.50%	4.5%

Figure source: Colonial Power Group 2021.

- Accompanying an updated version of this chart, DEP should describe and list the resources included in the CES and CES-E that are not in RPS Class 1 and 2 categories, in language easily understood by non-experts. The good information from DEP's original FAQ can be summarized but jargon should be replaced or explained.[2]

- Anyone who signs up for information and updates on the Massachusetts RPS should automatically be added to the Clean Energy Standard program information and update list.

[2] For example: instead of "energy procured under the 2016 Energy Diversity Act," say "hydropower purchased from Hydro-Quebec by Massachusetts local electric distribution utilities Eversource, National Grid, and Unitil through a long-term contract, to be imported into New England through a new transmission line under construction in Maine (the New England Clean Energy Connect or NECEC, completion expected 202X), as approved under the Massachusetts 2016 Energy Diversity Act." (My understanding is that all other energy procured under the 2016 Energy Diversity Act will be eligible for RPS 1.)

- The DEP and/or DOER should provide thorough outreach to stakeholders, including environmental groups and ratepayer groups, as well as local communities and EJ groups around CEC- and ECEC- supported facilities. They should facilitate robust public comment and input, and responsiveness to input, commensurate with similar public reviews and comment that DOER conducts for the RPS and other policies (e.g. the recent long-duration storage study, report, and recommendations).

b. Align programmatic aims, conditions, and content of the Clean Energy Standards program in relation to the RPS and other Massachusetts energy, environmental, and EJ policy

The Clean Energy Standards program's ECECs unfortunately undercut other Massachusetts energy, environmental, and EJ policy. CECs will do so in the future. The following describes three ways they do this. Following the three points, I discuss justifiable ways and processes that might create similar credits to advance clean energy outside the RPS without these negative consequences. Some of these points are expanded in response to the discussion paper's bullet points.

1) The Clean Energy Standards program undercuts Massachusetts' commitments to reduce environmental and social impact in the energy sector, by including sources of generation excluded from the RPS because of their negative impacts.

Several generation resources excluded from the Massachusetts RPS because of their high negative environmental and social impacts qualify for CECs and ECECs. These RPS-*excluded* but Clean Energy program-*included* high-negative-impact resources are (so far) nuclear power facilities and several large and/or high-impact hydropower projects. These sources of generation have been repeatedly excluded from the RPS precisely because of their high environmental and social impacts, and because nuclear power is not renewable. The ECECs and CECs thus directly undercut the constraints placed in the RPS to incentivize low-carbon energy resources that *also* protect environmental and EJ concerns.

The following are the projects qualified to sell ECECs to Massachusetts electric suppliers:

Project name	NEPOOL-GIS ID	Location	Fuel	Max MWh/yr
Millstone	MSS 484, MSS 485	Connecticut	Nuclear	2,500,000
Seabrook	MSS 555	New Hampshire	Nuclear	2,500,000
Masson hydro	IMP 33636, IMP 33637, IMP 33638, IMP 33639	Quebec	Hydro	320,343
4 Dufferin	IMP 35867, IMP 35868	Quebec	Hydro	67,706
High Falls	IMP 159625	Quebec	Hydro	676,489
La Gabelle	IMP 145074	Quebec	Hydro	773,576
Shawinigan-2	IMP 161896	Quebec	Hydro	896,149
Shawinigan-3	IMP 161897	Quebec	Hydro	1,200,514
Outardes-2	IMP 159630	Quebec	Hydro	2,500,000
Beaumont	IMP 161887	Quebec	Hydro	1,597,980
La Trenche	IMP 161898	Quebec	Hydro	1,821,621
Churchill Falls	IMP 161751	Newfoundland & Labrador	Hydro	2,362,000
Hadley Falls 1&2	MSS769	Massachusetts	Hydro	8,234

Source: Mass DEP 310 CMR 7.75: Clean Energy Standard (CES) Frequently Asked Questions (FAQ), Version 2.3 (November 2023), https://www.mass.gov/doc/frequently-asked-questions-massdep-clean-energy-standard/download

2) The Clean Energy Standards program undercuts Massachusetts' commitment to cost-effective use of ratepayer funds, as it uses these funds to subsidize already-profitable large corporate and foreign-government generation owners, with no net reduction in GHG emissions.

The CES and CES-E are funded by Massachusetts electric ratepayers. This is because Massachusetts electric suppliers raise their customers' rates in order to pay for CECs and ECECs. Massachusetts electric distribution utilities and competitive suppliers are the entities required to purchase CECs and ECECs.

ECECs: As shown in the table above, the main recipients of ECEC payments are Hydro-Québec (owner of scores of large hydropower plants in Québec, with approximately a dozen qualified to receive Massachusetts ECEC payments), NextEra (owner of Seabrook nuclear power plant), Dominion Resources (owner of Millstone Nuclear power plant), and Nalcor Energy (co-owner with Hydro-Quebec of the giant Churchill Falls hydropower complex in Labrador, Canada). As suggested by the word "existing" in "Existing clean energy credits" (ECECs), these plants existed before the creation of the Massachusetts Clean Energy Program, and their sale of ECECs to Massachusetts electric suppliers did not and does not create new low-carbon energy capacity.[3] There might still be a rationale for the Commonwealth's ratepayers to subsidize these plants *if* they were at risk of going out of business, and might be replaced by high-GHG-emitting resources like additional natural gas generation before we can get greener low-carbon energy on the grid. However, *none* of the recipients of ECECs are at risk of going out of business because of financial hardship. Hydro-Quebec is a highly profitable provincial agency,[4] and, while some nuclear power plants in the US are at risk of financial failure, Seabrook and Millstone are not among them.[5] The only other recipient of ECECs is Holyoke Gas & Electric (for Hadley Falls 1 and 2), a municipal utility that is also in solid financial condition, in part because it can also sell renewable energy credits.

I recognize that many hydropower and perhaps other non-RPS-eligible low-carbon power producers were excluded from ECECs because they were already producing and selling RECs to other states. This was to avoid REC-shopping which can harm states' ability to meet their targets. I agree with this provision.

CECs: CEC payments can be made to projects that meet one of the following criteria: (a) RPS Class 1, (2) Energy purchased by Massachusetts utilities under the 2016 Energy Diversity Act; the

[3] Our payments also are unlikely to subsidize incremental additional production of low-carbon electricity. Hydropower is limited by water flows (with the exception of pump storage, which is a net consumer of energy), and, once built, will generate based on the (free) water available. Nuclear power is most cost-effective when it provides a steady amount of power.

[4] Hydro-Quebec 2023: " Hydro-Québec's net income for the first three quarters of 2023 exceeds $3 billion," https://news.hydroquebec.com/en/press-releases/1996/hydro-quebecs-net-income-for-the-first-three-quarters-of-2023-exceeds-3-billion/

[5] Union of Concerned Scientists 2018: Nuclear Power Dilemma. https://www.ucsusa.org/resources/nuclear-power-dilemma. See also Levitan & Associates 2018: Resource assessment of the economic viability of the Millstone Nuclear Generating Facilities. Prepared for the Connecticut Department of Energy & Environmental Protection and the Connecticut Public Utilities Regulatory Authority, https://portal.ct.gov/-/media/DEEP/energy/EO59/LAIMillstoneReportFINALpdf.pdf. As the UCS notes, "Profitable nuclear plants should not receive financial assistance, which would give owners a windfall profit while overcharging consumers."

portion of this that is not RPS Class 1 is energy from Hydro-Quebec, to be imported into New England through the NECEC, a new transmission line under construction in Maine (these credits will be available once this line is completed, and imports commence), or (3) Other new generation completed in 2011 of after, in New England or adjacent electric grid regions, using new transmission capacity, whose lifetime GHG emissions are 50% or less than the most efficient natural gas plant but do not qualify for the RPS.

Currently there are no generators that fit these criteria that are not part of the RPS Class 1. In the future, however, technologies explicitly rejected by the Commonwealth's RPS standards could fit into this additional CEC category. It is likely that new high-impact hydropower projects from Canada, other high-impact hydropower, or new nuclear reactors will be part of this category.

3) The Clean Energy Standards program undercuts the Commonwealth's commitment to energy democracy because it supports a policy system in which "clean" in Massachusetts is less green than "renewable"—without helping the public understand this irony.

   The Clean Energy Program supports a definition of "clean" that is much looser than "renewable" in Massachusetts, with fewer protections for the environment and environmental justice. This looser definition of "clean" versus "renewable" is poorly understood by the public,[6] and limited public and stakeholder input was provided in the development of the Clean Energy Standards program.[7]

Discussion: Aligning programmatic aims, conditions, and content of the Clean Energy Standards program in relation to the RPS and other Massachusetts energy, environmental, and EJ policy

How can we ensure the Clean Energy Standard program supports rather than undercuts (1) Massachusetts' commitments to reduce environmental and social impact in the energy sector, (2) cost-effective use of ratepayer funds, and (3) Massachusetts' commitment to inclusive and informed energy decision-making?

We can start with what the program seems intended to do. The Clean Energy Standard program appears to have been deliberately set up to provide payments to resources that are disallowed or excluded from the Massachusetts RPS.

I note first that a *bad* reason to provide credit payments to non-RPS resources is that, by including large electric suppliers that were already selling into the New England wholesale market—nuclear power and Canadian hydropower—the Clean Energy Standard program allowed Massachusetts "clean" energy targets and accomplishments to be instantly raised by over 20% beyond the RPS. This is about optics in our statistics, which in this system of clean energy accounting depend on financial subsidies from Massachusetts residents and businesses to already-profitable and already low-carbon energy generators. But these payments do not reduce net GHG emissions and should not merit extra ratepayer subsidies. If we want to improve Massachusetts' optics on its clean energy performance by acknowledging energy that's already

[6] As evidenced by conversations with many UMass students and faculty, as well as environmental NGO collaborators.

[7] The past lack of input is not necessarily the DEP's fault, but it must be remedied in this and future reviews. (see point a above, pp. 1-3).

part of the grid, then just include it in the baseline calculations. About 20% of ISO-NE's power is nuclear, and about 12% is imported hydropower. It's OK to call that low-carbon power, and include it in our state's calculations of where we get our electricity, without needing to subsidize those generators further with additional increments of our ratepayers' hard-earned money.

Having Massachusetts ratepayers pay extra on their electric bills so their electric suppliers can purchase energy credits can only be justified if the subsidized energy supports, or at least does not undercut:

(1) Massachusetts' commitments to reduce environmental and social impact in the energy sector, by

(i) clearly lowering net GHG emissions, and

(ii) advancing environmental and social protections commensurate with the RPS and other state policies, or at least not advancing new unmitigated environmental and social impacts

(2) Cost-effective use of Massachusetts ratepayer money

and

(3) Massachusetts' commitment to inclusive, informed, and just energy decision-making.

In terms of (3), the language used and the public process in which the CEC and ECEC are developed and administered needs to be improved; this is largely addressed in point a, pp. 1-3. In the following, I elaborate on commitments to (1)(i) lower GHG emissions, (1)(ii) limit and mitigate other environmental and social harms, and (2) ensure that ratepayer funds are used in a cost-effective way.

In terms of these criteria, there *are* instances in which additional subsidies for resources ineligible for the RPS are good policy. The following briefly outlines how and when using these criteria might play out for ECECs and non-RPS CECs:

<u>ECEC payments</u> could be justified when and if there is serious risk of low-carbon energy projects currently on line closing down because of financial unprofitability, and being replaced by cheaper fossil fuel plants; if and when the additional ratepayer-funded revenue for these projects would materially reduce that risk; and if and when ECEC payments would not incentivize negative environmental and social impacts. Because ECECs fund existing projects, the largest environmental and social impacts have already occurred, and there are few(er) uncertainties about permitting, licensing, etc.[8] Unless they are especially high cost or especially harmful to natural environments and human communities, it is often wise to ensure they stay on line until other lower-impact renewable resources are on line. However, if they are already online, Massachusetts ratepayers are already contributing to their continued existence simply by purchasing electricity. The high baseline electric rates in New England help with their profitability. ***A minimal requirement of ECECs should be to require projects to demonstrate financial vulnerability that may cause closure / decommissioning—and that moderately priced***

[8] There are certainly ongoing impacts in established hydropower and nuclear electric generation projects such as fish mortality in turbines and river flow fluctuations, and production of new nuclear waste. But, there are also likely social benefits that have been established through jobs and a tax revenue base. The latter are among the reasons that it is reasonable to try to ensure existing low-carbon projects stay on line until we have ample volumes of other lower-impact renewables.

ECECs can make up the difference (this meets (1i) and (2) above)***.*** In addition, ***DEP should either require mitigation of incremental environmental or social impacts of these projects[9], or else provide grants or other monies from ECEC alternative compliance payments (ACPs) to be used by local communities or managers of impacted resource for mitigation of incremental impacts.***[10] ***If not,*** i.e. if ECECS do not provide for environmental and social impact mitigation, ***payments should be substantially lower than the RPS payments for resources that have to meet additional environmental and EJ criteria*** (meets (1ii) above).[11]

Non-RPS CEC payments could be justified when important low-carbon energy resources are not being built because of limited financial resources; and when these projects are accountable to similar kinds of environmental and environmental justice requirements as RPS-funded resources. More specifically, ***non-RPS 1 CEC-qualified projects should*** *(1i)* ***demonstrate that they will produce net GHG reductions***—not just an additional revenue stream for recently built or already-planned-and-funded new projects; (1ii) ***support or at least not undermine environmental and EJ standards*** supported by the Massachusetts RPS and other Massachusetts policies[12]; and (2) ***demonstrate this is a cost-effective use of ratepayer funds, including proof of financial unviability without additional revenue streams****.*

Below I consider several possible resources that CECs seem designed to support, or might support in the future, and how the above conditions would apply.

Transmission. The CECs seem oriented to support new transmission. Hydropower imported through Maine's future NECEC transmission line will qualify for CECs, and the CEC regulations require that other CECs, if not eligible for RPS Class 1, support generation resources that "utilize new transmission capacity." Funding new transmission is clearly an important challenge for the energy transition, and transmission is not supported by the Massachusetts RPS. Since the promulgation of the original Clean Energy Standards regulations, however, transmission has garnered increasing attention and incentives from the US Department of Energy, ISO-NE, and DOER (among others). Given this attention, and the resulting new and pending grants and funding streams for transmission, it seems important that CECs not provide unnecessary ratepayer subsidies to transmission lines that are already being adequately funded. ***Low-carbon generation connected through new transmission should have to demonstrate the need for***

[9] One approach could be to require existing hydro projects, in order to be eligible for ECECs, to conduct and demonstrate environmental mitigation commensurate with the RPS. Through its environmental requirements for hydropower, the RPS incentivizes investments in fish passage, recreational opportunities, and other key environmental and social mitigation and benefits. One opportunity for the Clean Energy Standards program could be to open up this possibility for large hydro, as project size is a limiting factor in the RPS, but is not correlated to environmental impact (see LIHI 20-Year Report). Expansion of the program could support the RPS by allowing hydro that exceeds the RPS size restriction but still meets the RPS's hydro environmental requirements.

[10] I recognize that in some cases such funds or incentives would apply outside of the borders of the Commonwealth, and possibly even in Canada, and there may be concerns about spending Massachusetts ratepayer funds in these territories. I argue that this a) is already happening, as ECECs are funding out-of-state corporations and a giant Canadian provincial agency; b) is a better use of funds than subsidizing already-profitable large corporations and government energy companies, and c) supports principles of environmental protection and justice that transcend borders. In many cases it can even be justified by self-interest; for example, rivers in Quebec support migratory fish that feed oceanic fish caught by the Massachusetts fishers.

[11] If the CEC payments are not lower than RPS payments but have lower environmental and EJ standards, they will undermine the financial incentives put into the Massachusetts RPS. Hydropower producers throughout New England and New York, for example, strive to undertake environmental mitigation so they can qualify for and sell high-value Massachusetts RECs.

[12] See footnote 9.

additional funds to become viable, rather than automatically qualifying for additional Massachusetts ratepayer payments. Additionally, as illustrated in the controversies over the Northern Pass and NECEC lines, DEP must recognize that transmission has environmental and community impacts. ***DEP (with DOER) should engage in ample stakeholder input and develop guidelines for environmental and public-input for CEC-supported transmission lines.***

New hydropower in Canada. Hydro-Quebec has one new hydropower project built since the 2010 cutoff for CECs: the Romaine River project. The provincial agency is beginning conversations and studies on another one, on the Petit-Mécatina River. Both of these projects are high-impact projects in Innu First Nations territories. The Romaine project was eventually supported by local Innu communities, but project construction was begun several years before the most affected First Nations community agreed to a settlement package, raising serious questions about environmental justice and respect for indigenous sovereignty. Hydro-Quebec is starting the Petit- Mécatina planning this time with conversations with indigenous communities; and it has its own process for building, surveying, negotiating with indigenous communities, providing local economic development, etc. It also has broad support in Quebec, as a source of home-grown affordable, reliable electricity and economic development. The Commonwealth of Massachusetts does not need to oppose these projects on environmental or EJ grounds (although some NGOs do). But it also does not need to compel its ratepayers to subsidize them. These projects will be funded or supported without our additional help, as Quebec is working hard to decarbonize its own economy. Indeed, we are paying fair-market value for these hydropower projects' energy through our electric suppliers' purchases from wholesale energy markets, and it is anticipated that New Englanders will increasingly import Canadian hydropower as our volume of variable renewables (wind and solar) increases and sometimes cannot meet our demand. At such times, wholesale prices rise, and Hydro-Quebec will earn good money from Massachusetts ratepayers. ***Canadian hydropower does not need extra subsidies and should not qualify for CECs.***[13]

New hydropower in New England and New York. Under Massachusetts' RPS, hydropower projects must meet important environmental standards such as fish passage. Qualification of the RPS requirements is demonstrated by certification through the Low-Impact Hydropower Institute (LIHI). Under the RPS and LIHI's standards, new dams and other river-blocking structures cannot qualify, as their environmental and social impacts are not justified. Other new hydropower may demonstrate qualification, if it meets environmental standards that fulfill standards written into our RPS. ***CECs should not qualify hydropower that does not meet LIHI or Massachusetts' RPS standards.***

Energy Conservation in other jurisdictions. One kind of clean energy that so far does not seem to have been contemplated by the Clean Energy Standards program, but should be, is energy conservation in other jurisdictions. More than 30 years ago, Massachusetts led the nation, along with a few other states, in recognizing that reducing energy demand can meet energy needs as easily as increasing supply, with lower environmental impact, and often more cheaply and with greater reliability. Other jurisdictions lag behind. Helping those jurisdictions conserve energy will reduce net GHG emissions. When those jurisdictions are within the geography of our RPS (New England and adjacent grid regions), incentivizing new conservation there is at least as justifiable

[13] See footnote 9. Currently a key problem for requiring environmental mitigation and benefits is the lack of adequate data and monitoring in hydropower projects in Canada.

as incentivizing existing and new generation. One jurisdiction where this is clearly warranted is in Quebec. Quebec's buildings and transport systems waste far more energy than they need to, in part because Hydro-Quebec power has long been inexpensive. Yet because Hydro-Quebec power has been and continues to be so cheap (and because Hydro-Quebec's retail distribution is administered and financed separately from its generation), it is hard for the agency to fund conservation, as it would require higher retail rates, which are politically unpopular and threaten what provincial leaders see as a key comparative advantage. DEP or DOER would need to do the calculations, but ***funding energy conservation in Quebec is likely one of the cheapest and surest ways for Massachusetts ratepayers to fund large volumes of GHG reductions in the near future.*** The DEP and/or DOER could potentially negotiate with Quebec a way to make some of the energy conserved available to Massachusetts ratepayers through additional long-term contracts, contracts that are not currently contemplated after the 1200 MW promised to run through the NECEC line, because of Quebec's anticipated high electrical demands.[14]

New nuclear power. There is much enthusiasm in some sectors about new modular nuclear reactors. However, there is a long history of concern about nuclear power in Massachusetts. If and when new nuclear power becomes cost-competitive, developers can apply for siting, permits, and interconnection. ***The Clean Energy Program should not be adding extra incentives to attract it even beyond market profitability.***

Other sources of new generation outside the RPS. Different kinds of generation have been carefully vetted and standards put in place under the RPS. CECs should not support other generation that has not been equally vetted. ***Non-RPS generation should not be funded by CECs.***

Comments in response to the MassDEP Discussion Document, December 2023

The following responds to your Discussion Document's specific bullets. I build on the general discussion above.

- **Increase the CES ACP rate.**

I oppose this idea for non-RPS generation. CECs currently fund only RPS Class 1 generation, but in the future will fund Hydro-Quebec power through the Maine NECEC line, and are likely to fund other new Hydro-Quebec projects and perhaps other hydropower. Higher prices are inappropriate for non-RPS generation, and in particular for hydropower, where they would directly undercut the carefully crafted policies Massachusetts has in place to incentivize hydropower projects for improved environmental performance. See above discussion. DEP might consider creating new subcategories of CECs focused on transmission or conservation in other jurisdictions. I would support higher prices for these under the conditions described above.

- **Dedicate CES ACP funds to supporting new CES-eligible projects**.

[14] Hydro-Quebec anticipates high electrical demand well beyond its current portfolio, as it pursues its own decarbonization and electrification plan.

No. ACP funds should be used in the most cost-effective way for ratepayers to fund GHG emissions that also meet the Commonwealth's other environmental and EJ goals. Some of these may be CEC-eligible.

- **Add a new project requirement:**

This might be an improvement in certain cases. It would depend on what resources it was used to support. See discussion above.

- **Require long-term planning.**

I strongly support least-cost integrated resource planning for the Commonwealth; even better if Massachusetts can coordinate with the other New England states and ISO-NE. I have worked with the Northwest Power and Conservation Council and believe their 20-year power plans are excellent examples of the kind of analyses that should be guiding our ratepayer investments.

If long-term contracts help put an IRP into action, I would support them. However, long-term contracts should be used sparingly; it really depends what resources they would support, and how. A competitive auction process risks the kind of mistakes and delays we have seen in the development of projects from the 2016 Energy Diversity Act (e.g. the selection of the Northern Pass line which appeared to be inexpensive and quick, and the rejection of the already permitted, lower impact, and widely supported TDI line through Vermont).

- **Adjust for electricity consumption at sites with behind-the-meter generation.**

This seems like a reasonable provision.

- **Redefine the numerical percentage standard.**

I ask DEP to analyze what the effect would be on ratepayer costs, and likely changes in incentivized resources.

- **Count hydropower used to comply with MA RPS Class II toward CES-E compliance.**

As I understand this, this would be a simple revision of the table I pasted earlier in this document in which the dark blue RPS II columns would be put under the CES umbrella, but with no substantive change in requirements. This seems like a reasonable accounting change.

- **Improve the ability of the CES to deliver clean energy when it is needed.**

DEP needs to consider this in relation to developing proposals for storage and demand response. How would these ideas interplay with those incentives? I am cautiously supportive of quarterly or monthly compliance periods. I note that this could incentivize Hydro-Quebec to operate its reservoirs with

extreme seasonality, and this might have significant negative environmental and social effects, as similar reservoir seasonality in the West does. DEP should also analyze what the effect would be on incentivized resources.

- **Update CES eligibility criteria.**

As suggested in my general discussion above, I strongly support updating the CES criteria. The plant-specific criteria suggested sound wise. However, I urge that in addition to plant-specific criteria, DEP apply criteria for net GHG reductions across the regions in which CECs are bought and sold.

- **Just transition fee.**

I would strongly support using a fee (or ACP payments) to mitigate EJ and environmental impacts from CEC resources, and to choose / support projects that provide clear environmental and EJ benefits. I suggest this might be called a Just and Sustainable fee or ACP allocation.

247 Station Drive, NE 210
Westwood, MA 02090
781-441-8258

January 19, 2024

Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

Submitted via email: climate.strategies@mass.gov

Re: NSTAR Electric Company d/b/a Eversource Energy – Comments on Massachusetts Clean Energy Standard

Dear Sir or Madam:

NSTAR Electric Company d/b/a Eversource Energy ("Eversource" or the "Company") submits this comment letter to the Massachusetts Department of Environmental Protection ("MassDEP") in response to the December 2023 request for input from stakeholders on options for strengthening the Massachusetts Clean Energy Standard ("CES"). Eversource views clean energy as a vital element of the energy mix in New England that should be provided to customers at fair and reasonable costs. Stakeholders, including Eversource, should continue to work together to ensure that cost-effective solutions are implemented to meet the Commonwealth's increasingly comprehensive clean energy and climate goals. These comments respond to several concepts put forth by the MassDEP in its presentation, *Strengthening the Clean Energy Standard*, at the stakeholder meeting on January 11, 2024.

MassDEP has developed several options for strengthening the CES: (1) increasing the CES alternative compliance payment ("ACP") rate; (2) dedicating CES ACP funds to support new CES-eligible projects; (3) adding new project requirements; and (4) requiring long-term planning contracts. Additionally, MassDEP has proposed options for more comprehensive clean electricity accounting and other potential program improvements. From the Company's perspective, any changes to the CES or other clean energy standards must demonstrate that such programs increase the amount of new clean energy resources that provide electricity to Massachusetts customers. Customers do not benefit from policies that add costs but fail to increase new clean energy resources and decrease emissions within the Commonwealth.

Eversource has an obligation to provide safe and reliable electric service to its customers at a reasonable cost. Currently, the Commonwealth's Renewable Portfolio Standard, Alternative Portfolio Standard, Clean Peak Energy Standard, and CES obligations add approximately 2.7 c/kwh to customer's electric rates. Eversource urges the MassDEP to remain aware of the significant costs associated with clean energy policies and ensure that future program changes are cost-effective for all ratepayers.

Eversource appreciates the opportunity to comment on the proposed options to strengthen the CES. Any changes should strike a balance between advancing the Commonwealth's clean energy policies and ensuring that customers are not burdened with excessive costs.

Sincerely,

Parker Littlehale

Parker Littlehale

Manager, Wholesale Power Supply

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMENTS ON CLEAN ENERGY STANDARD AND RENEWABLE PORTFOLIO STANDARD

COMMENTER: GLENVALE LLC

Date: February 28, 2024
Revised March 19, 2024

Submitted: via email to climate.strategies@mass.gov

63 Federal Street
Portland, ME 04101

3190 Washington Street
Boston, MA 02130

www.glenvale.solar

Comments on Massachusetts CES and Class 1 REC RPS; and Current Development Context for New Renewable Energy Projects Serving Massachusetts Policy Requirements

Glenvale is a Massachusetts based developer of utility-scale solar and energy storage projects. Our team of eighteen is focused on developing the affordable and reliable clean energy assets that will allow Massachusetts, and New England as a whole, to transition to renewable energy at the lowest possible cost. Glenvale is pleased that the ***MDEP***[1] recently solicited interest from parties interested in the future of the ***CES***, and Glenvale shares some of its view on the CES and the Class 1 ***RPS*** here.

The majority of Glenvale's development assets are located in New England and will serve RPS and CES requirements in the region. The structure of the RPS and CES programs provide critical support to the development of new renewable energy projects, but also have limitations that restrict the supply of new projects. In turn this limits the effectiveness of the policies, and the supply of clean energy to New England.

The recent MDEP ***RFI*** solicited feedback on many of the limitations that Glenvale has observed in the Class 1 markets, and we expect will emerge as CES becomes a more significant source of demand for Class 1 RECs. We provide discussion in this paper as to what changes to the CES and RPS programs may be beneficial. They include:

- Increase the CES ***ACP*** to at least match the Massachusetts Class 1 ACP;
- Further increase the Class 1 and CES ACPs (several options are presented);
- Provide targeted support to new projects, such as a carve-out with higher ACP and/or volumetric certificate bonus; and
- Compel compliance buyers to contract for some ***CEC***/***REC***s on a long-term basis.

Glenvale's suggested interventions fall into two categories: price-based interventions impacting ACPs, which currently limit REC and CEC prices, and structural interventions, which would support new projects with longer contracts, an ACP carve-out, or increased volumetric eligibility.

[1] Terms in bold and italic at first mention are defined terms, listed in the definitions section, page 23.

Additionally, Glenvale offers observations from its experience as a developer of renewable energy projects which it believes may be helpful to MDEP. These observations include the impact of inflation and financing costs on the supply of new projects, and the limited support that the short-term contracts, which are generally available for RECs, provide to financing new projects.

Glenvale would be happy to further discuss any of the concepts in this paper or clarify any points. The primary author of this paper is Aidan Foley, Founder and CEO, and Aidan can be reach by email at aidan@glenvale.solar. Glenvale recognizes MDEP recently requested comments on the CES by January 19th, 2024, however due to the timing of Glenvale learning of the RFI, and other obligations on our small team we were unable to share thoughts in that timeframe. However, we hope this document is still useful at this time.

1. New England CES and Class 1 Targets and ACPs

The RPS and CES targets in Massachusetts, Connecticut, Rhode Island and Maine are on pathways to 100% clean energy in the 2033 to 2050 timeframe (see Exhibit B). Massachusetts and Connecticut are the largest energy markets in the region, accounting for over 70% of New England's electrical load. Estimated state level demand for RECs for the 2023-2030 period are indicated in Exhibit C.[2] Across the region, Class 1 annual requirements are anticipated to ***increase*** by 15,696,000 by 2030 (from 2023), and Massachusetts' increased requirements account for 4,193,000 of this.[3]

NEPOOL Class 1 RECs are subject to ACPs of $40 and up, while the CES ACP is $35. NEPOOL Class 1 and CES ACPs from 2010 to 2030 are shown in Exhibit A.

Massachusetts Class 1 requirements can be satisfied by certificates from qualified assets' generation anywhere in New England, and by imports from control areas directly adjacent to ***ISO-NE*** (see Exhibit D for state and province eligibility).[4]

The market prices of RECs have increased in recent years, providing unexpected income to existing assets, an estimated 36.7% of which, by weighted generation potential, are located outside New England. Yet, the prices of RECs are limited by the ACPs in Massachusetts and Connecticut, and do not support the widespread development of new renewable energy projects. Further, over-the-counter REC contracting practices don't offer lengthy terms that support the financing of new projects. Longer-term contracts, higher prices, or a combination, would provide meaningful support to the deployment of new renewable energy assets serving New England.

As a result, a key feedback loop in the RPS program, that higher REC/CEC prices can support the entry of new renewable energy projects to meet demand, is short-circuited, to the detriment of ratepayers. Thus, despite the relatively high REC prices,

---

[2] Part of Massachusetts' Class 1 requirement is met by in-state solar. The residual is the net Massachusetts Class 1 demand; the distinction is shown on table C2.

[3] Figure in this sentence are updated in March 19, 2024 revision.

[4] Imports come from New York, and the provinces of Quebec, Prince Edward Island, New Brunswick and Nova Scotia.

the supply of new projects has not yet been stimulated to meet the growing REC and CEC demand. This set of effects is contrary to public policy goals, and consumer welfare.

MDEP should consider improvements to the CES program that can stimulate new project supply to Massachusetts energy consumers. In future years, if increased supply becomes available, consumers will benefit from the policy goals being achieved and potentially benefit from price decreases associated with increased supply.

2. Limitations from RPS/CES Programs on Projects:

New renewable assets being developed to serve New England derive substantially all their revenue from the sale of energy and Class 1 RECs. CECs have similar eligibility as Class 1 RECs and in future years CES compliance will become an additional source of demand for renewable energy projects environmental products, which currently are primarily sold to in Class 1 markets.[5]

Depending on the type of project, location, and other factors, projects may have some expected revenue from Capacity and ancillary services. Glenvale is focused on utility-scale solar development, and often estimates that Capacity and ancillaries provide no revenue for utility-scale solar projects. For instance, in most of Maine, (approximately half of New England by land area), Capacity is not an expected revenue source due to transmission system limitations.

In recent years, prices for Class 1 RECs have increased to rest just below the common ACP set by Massachusetts and Connecticut.[6] Long-term energy-only contracts have priced at between $30 to $40 for initial year rates in recent procurement. Bundled prices of $55 to $90 were seen for energy and RECs in the 2015 – 2020 period.

---

[5] CECs may also be minted by gas-fired thermal plants that have successfully completed deep CO^2 reduction programs. To Glenvale's knowledge there are no qualified assets of that nature.

[6] In 2023 Massachusetts and Connecticut accounted for over 80% of the New England Class 1 total requirement, although a significant portion of Massachusetts requirement was restricted to the in-state Solar Carve Out.

Therefore, as a rule of thumb, under current market conditions energy and RECs each account for about half of the expected revenues to a new project.

The interest in the brokered market for stand-alone environmental attributes is typically focused on the current compliance year,[7] and up to three years forward. It is possible to forward contract RECs for up to five years, but liquidity is reduced on the buyer side, and price declines are observed.

It is worth noting the cost structure of renewable energy projects. A typical utility-scale solar project may cost $2.0 – $2.5 million per MW_{AC} to construct, and then have an annual operating expense of $35,000 – $50,000 per MW_{AC}.[8] Unlike conventional power projects, the cost of renewable energy projects is heavily oriented towards capital cost versus operating and fuel cost. On an ***NPV*** basis, roughly 80% of the life-cycle cost of a solar asset is in the capital cost. This results in the need for high certainty of operating revenues to finance the capital cost.

Also, unlike conventional power projects, the operating cost for a renewable power project is largely fixed at the time of development. That is, operating costs do not vary in a meaningful way based on operating strategy, fuel costs or generation. The highest operating costs for a solar project include property taxes, lease, operating and maintenance expenses, ISO-NE related fees and costs, and utility operating and maintenance expenses; all these costs are unaffected by energy production, curtailment, idling, or operational strategies.

While Glenvale's expertise is based on solar, we believe that similar principles of cost fixedness apply to wind projects, although operating costs may be a larger portion of life-cycle costs.

As a result of these two cost factors, it is critical for developers and investors to have adequate revenue certainty at the time of committing investment to arrange financing.

---

[7] The compliance year is measured on the calendar year, and trades until July of the following calendar year. Compliance entities and traders are interested in compliance year 2023 through July 2024, and so on.

[8] Cost data is generalized and is not intended to be representative of any particular project.

Since 2020 unbuilt projects have experienced capital cost shocks, and the costs of financing projects have also increased, increasing the revenue requirements for projects. A recent ***NYSERDA***[9] filing with the ***NY-PSC*** estimated that above-trend escalation in capital costs for onshore solar and wind projects since 2020 exceeded ten percent.

The cost of financing has also been volatile in recent years and has increased significantly from its 2021 low. Short term interest rates have increased from near zero to 5.5%, while long-term treasury rates have increased by roughly 2.5%. The increased short-term interest rates primarily impact construction financing, and Glenvale estimates they increase development costs by 2-3%, while increased long-term interest rates impact the required returns for debt, tax-equity, and equity investors.

Wholesale energy market revenues available to renewable energy projects have not changed significantly in recent years; energy rates briefly spiked in 2022, but prices soon dropped again.

Renewable energy projects have benefitted from extensions of tax credits available under the Inflation Reduction Act in 2022, and projects also benefit from recent increase in NEPOOL Class 1 REC prices. The combined effects of recently changed costs and benefits are negative, however.

While RECs have increased in price, the marginal source of demand for RECs in the region comes from Massachusetts and Connecticut, and their ACPs limit the market price of RECs and CES certificates to levels which are below the ***SEA*** estimates of the ***CONE*** required by new supply. As a result, the overall supply of RECs and CES certificates from new projects remains limited, as only the most cost-effective of projects can be developed, and project attrition for development projects has become common.

At the same time, due to recent inflation, and reductions of the Massachusetts nominal ACP, the potential revenue in real terms to new projects from the sale of environmental attributes has declined significantly. The reduced nominal ACP, compounded by the subsequent inflation shocks and other industry challenges have

[9] NYSERDA filing August 28, 2023 on New York Public Service Commission case 15-E-0302, and 18-E-0071, see Appendix B-1, report by Industrial Economics, Inc.

resulted in Massachusetts ACPs for Class 1 RECs that are inadequate to support new supply. A similar change was made to the CES ACP, reduced from over $50 in 2020 to $35.

As further evidence for the cost shocks in the industry, and the need to ensure that renewable assets are able to earn sufficient revenue to attract investment and operate, there have been several PPA terminations, project cancellations, and attempts to reprice PPA. Such dynamics have played out with offshore wind projects in Massachusetts, Connecticut, and New York, onshore solar and wind in Maine and New York, and in other markets. Generally, regulators and utilities have been unwilling to accommodate requested price adjustments.

The outcome has sometimes been terminated projects and indicates the impacts from unanticipated inflation and other recent challenges are harmful to all stakeholders.

In situations such as the RPS and CES programs, where competitive market pricing is desired, and inflation shocks like those experienced in 2021 and 2022 were not anticipated, Glenvale believes that restoration of the "but for" market conditions is a proper remedy. Glenvale will present suggestions for improving clean energy supply later in this white paper.

In summary:

1. The capital intensive and fixed cost structure of renewable assets requires adequate and significant contracted income to support project financing.
2. Project costs have increased significantly in recent years, leading to high attrition rates, and increasing the expected operating revenue for projects to be developed.
3. Operating revenue available to renewable projects have not increased significantly in recent years, although increases in REC prices have occurred, and been helpful. Increased federal tax credits partially offset capex increases for some projects.
4. ACPs for Class 1 RECs and CES certificates in Connecticut and Massachusetts are below the CONE, and many planned projects are uneconomic at the current ACP.

5. In order to be profitable and to secure financing, renewable energy projects need price and structural accommodations from the policy based environmental attribute markets in New England. Increased revenue from environmental attributes (RECs and CECs) is required to finance development of new clean energy projects, while improved contract terms for new projects will help them access initial project financing.

3. State Level Recent History on ACP and RPS:

Each state with an eligible product has had key dynamics to consider within the last several years, worth noting individually. The New England environmental attribute market rules are set by each state though generally have similar requirements. Some minimal differences on eligibility exist within the ISO-NE control area and adjacent control areas; they all operate on the same vintage year and principles.[10]

Connecticut

In 2021 Connecticut reduced its Class 1 REC ACP from $55 to $40 on a nominal basis; Connecticut had no annual ***CPI*** adjustment at the time, and none was instituted when the reduction was made. Since then, the New England CPI has increased by 14.8%, resulting in an ACP of roughly $35 in 2021 terms.[11] The reduced ACP is now below the figure that SEA has identified as the CONE in recent issues of ***REMO***.

Connecticut has limited supply of onshore renewable energy resources and has indicated that offshore wind is its preferred form of renewable energy in the long term. Connecticut's first offshore wind PPA was recently cancelled by the developer, citing

[10] Some eligibility differences across states; for instance, New Hampshire allows biomass, and Connecticut allows fuel-cells. Massachusetts permits eligible projects that became operational after 1997, and qualifies assets from all six New England states, New York, and the provinces of Quebec, New Brunswick, Prince Edward Island and Nova Scotia. Generation and compliance are measured on the calendar year. Compliance entities are allowed limited year-to-year banking, while generators may not bank.

[11] The New England CPI as published by the U.S Bureau of Labor Statistics, and which recorded annual 12-month price change since January 2021 of 6.3%, 6.0%, and 2.3%.

challenging economics due to inflation and supply chain disruption. A new RFP was released in late 2023, in collaboration with Rhode Island and Massachusetts.

Maine:

Maine established a new RPS goal in 2019, and established a Class 1 carve-out, Class 1A, which aligned eligibility with the southern New England states. Maine's Class 1 RPS is not aligned with qualification rules in other states, but Class 1A has inter-state alignment. Maine's ACP for Class 1A is currently $50, non-escalating.[12]

Maine has procured energy, but not RECs, from many new projects over the past ten years. The Class 1 RECs from these projects are available in other markets and will be a key source of Class 1 REC supply to the other New England states in the coming years.

Massachusetts

Massachusetts established a Class 1 CPI linked ACP at $50 in 2000; it exceeded $70 in 2020, but then reduced over a three-year period to $40, and the annual CPI adjustment was eliminated. Recent above-trend inflation has further reduced the Class 1 ACP in inflation-adjusted terms.

In the public discourse regarding the decision to reduce the Class 1 ACP, the justification included the following:

- A higher ACP than other NEPOOL markets exposed ratepayers to unnecessary risk; and
- Project costs didn't seem to justify a need for such a high ACP.

The recent changes also liberalized the ability to import unbundled RECs from adjacent areas to New England, to make it easier to import RECs and keep prices low.

Proposed Massachusetts offshore wind projects have also struggled recently, with two PPA defaults. In coordination with Rhode Island and Connecticut, the

[12] Legislation allows Maine's Class 1/1A ACP to be reviewed and potentially adjusted by the ***MPUC*** each year; in every year since it was set at $50 in 2020, the MPUC has not adjusted the ACP.

Commonwealth recently issued a new RFP for offshore wind, with responses due in early 2024.

Massachusetts' CES program has an ACP currently set at $35, and NEPOOL Class 1 RECs can be used to satisfy CES requirements. When the CES is under-supplied, it will provide additional demand for NEPOOL Class 1 RECs. When the CES is short, it will provide an alternative and lower ACP option for entities with both types of compliance requirements. CES is currently ~4% of load.

Massachusetts also has a CES-E program for certificates produced by existing hydro and nuclear generators in select New England states and Maritime provinces.

New Hampshire

New Hampshire's renewable energy requirements have been stable for some time. It's Class 1 ACP is adjusted each year for 50% of CPI, and in 2023 exceeded $61. New Hampshire's RPS requirements are largely met by in-state biomass projects ineligible in other New England states. The largest New Hampshire generator, Burgess, supplies 520,000[13] RECs per year, and is at risk of closure due to the expiration of state financial support. Burgess filed for Chapter 11 bankruptcy on February 15th, 2024, and announced that it intends to continue operating.

Rhode Island

In 2022 Rhode Island significantly accelerated its RPS to reach 100% by 2033. This results in a sizeable annual increase of between 310,000 and 700,000 RECs per annum. Rhode Island's ACP is CPI linked; in 2023 it is over $80, the highest in New England. Prices have not recently approached the Rhode Island ACP, as the Connecticut and Massachusetts ACPs set the marginal price.

Rhode Island recently joined Massachusetts and Connecticut in the coordinated 2023 offshore wind procurement.

[13] 2017 – 2022 average per EIA data; Burgess is the largest generator of RECs in New England, although as biomass generated, they are not eligible in most states.

4. Reasons for Suggested Changes to RPS and CES Programs

As recently as 2021, the ACP for Massachusetts Class 1 RECs exceeded $70, and increased annually based on CPI. Massachusetts reduced its ACP over three-years to a fixed value of $40 in 2023, similar to Connecticut, which had reduced its ACP to $40 from $55. At the time of the reductions, prices for Class 1 RECs had been in the $15-25 range, though there was a spike to the mid $40s in 2020 and 2021.

The reduced ACP has removed development support and withdrawn supportive price signals now that less-than-ideal market conditions are encountered by the development industry.

With increased development and financing costs, the CONE expressed in RECs, constant for forward energy prices and other assumptions, is currently above the $40 ACP.[14] Yet, developers and importantly, project finance providers, are unable to observe the price signals they need to invest in new projects. By limiting the price to a lower level, policy is restraining supply of renewable energy projects, with consequences such as:

- Encouraging projects to serve states with higher ACPs;
- Not stimulating new project development to supply CEC and Class 1 RECs;
- Increasing project attrition, for projects that can't build at the current ACPs;
- Diverting project developers and investment to other markets;
- Expose markets to further shocks (e.g.: supply chain, financing, inflation).

MDEP is correct to be concerned about other aspects of the market for CECs. While the maximum potential market price is of great concern for unbuilt assets, the ability to enter into long-term contracts is critical in order to enable projects to access debt markets.

Lenders to new renewable project developments calculate the amount of debt they will extend to a project on a number of underwriting criteria. The most critical one is ***DSCR***, which is calculated based on the expected revenue a project will receive in each year and measures the ability of a project to service its debt. Income that is under contract is treated favorably in DSCR calculations versus estimated revenue that is not

[14] SEA, REMO 2023 #1.

under contract. In addition, income that is contractually firm is typically favored versus income that is estimated. As a result, projects with forecast revenue from REC or CES sales, where the attributes are not under contract, can use only limited amounts of the projected income to service debt. In turn this limits the amount of debt that can be issued to fund project construction.

Encouraging or requiring Class 1 REC and CES purchasers to enter long-term contracts for RECs and CECs will have a meaningful impact on the ability of development projects to access project financing. This will help projects efficiently access capital, and increase the supply of new projects, and Class 1 RECs.

One example to consider is the former rule that allowed newly qualified entrants to the ISO -NE Capacity market to receive a fixed rate for Capacity and assured eligibility for seven years. This concept was made available to support the financing of new projects and ensure the availability of adequate resources to consumers. The MDEP could consider a similar program for renewable energy until a reliable supply of adequate resources is available.

In summary:

1. Connecticut, and then Massachusetts reduced their nominal ACP for Class 1 RECs to $40 in recent years. Soon afterwards an inflationary shock caused above-trend inflation of ~15%, further reducing the ACP in real terms.
2. General inflation at 2% per year is effectively going to reduce ACP in real terms annually, at a point in time when the ACP is already below the CONE.
3. The lack of long-term contracts for RECs for new assets also limits the supply of RECs. Long-term contracts are key to supporting the availability of debt financing and could actually offset reduced REC and CES certificate prices.
4. Providing remedies to the RPS and CEC markets by prices, confidence inspiring price signals and supportive contract structures will stimulate supply of assets, attract developers, and support the financing of projects in development.

5. Suggested RPS and CES Program Modifications To Encourage New Supply

While the Massachusetts CES and Class 1 RPS programs are important programs to support the Commonwealth's adoption of clean energy, they do not currently provide sufficient economic support to finance new renewable energy projects.

This is because the combination of short-term REC contracts favored by the compliance market, and the prices limited by ACPs, results in insufficient price signals to support new development projects.

In the following section, a number of suggestions which could be implemented to both the CES and Class 1 REC markets are presented at a high level. These suggestions fall into two categories, price-based concepts, and structural based concepts.

The best remedies to the current environmental market limitations would:

a) preserve and support competitive market principles;
b) be most useful to projects impacted by supply-side disruption (new projects);
c) limit any additional benefits to existing assets; and
d) apply the most limited intervention possible.

Price based suggestions include the following:

Suggestion One

Adjust the CES ACP to match the Class 1 REC ACP. This would set the CES ACP at $40 and ensure that compliance entities are unable to strategically select the program of lower ACP for non-compliance.

Further, due to the cross-eligibility and market dynamics, it is unlikely that the CES will be adequately supplied from sources other than Class 1 eligible sources. With a lower ACP, the CES program's similar eligibility essentially offers a choice for reduced compliance costs versus the Class 1 RPS, for entities with compliance requirements in both programs. This undermines the intended impact of the Class 1 RPS ACP.

Evidence of this problem is present in the RPS & APS Annual Compliance 2021 Report and Executive Summary, both published by the DOER. In 2021 energy suppliers

increased their banked Class 1 certificates by over 415,000, the first increase in four years, while also paying $51.9 Million in CES ACPs, which were set at $30 in that year.[15]

Suggestion Two

Adjust Massachusetts CES and Class 1 ACPs to Real rather than nominal dollars as of 2021. This would increase the ACPs by ~10% as of 2023,[16] and thereafter by a CPI based annual change. In this instance, an inflation measure would be established as of 2020, updated annually. This would offset the surprisingly high inflation experienced in 2021-23 and make the 2021 ACP a Real ACP as opposed to nominal.

As an alternative, an adjustment for the above normal inflation observed in 2021 and 2022 could be applied, likely a onetime 10-15% adjustment. This would essentially normalize the current ACPs to those that were adjusted downward several years ago, based on Real prices.

Suggestion Three

Establish a carve-out within the CES and/or Class 1 RPS for new projects. The carve-outs would have a higher ACP for projects operational after a date certain. Eligible projects would be eligible for both the carve-outs and the standard CES/Class 1 RPS.

This concept is complex, and supply/demand factors would require a lot of attention. It would result in new projects receiving, potentially, higher revenue for their CECs and RECs than existing projects, thereby supporting new development. If new projects turn out to not need as much revenue support, more competition will arrive, and drive prices down.

Suggestion Four

Increase Massachusetts CES and Class 1 ACPs to align with the Class 1 ACP policy prior to 2020. This is simple and easily explained, however would have the impact of

[15] Refer to downloaded reports posted on DOER's website: https://www.mass.gov/info-details/annual-compliance-reports-and-other-publications .

[16] Rhode Island's inflation adjuster registered a 12.6% increase from 2020 to 2023.

benefiting all projects selling Class RECs. This would cause windfall gains to older projects, including those located outside New England, as opposed to "policy projects".[17]

Suggestion Five

Increase Massachusetts CES and Class 1 ACPs to match Maine's Class 1A ACP, at $50. As with suggestion five, this is simple and easily explained change, would likely provide adequate breathing space for price formation around a viable price that is above CONE, and would be roughly in line, in real terms, with the ACP that was established by the last Massachusetts administration in 2021.

Structural suggestions include the following:

Suggestion Six

Provide enhanced volumetric eligibility for new projects, such as a 25% boost in certificates. In this case a project with generation of 1,000 MWH in a period, would mint 1,250 CEC or Class 1 RECs. Such a volumetric boost could be limited by factors such as:

a) Duration –eligibility for a set period, such as ten years from COD
b) Time of COD –only eligible for COD reached in set period (say 2024 – 2030)
c) Location/type of projects (i.e.: located within New England)
d) Energy contract –projects demonstrate energy savings to off-takers.

Suggestion Seven

Massachusetts conducts a long-term CEC/REC procurement or requires compliance entities to enter into long-term CEC/REC contracts. A procurement of no less than seven years, and up to twenty years is recommended.

The procurement specifications can be defined further based on stakeholder input, but might include features such as the following:

- only new projects eligible (say that reach COD in 2024-2030);

[17] By "policy projects", it is meant that the intended outcome of the CES (and RPS) programs are the development of new renewable energy projects to provide clean energy to Massachusetts, and that additional, new, projects are desired by the RPS and CES programs.

- provide long terms (say 15 years);
- buyers to be investor-owned utilities or entities with CES compliance requirements;
- provide enhanced banking privileges to buyers for the purchased certificates;
- allow buyers to trade/bank/retire CECs as Class 1 RECs, as long as CES requirements are met in the compliance year;
- limit project location to New England;
- provide community/economic impacts to Massachusetts and/or the state of origin in New England; and
- meet economic development, community development or other criteria.

In order to encourage projects to build and get online, the procurement could include bid fees, or seller security, that would result in costs to sellers for non-performance.

Another similar mechanism would be offering standard contract terms from a date certain (say January 1, 2025), where the day is near in the future; this would make sellers be incentivized to get projects constructed and operationalized quickly as the contract term is running.

A well-designed procurement would be accretive to both projects and the public sectors. If the contract term is sufficiently long to support financing versus bilateral contracts, the procurement may settle at a discount to how spot priced certificates would price and provide savings to ratepayers. However, by replacing forecast values with firm credit-worthy revenues, projects might benefit from enhanced financeability, and benefit even though they have somewhat reduced nominal revenue.

Suggestion Eight

Massachusetts provides a standard offer term contact for CES and Class 1 RECs to newly development qualified assets located in New England. Under the standard offer a project could elect a fixed-term contract, say ten-years, at a fixed rate (say 95% of the ACP). Projects would opt-in to an irrevocable forward contract for the term length for a certain volume, either fixed quantity or fixed percentage, of a project's generation.

Variations on the term and price should be considered. The MDEP could also consider enforcing some obligations on projects which opt-in, such as requiring them to demonstrate need, and requiring projects to meet criteria of import to MDEP. For instance, the contract might limit the % of REC/CECs that a project could sell under the standard offer and might require the project to sell a certain volume of RECs in Massachusetts through bilateral contracts as a condition of the contract. The program could limit the volume of any single project entered into by units, % of generation, or both, in order to protect against providing excessive support to any one project, and to protect against ratepayer costs.

6. Mass DEP Requested Comment Topics

Glenvale recognizes that it's comments in this paper may be broader than those requested by MDEP in its December RFI, however has provided these as a series of thoughts which Glenvale has been developing for some time which it believes may be relevant to MDEP's overall consideration of the CEC and RPS.

Glenvale also recognizes that this paper has not been presented within the requested timeframe of the RFI, and regrets that it was unable to provide it by January 19th, 2024. Glenvale became aware of the RFI shortly before the response date, and due to various obligations on our small team, was unable to provide comprehensive responsive comments by the due date. However, we hope the views contained in this paper are still helpful to share at this point.

Specifically in response to topics raised for response by MDEP in the RFI, Glenvale provides the following responses.

A. Options for Strengthening the Standard

a. Increase the ACP Rate

As Glenvale has noted in this paper, the CES ACP is not sufficient to support broad development of renewable energy projects in New England. When the ACP is considered in context of typical project development and operating costs, the

value of federal tax credits, current and expected interest rates, and revenues available from other sources, the ACP limits the supply of new projects.

Glenvale recommends that the CES ACP be increased and has provided a number of suggestions in Section 5 of this paper. At a minimum the CES ACP should be aligned with the Massachusetts Class 1 ACP. Secondarily, the CES and Class 1 ACPs should be increased to account for the impact of recent inflation.

b. Dedicate CES ACP funds to Supporting New CES Eligible Projects

Ideally accumulated CES ACP funds would be minimal, as compliance entities would achieve their requirements by retiring CECs.[18] However, for ACP funds that do accumulate, Glenvale supports the concept of using the funds to forward contract for CECs from development assets. Forward contracts support project financing, though require the buyer to have strong credit, or collateralize contracts. The ACP funds could be used to collateralize and administer forward contracts. Combined with increased ACPs, long-term contracts would be an effective tool to support new project development and increase supply of CECs.

The use of ACP funds to provide grants to projects could be quite complex. Glenvale recommends industry consultation with stakeholders from the project finance, development, and related legal communities if the concept of grants were explored further. Considerations, such as the timing of funding, recoverability of grants from failed projects, and the inter-creditor obligations and with tax equity and debt would arise. Grant funding could be used to support demonstration projects and environmental justice projects located in Massachusetts.

The RFI also explores the concept of off-setting obligations from one year, especially an under-supplied year, to a later year, that might be over-supplied, or have cheaper CECs. Glenvale recommends against such an initiative, as this feature would likely undermine market values of CECs and RECs in the under-supplied years, and therefore render it more challenging to finance and develop

[18] While it would be ideal for ACPs not to accumulate, Glenvale notes that in 2021 ACPs for CES program of almost $52 million were paid, and that substantial funds are available from this source. Glenvale anticipates continued shortages in the New England environmental attribute markets, and it is possible that continued substantial annual ACP payments continue to be made in-lieu of CES certificates.

new renewable energy projects. It would also require firm justification of a predicted over-supply in the near-term to compensate for an under-supplied year, and it is unlikely that will be the case for some time.

c. Add A New Project Requirement

Glenvale is in favor of CES and RPS requirements that would require compliance entities to meet a certain portion of their compliance requirements with certificates from new projects. As MDEP alludes to, such a requirement would also require a carve-out ACP, and the carve-out would need to be designed to encourage a higher value for the new projects. MDEP suggested the carve-out eligibility might be for three years, to align with common competitive energy supplier contracting terms. Glenvale believes longer terms could also be effective and doesn't see the need for the three-year limit – longer eligibility could result in less expensive carve-out certificates.

In Section Five of this paper, Glenvale identified other concepts that favor new projects, including one that provides volumetric bonuses for ten years to new projects, which avoids the need for carve-outs and separate ACPs.

Overall, Glenvale believes CES and RPS measures that directly and specifically support new projects would be effective, and in ratepayer interest. As the RPS has matured, higher certificate prices are benefiting a broad group of existing projects, while failing to direct economic support to new and future assets.

d. Require Long-term Planning

Glenvale supports the concept of establishing long-term planning for CEC contracts for new projects. Coupled with adjustments to ACPs, this type of measure would support the financing of new projects and incentivize CEC supply.

Glenvale noted thoughts on this matter in Section Five of this paper and suggested that term of no less than seven years, and up to twenty-years, could be impactful. Many features could be implemented with the contract length, such as restricting projects based on location or other preferential characteristics, or limiting single project volume in absolute terms, or to a certain percentage of a

project's generation. Sellers could also be required to supply a certain volume of certificates to the Massachusetts market on a competitive basis as a condition of entering into a long-term contract.

Compliance entities could receive enhanced rights regarding banking and other features under long-term contracts, so that they are not unduly inconvenienced by the planning requirements. Undoubtedly compliance entities would have other considerations for long-term contracts, which could likely be addressed with thoughtful program design, while sellers will also have considerations, such as counter-party identity and credit.

B. Options for More Comprehensive Clean Electricity Accounting

a. Adjust for Electricity Consumption at Source with Behind the Meter Generation

Glenvale notes that computation of all electrical energy used becomes increasingly relevant as CES requirements grow, and as distributed energy deployment grows.

b. Redefine the Numerical Percentage Standard

Glenvale does not have a view on this topic.

c. Count Hydropower used to comply with MA RPS CES Class II toward CES-II Compliance

Glenvale does not have a view on this topic.

d. Improve the Ability of the CES to Deliver Clean Energy When it is Needed

Glenvale believes that limiting certificate generation during negatively priced wholesale periods is unnecessary. Further, it would generate complex design, market pricing and operation considerations.

There is an expectation that energy storage will be commercially available in the coming years, and storage should provide a balancing role

between lower priced and higher priced periods. As a result, we will likely see a reduction, perhaps elimination, of negatively priced periods.

Additionally, program design issues arise such as what length of time would be negatively priced, and whether real time or day-ahead pricing would be used. If a renewable energy project settled day-ahead, and then negative real-time pricing were observed, would the project be penalized for unpredictable real-time effects? What if a project had an executed contract that required it to operate all hours, regardless of price?

Responses by rule makers in other RPS markets would matter also, as projects could simply sell the subject certificates into other eligible markets.

As a developer of solar projects, Glenvale is concerned that monthly, quarterly, and seasonal certificates may make it more difficult to predict CEC and REC values for solar projects, and in turn this may make it harder to finance projects.

Alignment of clean energy generation with energy usage patterns is needed for the complete transition to clean energy. Glenvale is curious if the combination of energy markets, capacity, and ancillaries, combined with clean energy markets can accomplish near-term policy goals in this direction, and suggests the MDEP look at this with experts knowledgeable in the requisite areas.

C. *Other Potential Program Improvements*

a. *Update CES Eligibility Criteria*

Glenvale does not have a view on this topic.

b. *Just Transition Fee*

Glenvale believes environmental justice and the support of project deployment in disadvantaged communities is critical for the energy transition, equity, and to ensure that maximal clean energy development opportunities are achieved.

Glenvale is supportive of a Just Transition Fee, such as that described in the RFI. Glenvale notes that in order for such a fee to work, the CES program needs to be a program that generators, already eligible to sell Class 1 RECs in Massachusetts and other states, would be attracted to sell into.

It should also be noted that the incidence, that is the cost, of the Just Transition Fees would ultimately be borne by a combination of ratepayers and generators; the level of intended fees should be considered with regard to that, given the obligations ratepayers will have for the increasing costs of the energy transition.

Glenvale would also support the use of ACP funds for such purposes and encourages the MDEP to consider applying funds for Just Transition purposes.

7. Conclusion

Massachusetts has been a national leader in environmental and energy policy over the past twenty-five years. The Commonwealth's RPS was ground-breaking, as was the Green Communities Act of 2008. Glenvale has no doubt that the Commonwealth's innovation will continue to be instrumental as the energy transition, and fight against climate change, occurs.

As a developer of renewable energy assets, focused on the day-to-day activities of development, Glenvale has a valuable perspective on the opportunities and barriers projects face. We see many ways project success rates can be increased. Glenvale has had a successful portfolio of projects, but we know of many solar projects in New England that have struggled in the past three to four years, where alternative RPS and CES market structures may have helped.

As a Massachusetts based team, we are deeply optimistic about the future of the Commonwealth's energy strategy, and hopeful that we can play a part in it. If there are clarifications of the thoughts in this paper that we can share, please let us know. If you would simply care to discuss them further, we would welcome the opportunity to do so.

Abbreviations & Definitions

ACP	Alternative Compliance Payment
CEC	Clean Energy Certificate (CES compliance certificate)
CES	Clean Energy Standard
CES-E	Massachusetts CES carve out for nuclear and imported hydro
Class 1	Environmental attribute from a new renewable resource (post 1997)
Class 1A	Maine Class 1 carve-out
COD	Commercial Operation Date
CONE	Cost of New Entry
CPI	Consumer Price Index
DOER	Department of Energy Resources (Massachusetts)
DSCR	Debt Service Coverage Ratio
GIS	Generation Information System
GWh	GigaWatt hour
ISO-NE	ISO New England
MDEP	Massachusetts Department of Environmental Protection
MPUC	Maine Public Utilities Commission.
MW	MegaWatt
MWh	MegaWatt hour
NEPOOL	New England Power Pool
NPV	Net Present Value
NY-PSC	New York State Public Service Commission
NYSERDA	New York State Energy Research and Development Authority
PPA	Power Purchase Agreement
REC	Renewable Energy Credit
REMO	Renewable Energy Market Outlook (commercial product from SEA)
RFI	Request for Information
RPS	Renewable Portfolio Standard
SEA	Sustainable Energy Advantage
SMART	Solar Massachusetts Renewable Target
SREC	Solar Renewable Energy Credit, Massachusetts Class 1 carve-out

Exhibit A

Table 1A: New England Class 1/1A/CES ACPs 2010–2030 [19, 20]

Year	MA Class 1	MA CES	CT	ME I/IA	RI	NH
2010	$ 60.93	n/a	$ 55.00	$ 60.92	$ 60.93	$ 60.93
2011	$ 62.13	n/a	$ 55.00	$ 62.13	$ 62.13	$ 62.13
2012	$ 64.02	n/a	$ 55.00	$ 64.03	$ 64.02	$ 64.02
2013	$ 65.27	n/a	$ 55.00	$ 65.28	$ 65.27	$ 55.00
2014	$ 66.16	n/a	$ 55.00	$ 66.16	$ 66.16	$ 55.37
2015	$ 67.07	n/a	$ 55.00	$ 67.07	$ 67.07	$ 55.75
2016	$ 66.99	n/a	$ 55.00	$ 67.00	$ 67.00	$ 55.72
2017	$ 67.70	n/a	$ 55.00	$ 67.71	$ 67.71	$ 56.02
2018	$ 68.95	n/a	$ 55.00	$ 68.87	$ 68.96	$ 56.54
2019	$ 70.44	n/a	$ 55.00	$ 70.44	$ 70.45	$ 57.15
2020	$ 71.57	$ 53.68	$ 55.00	$ 50.00	$ 71.58	$ 57.61
2021	$ 60.00	$ 30.00	$ 40.00	$ 50.00	$ 72.51	$ 57.99
2022	$ 50.00	$ 35.00	$ 40.00	$ 50.00	$ 75.34	$ 59.12
2023	$ 40.00	$ 35.00	$ 40.00	$ 50.00	$ 76.52	$ 61.18
2024	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 79.98***	***$ 63.95***
2025	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 81.83***	***$ 65.43***
2026	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 83.57***	***$ 66.82***
2027	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 85.22***	***$ 68.14***
2028	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 86.94***	***$ 69.51***
2029	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 88.75***	***$ 70.96***
2030	$ 40.00	$ 35.00	$ 40.00	$ 50.00	***$ 90.57***	***$ 72.41***

[19] Sources:

1. ME- https://www.maine.gov/mpuc/regulated-utilities/electricity/renewable-programs/rps
2. MA- https://www.mass.gov/info-details/annual-compliance-information-for-retail-electric-suppliers
3. CT- https://portal.ct.gov/-/media/PURA/2022-Clean--Renewable-Energy-Report.pdf
4. RI- https://rhodeislandres.com/wp-content/uploads/2022/02/RES-ACPRate.pdf
5. NH- https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/historic-alternative-compliance-payment-rates.pdf
6. CPI- https://www.statista.com/statistics/244993/projected-consumer-price-index-in-the-united-states/#:~:text=In%202022%2C%20the%20U.S.%20Consumer,increase%20to%20339.39%20by%202028.

[20] Values are per MWH; forecasts are in bold underlined italics (RI/NH 2024 onward).

Figure A2

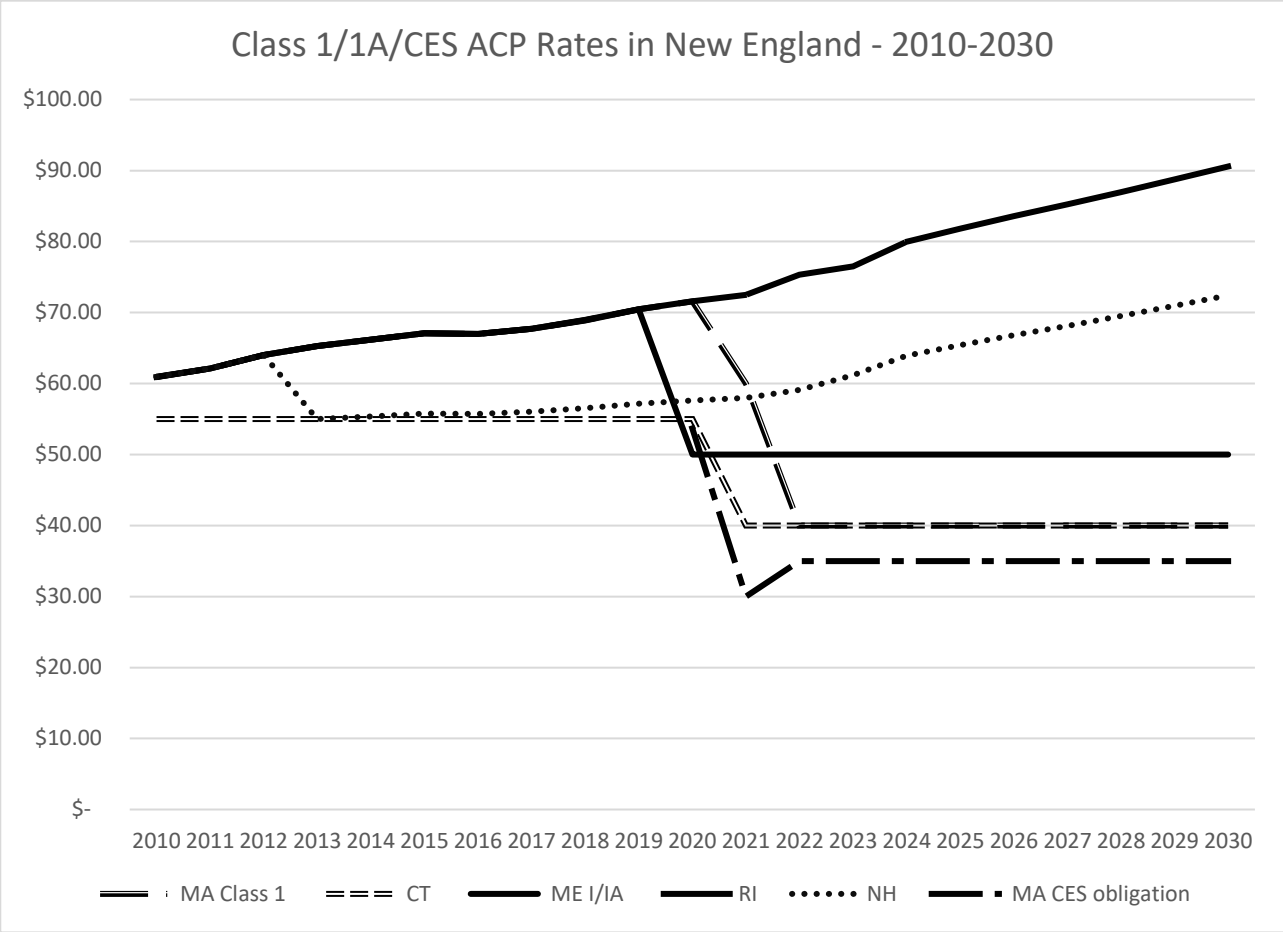

Class 1/1A/CES ACP Rates in New England - 2010-2030
$100.00
$90.00
$80.00
$70.00
$60.00
$50.00
$40.00
$30.00
$20.00
$10.00
$-
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030
MA Class 1
CT
ME I/IA
RI
NH
MA CES obligation

Exhibit B

New England RPS and CES Targets as of September 2023[21]

State	New RPS/CES Target	By Year
Maine	100%	2050
Massachusetts	35%	2030
Rhode Island	100%	2033
New Hampshire	25.2%	2025
Connecticut	100%	2040

[21] Source: https://www.ncsl.org/energy/state-renewable-portfolio-standards-and-goals .

Exhibit C

New England REC and CES Requirements to 2030[22][23]

Table C1: Estimated Five state Class 1/1A REC Obligations (figures in '000s) 2023–2030

Year	MA[24]	CT	ME[25]	RI	NH	Total REC Obligation
2023	6,977	6,940	2,266	1,525	1,159	18,867
2024	7,667	7,588	2,744	1,917	1,272	21,188
2025	8,127	8,093	3,173	2,348	1,363	23,104
2026	8,698	8,668	3,629	2,874	1,368	25,237
2027	9,265	9,240	4,086	3,401	1,373	27,365
2028	9,877	9,840	4,556	3,978	1,380	29,632
2029	10,950	10,447	5,033	4,600	1,389	32,418
2030	11,170	11,081	5,638	5,275	1,399	34,563

[22] Table updated in March 19, 2024 revision.

[23] Source: Energy Technologies Area, Berkeley Lab, Lawrence Berkeley National Laboratory: Renewables Portfolio Standards Resources. Data available, and routinely updated: https://emp.lbl.gov/projects/renewables-portfolio/ .

[24] Massachusetts figure excludes the Solar Carve-out.

[25] Maine figure includes Class 1 and Class 1A.

Table C2: Estimated Massachusetts Solar Carve Out, Class 1 and CEC obligations (figures in '000s), 2023–2030[26]

Year	Solar Carve-Out Obligation[27]	Class 1 Obligation[28]	Total Class I Obligation	CES (less Class 1) Obligation[29]	Total CES Obligation[30]	Total CES Obligation, Less Solar Carve Out[31]
2023	4,326	5,238	9,564	1,739	11,303	6,977
2024	4,690	5,902	10,592	1,765	12,357	7,667
2025	5,055	6,808	11,863	1,318	13,181	8,126
2026	5,419	7,816	13,235	882	14,117	8,698
2027	5,783	8,823	14,606	443	15,049	9,266
2028	6,148	9,877	16,025	0	16,025	9,877
2029	6,512	10,950	17,462	0	17,462	10,950
2030	6,877	11,170	18,047	0	18,047	11,170

[26] Source Energy Technologies Area, Berkeley Lab, Lawrence Berkeley National Laboratory: Renewables Portfolio Standards Resources.

[27] Includes RECs from SREC 1 and SREC II projects (SREC annual RPS obligation can vary, and is forecast by Berkeley Lab for years 2024 onward).

[28] Class 1 obligation is net of (deducted) forecasted Solar Carve-out obligation.

[29] CES certificate obligation in excess of Class 1 obligation in each year.

[30] Total estimated Class 1 and CES certificate requirement each year, including SRECs.

[31] Total estimated Class 1 and CES certificate requirement each year, excluding SRECs.

Figure C3: Data from Table C2 graphed

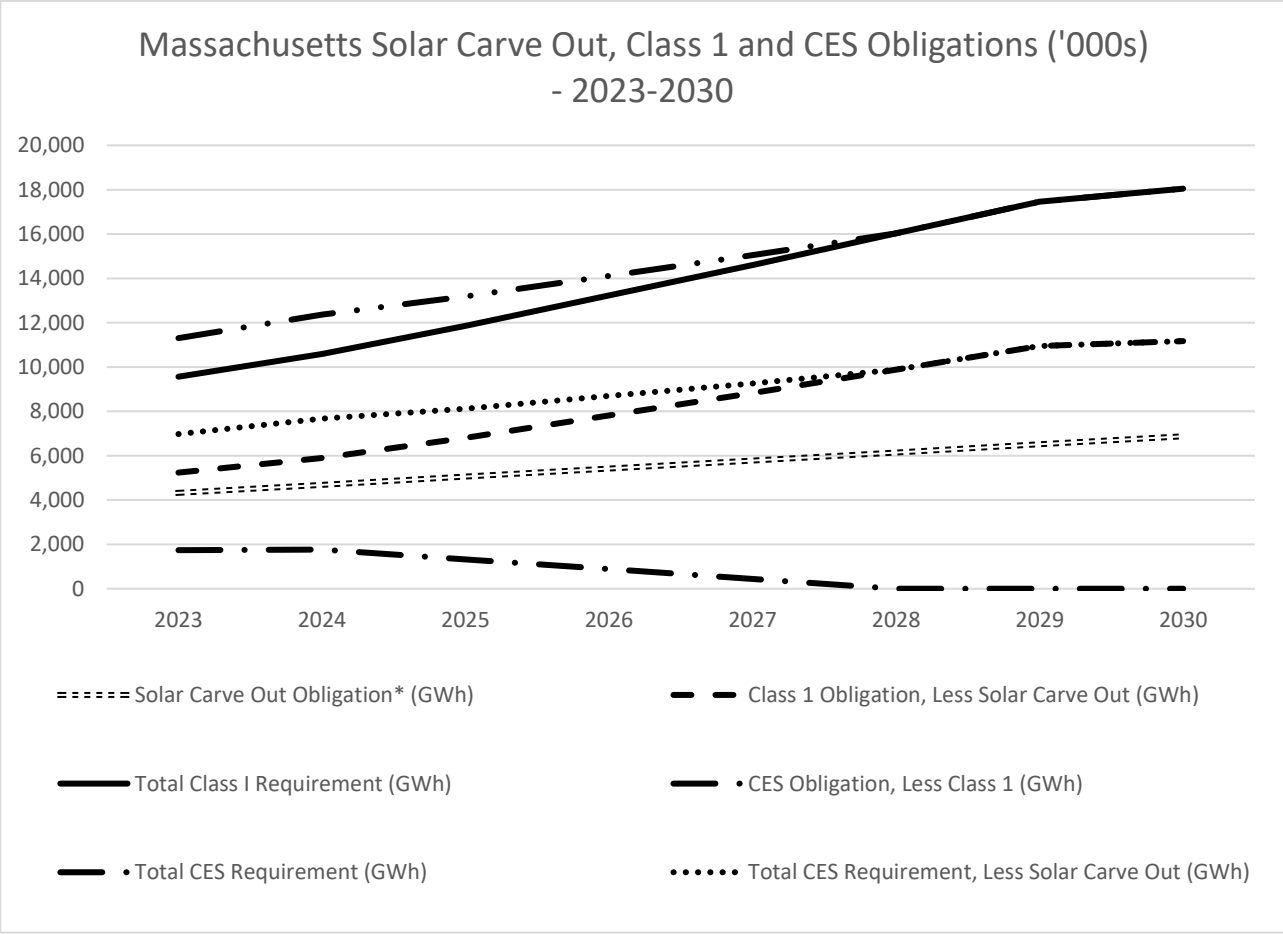


Exhibit D

State and Province of Origin for Eligible New England Class 1 RECs[32]

Province/State	Hydro (MW)	Landfill Gas (MW)	PV (MW)	Wind (MW)	Total (MW)	Estimated Generation (GWh)	% of Qualified Generation
Assumed Capacity Factor	**45%**	**80%**	**15%**	**35%**	**37%**		
Ex- New England							
Nova Scotia	-	-	-	78	78	239	0.9%
Prince Edward Island	-		-	99	99	304	1.1%
Quebec	-	10	-	211	221	717	2.7%
New Brunswick	-	-	-	335	335	-	3.8%
New York	49	113	38	2,154	2,354	7,638	28.3%
Sub-total: Ex-New England	**49**	**123**	**38**	**2,878**	**3,087**	**9,925**	**36.7%**
New England							
New Hampshire	146	24	135	212	516	1,569	5.8%
Connecticut	1	6	272	-	279	402	1.5%
Maine	107	7	563	958	1,636	4,149	15.4%
Rhode Island	1	42	384	80	507	1,046	3.9%
Massachusetts	99	46	156[33]	572	873	2,672	9.9%
Vermont	53	11	275	143	483	1,088	4.0%
Sub-total: New England	**406**	**136**	**1,786**	**1,966**	**4,294**	**10,927**	**40.4%**
Massachusetts In-State Solar (SREC and SMART)	- -	- -	4,691	- -	4,691	**6,165**	**22.8%**
Total Class 1 Eligible	**454**	**259**	**6,515**	**4,844**	**7,380**	**27,017**	**100.0%**

[32] Massachusetts DOER RPS Class 1 Renewable Generations Units report, data updated as of 06/01/2023; estimated generation represents full year for all qualified units at the specified capacity factor. Estimated generation for power plants only, and data does not represent any volume of RECs that was retired on NEPOOL GIS.

[33] PV in Massachusetts that is not SREC 1, SREC II or SMART registered.

Back to all blogs

STRENGTHENING THE MASSACHUSETTS CLEAN ENERGY STANDARD

Larry Chretien | January 10, 2024

This month, the Mass. Department of Environmental Protection (DEP) is taking comments on a **discussion document** about potential new rules to strengthen the Mass. Clean Energy Standard (CES), which sets a minimum percentage of electricity sales that must come from new clean energy sources. According to the discussion document, DEP is considering these changes to align the CES with the greenhouse gas reduction requirements of the Clean Energy and Climate Plan and specific emission sublimit for the electricity sector. Green Energy Consumers has reviewed the discussion document, is very pleased by the proposed changes, and encourages citizens to express support.

CES Changes We Love: There are two suggested policy options in the discussion document that we feel are particularly important and welcome.

Increasing the Alternative Compliance Payment

State – Class I	2023 ACP ($/MWh)
MA CES	$35.00
MA RPS	$40.00
CT	$40.00
ME	$50.00
NH	$59.58
RI	$76.53

Under the current rule, if a supplier does not meet its obligation to include the specified percentage of clean energy in its portfolio for a given year, it can make an Alternative Compliance Payment (ACP). Dollars paid to the Commonwealth via the ACP are used to support new clean energy projects. Under former Governor Baker, the Mass. ACP was reduced to the lowest in our region.

There are two consequences of this. First, suppliers in the other New England states have a greater incentive to procure clean energy resources. Second, to the extent that alternative compliance payments are made, Massachusetts could be generating more income for clean energy projects.

The above chart shows the ACP for clean energy standards in the states across our region.

Accounting for Behind-the-Meter Generation

Under current rules, the CES percentage each year is based on how much electricity is sold by National Grid, Eversource, or Unitil, rather than how much electricity is consumed. When an electricity customer puts solar on their property and net meters, the amount of electricity bought by the customer from the utility is reduced by the amount of solar they generate. This type of generation is called Behind-the-Meter and contrasts with the generation that goes directly into the grid. Therefore, for every megawatt hour of solar generated behind-the-meter, there is less than one megawatt-hour of solar contributing to the CES. DEP is suggesting that the CES be set higher to account for behind-the-meter generation. This would be an excellent improvement in the accounting process and raising the CES in such a way would significantly reduce emissions from the electricity. If adopted this year, it would increase the CES by about five percent (5%).

Respectful Disagreement on Two Things

Just Transition Fee

DEP is considering the establishment of a Just Transition Fee that would be financed by a fee on transactions involving resources that qualify for the CES. Money from these fees would support the siting of CES projects in ways that improve social equity, such as low-income solar. We love half that idea, creating a Just Transition Fee. But in our view, the Just Transition Fee should be placed on fossil fuel generation rather than clean energy. In fact, Massachusetts and other states in the Northeast are currently reviewing options to make the **Regional Greenhouse Gas Initiative** stronger in this respect.

Adding a Timing Component to the Standard

Currently, the CES is met by clean energy generation regardless of when it is produced. DEP is considering the exclusion of clean energy generation during periods when demand is low and wholesale electricity prices are negative. We see two issues with this idea. First, it fails to recognize that as electric vehicle and stationary storage adoption increases in the Commonwealth, it would be beneficial to encourage owners of EVs and storage to charge up during those periods of low demand and low wholesale prices to balance out the grid. Second, adding a time element to the standard would be very difficult to implement and oversee. Quite frankly, the topic of managing clean energy supply and demand is a major aspect of grid modernization that needs to be addressed by several state agencies, including DEP, but also the Department of Energy Resources, and the Department of Public Utilities.

Civic Engagement

MassDEP requests comments on the discussion document by January 19th, 2024, and will hold virtual stakeholder meetings on January 11th at 11:00 AM and 5:00 PM (advance registration required). Register for the 11:00 AM meeting **here**. Register for the 5:00 PM meeting **here**. The DEP discussion document is four pages long and touches on some other potential changes beyond those referenced above that may be of interest to you. You can find information on the CES and the discussion document **here**.

TAGS:

ENERGY POLICY & ADVOCACY, MASSACHUSETTS, CLIMATE CHANGE, ACTION ALERT

Comments

John Howard 1/15/2024, 11:42:31 AM

Municipal electric electric plant towns need to the under the same climate change rules as the rest of the state. This is true with net metering.

Reply to *John Howard*

Hydro Québec

Energy Services

January 19, 2024

Via Email: climate.strategies@mass.gov

Re: HQUS Comments on the MassDEP Discussion Document Strengthening the Clean Energy Standard December 2023

Hydro-Québec ("HQ") through its U.S. subsidiary H.Q. Energy Services (U.S.) Inc. ("HQUS"), appreciates the opportunity to submit comments on the Massachusetts Department of Environmental Protection's supplemental program review to consider options for strengthening the ability of the Clean Energy Standard ("CES") to support clean energy development in line with the latest Clean Energy and Climate Plans and GHG emission sublimits. HQ supports continued actions to refine this program to maximize clean energy deliveries and associated benefits to Massachusetts in the most efficient manner.

Introduction

HQ is the largest generator of clean energy in North America, with a generation portfolio comprised of close to 37,000 MW (nearly 100% of which is renewable energy). For decades, HQ has played a significant role in the continuing decarbonization of the New England electricity system through the delivery of clean, and renewable electricity and electricity products.[1] Energy supplies sourced from HQ have not only contributed to New England's clean energy and decarbonization goals but have provided considerable reliability and economic benefits to the region. It is our intention to continue delivering renewable supply to New England through the development of the New England Clean Energy Connect ("NECEC") [2] project. In the future, we look forward to exploring additional opportunities for bidirectional trade in electricity between our regions.

Furthermore, HQ has extensive experience as a supplier in various New England State Renewable Portfolio Standard ("RPS") programs, the CES-E, and regional clean energy procurements. Moving forward, we envision greater interregional coordination to leverage the dispatchable and long-duration storage capabilities of the HQ system to integrate large volumes of renewable resources more efficiently into the New England grid.

[1] Average HQ exports to New England in recent years represented 12% of the 137 TWh of net load published in the ISO-NE 2022 CELT Report.
[2] NECEC will be a 1,200 MW 345 kV HVDC transmission line that will deliver clean energy from HQ and interconnect to the ISO-NE transmission system at Lewiston, Maine.

HQ offers the following recommendations designed to strengthen and expand the clean energy partnership between Québec and Massachusetts through the CES and to ensure that this partnership will continue to provide value to New England as the grid evolves:

1. **HQ supports increasing alternative compliance payment rate to ensure the CES remains competitive in attracting and retaining clean energy supply.**

2. **HQ cautions against instituting program changes to exclude clean energy generated during periods of negative wholesale electricity prices from generating CECs.**

3. **Any program design changes should endeavor to enhance market efficiency and promote balance with achieving broader clean energy objectives.**

These recommendations are designed to ensure the CES continues to provide a competitive and robust market to attract clean energy deliveries and ensure cost effective achievement of the Commonwealth's clean energy and decarbonization goals.

1. *HQ supports increasing the alternative compliance payment rate to ensure the CES remains competitive in attracting and retaining clean energy supply.*

HQ agrees with the Massachusetts DEP Discussion document that raising the alternative compliance payment (ACP) rate will have the benefit of both (1) supporting development of additional clean energy made available to Massachusetts and (2) ensuring the CES provides competitive incentives to attract clean energy suppliers compared to alternative programs in surrounding jurisdictions.

Ensuring the economic competitiveness of the CES is critical, as the demand for clean energy continues to increase in the Northeast through growth in alternative clean energy incentive programs, such as state sponsored policy programs, wholesale market products, and voluntary clean energy purchases. Increasing demand for clean energy attributes is particularly relevant for the sale of environmental attributes sourced from HQ hydropower resources, as HQ is directly connected to multiple markets and has direct access to participate in numerous programs incenting clean energy deliveries in response to decarbonization objectives. Today, HQ provides a significant quantity of Clean Energy Credits to Massachusetts through the CES-E program. These transactions are based largely on the competitive market dynamics of the wholesale and clean energy market in Massachusetts compared with alternative opportunities for clean energy sales in neighboring markets. These market conditions can, and do, change, and are expected to evolve rapidly as competition for the environmental and operating characteristics of large-scale hydropower continue to grow in value across the region.

A periodic increase in the alternative compliance payment is a common mechanism in renewable credit programs, designed to reflect increasing development costs, as well as growing demand for clean energy projects. This adjustment will work to ensure that the CES remains a competitive market for clean energy suppliers with access to alternative markets by increasing prices during periods of tight supply and retain clean energy deliveries to Massachusetts.

2. *HQ cautions against instituting program changes to exclude clean energy generated during periods of negative wholesale electricity prices from generating CECs.*

Massachusetts DEP Discussion Document proposes to add a requirement that clean electricity considered under the CES be generated when there is corresponding demand for electricity in Massachusetts. Massachusetts DEP suggests two options to improve the timing: 1) to exclude clean energy generated during periods of negative wholesale prices; or 2) to transition the CES to quarterly or monthly compliance periods.

While HQ understands Massachusetts DEP's intention to incent the generation of clean energy when it is needed, we believe the proposed changes would impede the ability of the parties to trade CECs on a forward basis since supply and demand for CES would be dependant on periods of negative LMPs – that are difficult to forecast ahead of time – or by reducing buyers and seller's ability to adjust their position throughout the year. In the end, if adopted the proposed changes would reduce parties' ability to hedge their positions in the market and create additional risks that may impede deployment of new clean resources.

Furthermore, we believe that the proposed changes would make CES accounting overly complex, and HQ does not believe these changes are necessary. To exclude clean energy generated during periods of negative prices, important modifications would be required to the NEPOOL GIS to allow hourly tracking of the attributes or to, at least, establish a parallel validation allowing to exclude a portion of a resource's generation to trade CES.

Measures already exist to dissuade suppliers from generating when energy is not needed. Many suppliers have committed the output of their resources to EDCs through power purchase agreements (PPA) that include clauses prohibiting the delivery of the energy when LMPs are negative. And for resources without a PPA, suppliers clearly have incentives to generate electricity when it is most valuable for the market i.e., when prices are the highest.

In place of excluding clean energy generated during periods of negative prices, efforts should be made to maximize clean production available to New England and further optimize the value of this clean energy toward serving demand and achieving decarbonization objectives. For instance, utilizing bidirectional transmission between Québec and New England and HQ's extensive reservoir storage capability to absorb, store, and redeliver excess renewable production back to New England during periods where this energy will have a greater contribution toward displacing high priced and high emitting generation.[3]

3. *Any program design changes should endeavor to enhance market efficiency and promote balance with achieving broader clean energy objectives.*

The Massachusetts DEP Discussion Document proposals for adding a new project requirement to support recent vintage clean energy resources and a Just transition fee are based on laudable intentions. And HQ supports efforts to incent the development of new clean

[3] Coordination between HQ and Massachusetts will be required to address barriers and implement necessary regulatory and market policies to fully capture the benefits of greater two-way electricity exchanges between the regions.

resources deliverable to Massachusetts and low-income communities if implemented appropriately.

In consideration of the design and implementation of these proposals, HQ strongly urges that the efficiency of the CES to deliver the most cost-effective solutions to Massachusetts be preserved while avoiding unintended consequences. For instance, providing a premium or carve out to attract newer vintage resources in the CES may come at the expense of the continued delivery of more economic existing clean resources. Since every ton of avoided emissions has the same environmental benefit regardless of the displacement action, any ancillary objectives associated with clean energy policies should be evaluated and weighed within the greater context of market efficiency and affordability.

A Just transition fee requiring clean energy resources to pay an additional cost associated with qualification and/or transactions would provide revenue to support investment in low-income communities. HQ supports actions to increase environmental justice throughout the Northeast in all our clean energy projects and within the markets we serve. However, additional fees may result in a competitive disadvantage for the CES compared to alternative clean energy programs which do not include such a fee.[4] Therefore, HQ supports a Just transition fee, if implemented in a manner that balances costs with benefits and preserves the economic competitiveness of the program.

Conclusion

The CES represents a crucial tool in leveraging the clean energy partnership between HQ and Massachusetts and working toward achievement of the Commonwealth's clean energy transition. Continued action to refine and improve the program are warranted given the dynamic nature of the energy environment in New England and throughout the Northeastern United States and Eastern Canada, but care should be taken to preserve the underlying market efficiency and competitiveness of the CES in attracting and securing clean energy supply. The recommendations presented above will help strike this balance and ensure that Massachusetts retains and grows its access to clean energy resources throughout the CES.

Serge Abergel
Chief Operating Officer
H.Q. Energy Services (U.S.) Inc.

[4] Balancing the higher benefits and costs of implementing a Just transition fee may prove difficult, and an alternative approach which raises revenue from polluting generation would be more productive, without the potential unintended consequence of discouraging clean generation.

LOW IMPACT HYDROPOWER INSTITUTE

1167 Massachusetts Avenue, Arlington, MA 02476 | www.lowimpacthydro.org

February 2, 2024

Commonwealth of Massachusetts,
Department of Environmental Protection,
100 Cambridge Street Suite 900,
Boston, MA — 02114.
Submitted via email to climate.strategies@mass.gov

Re: Request for Comments on Massachusetts Department of Environmental Protection's 'Strengthening the Clean Energy Standard' Discussion Document.

Dear Commissioner Heiple,

The Low Impact Hydropower Institute (LIHI) appreciates the ongoing efforts of the Massachusetts Department of Environmental Protection (MassDEP) to advance the state's clean energy goals, yet, is concerned about the proposed options for programmatic changes outlined in MassDEP's Discussion Document on 'Strengthening the Clean Energy Standard'[1] that could risk *weakening* the Clean Energy Standard (CES) program further. LIHI echoes and supports the comments of Professor Eve Vogel from the University of Massachusetts Amherst.[2] Notably, and perhaps ironically, the proposed options to strengthen the CES program will likely provide *more* incentives to hydropower projects that do *less* for environmental stewardship and meet *lower* transparency and accountability standards compared to projects that are eligible for the state's Renewable Portfolio Standard (RPS) program. As MassDEP explores options to strengthen the CES program, it must ensure that hydropower projects eligible for the CES program meet or exceed the environmental and social protections of the RPS program.

Hydropower plays a key role in advancing Massachusetts' clean energy goals. Hydropower provides reliable generation and supports the integration of intermittent renewables into the New England grid. At the same time, hydropower can have serious impacts to rivers and the people, fish, and wildlife that depend on them. Recognizing the unique challenges and impacts of hydropower operations, the Commonwealth took an innovative and effective step in 2008 of granting renewable energy credits and the accompanying revenue, only to hydropower owners that meet key environmental requirements laid out in the Green Communities Act of 2008 (GCA). In implementing the GCA, the Department of Energy Resources (DoER) required

[1] MassDEP Discussion Document 'Strengthening the Clean Energy Standard,' December 2023. Available at: https://www.mass.gov/doc/discussion-document-strengthening-the-ces/download
[2] Eve Vogel, UMass Energy Geographies and Politics Project, Comments on the "Clean Energy Standard Discussion Document, "MassDEP Discussion Document: Strengthening the Clean Energy Standard, December 2023."

hydropower facilities to obtain the Low Impact Certification by LIHI[3] to reliably demonstrate meeting GCA's environmental requirements on an ongoing basis. Since 2008, LIHI has issued 29 certifications in Massachusetts and 113 certifications in the New England and New York region representing over 5,997 Gigawatt-hours of average annual generation. The certifications in Massachusetts alone represent at least 65% of the state's and 40% of New England's eligible hydropower, respectively. Massachusetts' approach has regional environmental benefits: LIHI Certified projects in New England and New York make up 92% of Class 1 qualified and 98% of Class 2 qualified RPS projects *because* MA requires hydropower projects to meet stringent environmental requirements. As such, the GCA and DoER approach to including only socio-environmentally high performing hydropower projects in the RPS program has ensured that these projects remain economically viable while protecting and continually investing in the region's fragile ecosystems. This approach has earned broad support of Massachusetts' environmental community and has been used as a model by other states.

The proposed options outlined in the 'Strengthening the Clean Energy Standard' undermine Massachusetts' hitherto successful efforts of only supporting hydropower projects that operate in a socio-environmentally responsible and transparent manner. As discussed in Professor Eve Vogel's comments, the proposed options contemplate including generating sources in the CES program that were excluded from the RPS program because of their negative impacts, and risk paying more in credits to hydropower projects that do not meet the same standards of environmental stewardship, accountability, and transparency, as their RPS counterparts.[4] This misalignment between the revised CES and existing RPS programs will be a detriment to both programs at best; at worst, it could negatively impact the economics of projects that currently participate in the RPS program and, ultimately, have devastating effects on the state's river systems.

As MassDEP explores options to strengthen the CES program, it must ensure that hydropower projects that qualify for the program remain good stewards of their ecosystem; anything less would be a step backwards in Massachusetts' commitment to reducing the environmental and social impacts of the energy sector. MassDEP should require hydropower projects to demonstrate, *at a minimum*, environmental and social protections commensurate with the RPS program to become eligible for the CES program and associated incentives, for both existing and new generation. Projects should only be paid more for doing more. In this context, LIHI's Low Impact Hydropower Certification can continue to offer the most reliable science-based assurance of hydropower projects' socio-environmentally responsible performance. LIHI Certification can provide a standard baseline across hydropower projects regardless of their size and regulatory status to drive towards low-impact clean energy generation and ensure ongoing monitoring of project operations to safeguard river protection.

[3] Low Impact Hydropower Institute. Criteria & Standards. Available at: https://lowimpacthydro.org/certification-programm/
[4] Eve Vogel, UMass Energy Geographies and Politics Project, Comments on the "Clean Energy Standard Discussion Document, "MassDEP Discussion Document: Strengthening the Clean Energy Standard, December 2023," pp. 3–5.

LIHI supports MassDEP's efforts to solicit stakeholder input to improve the CES program and is eager to assist in developing policy alternatives to support hydropower projects that put people and the environment first.

Sincerely,

/s/ *Surabhi Karambelkar*
Surabhi Karambelkar
Policy Director

/s/ *Shannon Ames*
Shannon Ames
Executive Director

Brown, Jason R (DEP)

From: Marcia Young <marciamey5@gmail.com>
Sent: Thursday, January 18, 2024 2:11 PM
To: Strategies, Climate (DEP)
Subject: MassDEP Clean Energy Standard

It is becoming more and more apparent that Renewables (wind & solar) are not up to the task of being the major source of clean energy. The most important thing we can do to strengthen the Clean Energy Standard is to designate **nuclear power** as "clean".

Nuclear power has been overlooked in our quest to address climate change due to misinformation and negative propaganda. The true history of nuclear power is impressively safe and reliable. It produces no CO2 and no pollution. Nuclear waste is small in volume and totally sequestered from the environment - unlike toxic solar panels that are likely to end up in landfills, and wind turbine blades that are too large for disposal in land.

Renewables are destined to wreak havoc with our Grid because of their intermittent performance characteristics. We are headed to rolling blackouts as more and more electricity is generated from renewables. There are no adequate plans for sufficient backup and, if you calculate just the mineral requirements for battery backup, you will discover that there are not sufficient mineral resources on the planet to serve this need, not to mention the dependence on China or the impact of such intensive mining on our ecology.

Renewables may have a role in addressing climate change, but relying on them to be the major source of energy is foolhardy. Please add nuclear power to the list of designated "clean " energy.

Marcia Young
Westford MA
Sent from my iPad

nationalgrid

February 27, 2024

Via email to: climate.strategies@mass.gov

William Space
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

Re: National Grid Comments on Strengthening the Clean Energy Standard

Dear Mr. Space:

On behalf of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid ("National Grid"), I offer for your consideration clarifying comments to National Grid's comments submitted January 19, 2024 ("Initial Comments") on the Commonwealth of Massachusetts Department of Environmental Protection's ("MassDEP") options to strengthen the Clean Energy Standard ("CES") regulations, 310 C.M.R. 7.75, to increase new clean energy supply and to ensure that the energy is counted towards Massachusetts' clean energy goals, shared in its Stakeholder Discussion Document, "Strengthening the Clean Energy Standard December 2023" ("Discussion Document").[1]

Specifically, National Grid's clarifying comments relate to the MassDEP's proposal to Update CES Eligibility Criteria. The Company addressed this proposal in Section 9 of its Initial Comments. The Company would like to replace Section 9 of its Initial Comments with the following (additional language is italicized):

9. Update CES Eligibility Criteria

MassDEP proposes to modify CES regulations for CES-eligible resources in order to align with recently proposed EPA standards regarding GHG emissions. Specifically, a CES resource must have a 50% reduction in GHG emissions as compared to an existing natural gas generator. MassDEP proposes changing the GHG emissions reduction to 90% to align with the proposed EPA standards.

[1] The options provided by MassDEP are: (1) increase the Clean Energy Standard ("CES") Alternative Compliance Payment ("ACP") rate; (2) dedicate CES ACP funds to support new CES-eligible projects; (3) add a new project requirement which is essentially a new category of certificates to be procured; (4) require long-term planning such as requiring multiyear contracts with clean energy generators; (5) adjust compliance load obligations higher to account for electricity consumption at sites with behind-the-meter ("BTM") generation; (6) redefine the numerical percentage standard applicable to load for the different requirements; (7) count hydropower used to comply with the Massachusetts Renewable Energy Portfolio Standard ("RPS") Class II toward CES compliance for existing resources; (8) improve the ability of the CES to deliver clean energy when it is needed; (9) update eligibility criteria to become a CES resource; and (10) create a just transition fee. Available at: https://www.mass.gov/doc/discussion-document-strengthening-the-ces/download.

Because National Grid supports lower emissions, it generally supports this update to CES eligibility. However, it may be appropriate to wait to modify the CES regulations until the revised EPA standard is finalized. *Additionally, National Grid proposes that the GHG emissions reduction to 90% should not be applied to any generation unit that is a hydroelectric generator that has a nameplate capacity greater than 30 megawatts.*

National Grid submits these clarifying comments in the hopes of ensuring that the generation from its contract executed pursuant to St. 2016, c. 188, s. 12, amending St. 2008, c. 169, which is commonly referred to as Section 83D of the "Green Communities Act," as well as generation from any other large hydroelectric resources, will continue to qualify for Clean Energy Certificates under the CES. Hydroelectricity from large generators is projected to be instrumental in allowing the Commonwealth to meet its clean energy goals, and the proposed modifications in the Discussion Document may jeopardize this by changing the CES eligibility criteria.

National Grid appreciated the opportunity to provide its Initial Comments on these possible options to strengthen the CES, and thanks MassDEP for its consideration of these clarifying comments. If you have any questions, please do not hesitate to contact me at 516-315-0366 or by email at: Christopher.Meyer@nationalgrid.com.

Very truly yours,

NATIONAL GRID

Christopher L. Meyer

Director, Wholesale Electric Supply & Long-Term Clean Energy Supply

nationalgrid

January 19, 2024

Via email to: climate.strategies@mass.gov

William Space
Massachusetts Department of Environmental Protection
One Winter Street
Boston, MA 02108

Re: National Grid Comments on Strengthening the Clean Energy Standard

Dear Mr. Space:

On behalf of Massachusetts Electric Company and Nantucket Electric Company, each d/b/a National Grid ("National Grid"), I am pleased to offer comments on the Commonwealth of Massachusetts Department of Environmental Protection's ("MassDEP") options to strengthen the Clean Energy Standard ("CES") regulations, 310 C.M.R. 7.75, to increase new clean energy supply and to ensure that the energy is counted towards Massachusetts' clean energy goals, shared in its Stakeholder Discussion Document, "Strengthening the Clean Energy Standard December 2023" ("Discussion Document").[1]

Mass DEP first promulgated its CES regulations in 2017, and amended them in 2020.[2] On December 4, 2023, MassDEP announced options to amend the CES further, with virtual

[1] The options provided by MassDEP are: (1) increase the Clean Energy Standard ("CES") Alternative Compliance Payment ("ACP") rate; (2) dedicate CES ACP funds to support new CES-eligible projects; (3) add a new project requirement which is essentially a new category of certificates to be procured; (4) require long-term planning such as requiring multiyear contracts with clean energy generators; (5) adjust compliance load obligations higher to account for electricity consumption at sites with behind-the-meter ("BTM") generation; (6) redefine the numerical percentage standard applicable to load for the different requirements; (7) count hydropower used to comply with the Massachusetts Renewable Energy Portfolio Standard ("RPS") Class II toward CES compliance for existing resources; (8) improve the ability of the CES to deliver clean energy when it is needed; (9) update eligibility criteria to become a CES resource; and (10) create a just transition fee. Available at: https://www.mass.gov/doc/discussion-document-strengthening-the-ces/download.

[2] On August 11, 2017, MassDEP promulgated the CES regulations, which sought to achieve greenhouse gas ("GHG") emissions reduction goals, as required by the Global Warming Solutions Act ("GWSA"), by establishing a CES that will increase the level of clean electricity that is purchased from the regional electric grid for consumption in Massachusetts. The CES is designed to function in a manner similar to and compatible with the existing RPS Class I, 225 C.M.R. 14.00 et seq., by requiring retail electricity sellers to annually procure a minimum percentage of "clean generation attributes" (sometimes called clean energy certificates or "CECs") that corresponds to a percentage of electricity sales. See, e.g., 310 C.M.R. 7.75(2) and (4). CECs are produced by any resource that meets the CES eligibility requirements, which includes all RPS Class I resources, plus non-RPS Class I resources that are approved by MassDEP. CES obligations can be satisfied with RPS Class I Renewable Energy Certificates ("RECs") or from CECs associated with units approved by MassDEP. On July 10, 2020, the MassDEP issued an amendment to 310 C.M.R. 7.75 to establish a CES for Clean Existing Generation Units ("CES-E") which requires retail electricity sellers to annually procure a minimum percentage of "clean existing generation attributes" (sometimes called CES-E

stakeholder meetings on January 11, 2024, and written comments due by January 19, 2024. In the Discussion Document, at 1, MassDEP states that it is "initiating a supplemental program review to consider options for strengthening the ability of the CES to support clean energy development in line with the latest CECPs [Clean Energy and Climate Plans] and GHG [Greenhouse Gas] emission sublimits." The MassDEP groups these options into three categories:

1) Options for Strengthening the Standard.
2) Options for More Comprehensive Clean Electricity Accounting.
3) Other Potential Program Improvements.

Background

National Grid endorses the Commonwealth's goal of net zero carbon emissions by 2050, including the 2025 and 2030 CECP and the 2050 CECP, and recommends achieving this goal in the most cost-effective way for electricity customers. National Grid's responses to MassDEP's specific proposals are intended to meet clean energy goals with costs for electric customers in mind.

Generally, National Grid supports the most cost-effective and efficient policies for reducing GHG emissions. National Grid also supports the costs of decarbonization policies being shared equitably among energy users (i.e., electric customers, gas customers, delivered fuel customers, and others). In that context, National Grid recommends that modifications to the CES be considered in light of the Commonwealth's multiple policies and standards to support decarbonization. Any proposed changes to the CES should not be viewed in isolation; rather, it is appropriate to consider other regulations that have (and likely will) increase costs for customers of EDCs.

No changes need to be made now during this supplemental program review to meet 2030 goals. National Grid's comments will demonstrate that the options proposed will not result in new clean energy development, and therefore any changes to the CES will increase customer costs without resulting benefits. National Grid recommends that MassDEP review developments of the multiple policies and current projects under-development, and revisit potential changes to the CES once there is greater visibility of the success of those policies and projects.

Also, National Grid's comments reflect current and future clean energy supply throughout New England and the surrounding regions, in which projects have experienced recent delays and terminations from local, national, and global events (e.g., the coronavirus epidemic, wars, supply chain issues, inflation, high interest rates, interconnection issues, siting/permitting challenges, and lawsuits). The options included in the Discussion Document do not address these underlying issues, and though well-intentioned, they will result in increased costs throughout the Commonwealth, without noticeable gains, at a time when customers are already contending with high inflation of everyday goods and services.

---

certificates) that corresponds to a percentage of electricity sales. CES-E obligations can be satisfied with CES-E certificates associated with units approved by MassDEP.

The CES and the Renewable Portfolio Standard ("RPS") are annual mandates that should not be used to "tune" the short-term markets for clean attributes if the goal is to efficiently and cost-effectively procure the clean energy and associated investments required over the long term. A Forward Clean Energy Market (like the design proposed by DOER in 2023), net carbon pricing, or a hybrid of the two, would be notably more efficient and cost-effective over the long term than these types of annual requirements and short-term markets. Retail electricity suppliers (a.k.a. "load serving entities") often rely primarily on these short-term markets to procure the clean and/or renewable energy certificates they require to satisfy annually increasing requirements. However, short-term markets and purchases are neither effective nor efficient in driving new investments in renewable resources, especially new large-scale renewables. Also, RPS and CES changes are very unlikely to achieve significantly more clean energy production from existing renewable resources which are, with low to zero fuel costs, already incentivized to produce their clean energy whenever able. This means that higher Renewable Energy Certificate ("REC") market prices will only increase customer costs for existing resources. Rather than resulting in prices truly reflective of any additional cost of producing clean energy, the legislatively/administratively set requirements and the administratively set ACP prices, in the absence of a forward market and longer-term commitments necessary for new resources to compete, produce a market with a vertical demand curve that results in pricing that simply heads to the ACP price when the market is slightly short of supply and quickly heads towards a price of zero (or the transactional cost) when there is surplus.

Moreover, any change to those legislatively/administratively set requirements and/or administratively set ACPs in any state can quickly change the REC prices for the entire region. As a result, maintaining or expanding the CES type requirements without a competitive market in place will not result in cost-effective procurement of clean energy. National Grid recommends a competitive, regional wholesale market-based procurement processes for clean energy; and absent that, a single clean energy standard that allows all technologies, new and existing, to compete and be counted towards the Commonwealth's clean energy goals. By creating fragmented requirements, the separate CES and RPS programs put the Commonwealth in the position of picking winners and losers, instead of allowing the market to determine the most cost-effective solutions.

Options for Strengthening the Standard

1. Increase the CES ACP Rate

National Grid opposes increasing ACP rates. Per the Discussion Document, an increase of the CES ACP rate: (1) would increase market prices for Clean Energy Certificates ("CECs"), resulting in more profits for developers and, therefore, support clean energy development; and (2) would result in more clean energy retained for Massachusetts' clean energy goals if the rate was equal to or more than other states' ACP rates. Per the Discussion Document, a lower CES ACP rate would cause clean energy to "migrate" out of the Commonwealth in order to be used for compliance in states with higher ACP rates and/or market prices. National Grid does not agree with these arguments.

The ACP allows a retail supplier to comply with the CES when it cannot purchase CECs to meet the CES minimum standard, and the ACP also limits the retail electricity seller's compliance costs, which are borne by its customers.[3] The CES minimum standard percentage increases annually, and the ACP rate is intended to protect customers from resulting higher program costs. The Massachusetts Department of Energy Resources ("DOER") had two years of regulatory rulemaking, four public hearings, and several written comment periods reviewing the RPS Class I ACP rates. National Grid supported reductions to the Massachusetts RPS Class I ACP rates because it protects its customers from unjustifiably high costs and prevents windfall profits to generators during REC shortages. The DOER's modification to the RPS Class I ACP rates in 2021 contains the costs of RPS Class I compliance, which is imperative given the rapid expansion of policies combatting climate change. Given that the current market prices are slightly below the revised ACP rate, customers would have almost double the cost of RPS Class I if the ACP rates had remained unchanged. For similar reasons, National Grid believes keeping the CES ACP rate at $35 is necessary to prevent unreasonably high costs for our customers.

National Grid does not expect raising CEC prices to reliably increase the supply of new clean energy development, for several reasons. From 2011 to 2015, RPS Class I REC prices were well over $50, and yet this five-year period did not spur new development. It was not until statutory purchasing mandates (e.g., Sections 83C and 83D of the Green Communities Act, and the SMART program, etc.) were implemented that clean energy development began in earnest. These statutory purchasing mandates seem more effective and are implemented independently of ACP rates.

National Grid also opposes increasing ACP rates in order to make future clean energy projects appear more economical. While higher ACP rates may justify the cost-effectiveness of a solicitation, it will increase customer costs on the supply side of the electric bill for meeting mandates throughout New England and provide a windfall profit to projects that have already been developed. For example, in 2023 the RPS Class I ACP rate is $40, and the market price has consistently been approximately $39. This slightly discounted market price from the ACP rate indicates that there is not enough REC supply to meet the demand. Assuming the Retail Load Obligation for the EDCs is 45,000,000 megawatt-hours ("MWh"), the retail electricity sellers would need to procure 7.8 million RPS Class I RECs (45,000,000 MWh x 17.4252% minimum standard). At a market price of $39 per RPS Class I REC, the total cost is $304 million. If the ACP rate is increased to $70 to improve the attractiveness of projects in an offshore wind solicitation, the market price likely would be $69, and increase the total cost of Massachusetts customers to comply with only the RPS Class I obligation to $538 million. If the ACP rate is increased to $100 and the market price $99, the total cost would be $772 million. Essentially, customer costs would increase substantially to comply with RPS Class I requirement simply to justify prices received for a particular solicitation. Also, the RPS increases significantly to 40% by

[3] The CES acts as a "ceiling price" to protect electricity customers against unreasonably high market prices for CECs, which are often purchased at a price close to the ACP rate when there is a shortage of CECs to meet demand. Compliance certificate shortages have occurred for all the Massachusetts portfolio standards at some point, and the applicable ACPs provided some customer protection.

2030 and the cost impacts will subsequently increase significantly. It is more cost-effective to leave the ACP rate at the current level and accept that future renewable solicitations may be uneconomic, but after considering other qualitative factors and benefits, they are justified and deemed acceptable. Historically, clean energy projects have been found cost-effective even with above-market pricing and current ACP rates.

Short-term REC market prices have no bearing on whether or not new clean energy projects are developed. Instead, project success is often dependent on whether they can overcome the typical barriers to new supply (e.g., supply chain restrictions, permitting/siting processes, interconnection issues, etc.).[4] Additionally, developers of non-mandated, non-utility-funded projects, with or without energy storage, have other potential revenue sources besides energy and RECs. These projects would be eligible for clean peak energy certificates ("CPECs") used to comply with the Clean Peak Energy Portfolio Standard ("CPS") and capacity market payments. If projects do include energy storage, they can also capture additional revenue in the ancillary services markets.

Given that high ACP rates and subsequently high market prices do not incent new clean energy development, nor are they helpful overcoming the barriers to new supply, high CEC prices will simply provide windfall profits to existing generators during CEC shortages. A reasonable ACP rate is necessary to protect customers from unjustifiably high costs, while providing a reasonable REC revenue stream to existing generators to recover the costs of project development and to earn a reasonable return on their investment.

Under current projections, the CECs received from the Section 83D contract are expected to fully meet the incremental CES standard in the short- to medium-term (i.e., 5 to 10 years, possibly). It is important to note that the RPS Class I ACP rate is applicable for the majority of the minimum standard. For example, in 2022 the CES minimum standard is 26%, and the RPS Class I minimum standard is the first 22%. Only an incremental percentage above the RPS Class I minimum standard will be met by CECs. This incremental percentage is 3% in 2025, 12% in 2028, 15% in 2029, 20% by 2030. The Section 83D contract purchases of clean energy will result in 9.45 terrawatt-hours ("TWh") of clean energy that qualify as CECs, that will be retired by the EDCs for use to comply with the CES for all retail electricity sellers. The annual generation of the Section 83D purchases will meet 21% of the Retail Load Obligation for the EDCs of approximately 45,000,000 MWh. Once the Section 83D project is operational, CES ACP rates will not be made by any retail electricity supply until the Section 83D CEC supply no longer fully satisfies that incremental obligation. When electrification increases load and the Section 83D CEC supply does not fully meet the incremental obligation, it will still meet a

[4] There are other initiatives to address these issues at the Federal Energy Regulatory Commission and at ISO-NE which is addressing its queue processes for new development. Additionally, Massachusetts has advocated for funding from the federal government to assist the development of transmission to deliver large scale clean energy to the state.

substantial part of it. Again, under current projections, the 9.45 TWh from the Section 83D contract are expected to fully meet the incremental CES standard for a time.

Regarding the need for high ACP rates to retain clean energy for Massachusetts's goals, none of the CECs received under the Section 83D contracts, approximately 21% of EDC load, will "migrate" or be used by other states because the EDCs are required to retire them on behalf of the Commonwealth. Further, National Grid's SMART facilities are only qualified to comply with the Massachusetts RPS Class I and its RECs cannot be sold for compliance out of state. Additionally, at present, all generators that qualify under Section 83C, the SMART program, and the CPS must be located or at least deliver clean and renewable energy within Massachusetts or to its border, which means that the air quality benefits are going to be enjoyed by the Commonwealth.

Currently, the RPS Class I market has a shortage of supply which is indicated by the RPS Class I RECs trading at prices slightly below the Massachusetts and Connecticut ACP rate. In a market with insufficient supply, the market prices of other jurisdictions that have high ACP rates for those same RPS Class I RECs should be higher than the Massachusetts and Connecticut RPS Class I RECs. However, the three states (Rhode Island, New Hampshire, and Maine) with higher ACP rates have market prices the same as Massachusetts and Connecticut. The conclusion is that the lower ACP rates in Connecticut and Massachusetts set the market price because the load and demand for RPS Class I is significantly higher in Massachusetts and Connecticut compared to the other three states. Therefore, since Massachusetts and Connecticut determine market prices, it is unnecessary to increase the ACP rate to prevent the "migration" of clean energy because prices are the same throughout New England. Similarly, the incremental CES minimum standard is significantly less than the Massachusetts' RPS Class I and Connecticut Class I minimum standards which are capped at a $40 ACP, and increasing the CES ACP likely will have no impact on prices, which will still be capped at $40 for the Massachusetts RPS Class I ACP. Increasing ACP rates in Massachusetts will have impact on customers, however – they will pay more than they do now.

2. Dedicate CES ACP Funds to Supporting New CES-Eligible Projects

National Grid supports using CES ACP funds for new CES-eligible projects but opposes applying their CECs to prior compliance years. The Discussion Document at 1 proposes new uses for ACP funds, which are deposited into the Climate Protection and Mitigation Expendable Trust and can be used for purposes other than clean energy projects. First, ACP funds could be used to provide grants to developers in exchange for future CECs that will not be used for future compliance with the CES. Rather, the future CECs would be retroactively applied to the compliance year that the ACP was made.[5] National Grid supports the use of ACP funds to make an "investment" or "downpayment" on future clean energy to meet the Commonwealth's clean

[5] The Discussion Document at 1 provides an example: "ACP payments received for compliance year 2028 could be used to support construction of a clean energy project that will generate electricity beginning in 2030, with some or all of the projects' CECs retired by MassDEP to compensate for the 2028 shortfall rather than sold for use to meet the standard in later years."

energy goals, if it alleviates customers' future costs, but the proposed example does not appearlike it would lower customer costs. If customers' ACPs are invested in future clean energy generation, then the future generation should not be used to satisfy past years' compliance obligations. Doing so shortchanges future years' obligations of their actual generation and creates future supply shortages, thus increasing customers' costs in later years. National Grid is unaware of any jurisdiction that would use generation from one compliance year to satisfy goals of a past compliance year.

Second, MassDEP also proposes to use ACP funds in future years when CEC prices are low, to purchase surplus CECs (above the CES requirement) that would boost demand for CECs, and raise CEC prices in the hopes of increasing energy development. National Grid opposers this option. Increasing demand for CECs that are not needed for compliance for the sole purpose of increasing CEC prices and increasing suppliers' profits is undesirable in a free market. In addition, such actions will increase costs for electric customers. Instead, if CEC prices are low, then the market will react. Retail electricity sellers such as National Grid have the ability to purchase CECs to bank them for future years when it is economic to do so, thus already adjusting demand and prices.

Finally, MassDEP should also consider refunding surplus ACPs after sufficient time has elapsed. The EDCs could credit the funds to customers during periods with certificate shortages and/or rising commodity costs to offset their bill impacts.

3. Add a New Project Requirement

MassDEP proposes a "new project" requirement, in addition to the CES and CES-E minimum percentages that would require retail electricity sellers to annually procure a minimum percentage of "Recent Vintage" CECs that corresponds to overall electricity sales. These "Recent Vintage" CECs would be from CES eligible resources with a commercial operation date within the past three years, with high ACP rates to allow the new facilities to quickly recover their startup development costs. National Grid opposes the "new project" requirement.

As discussed above, National Grid does not agree that raising CEC prices will reliably increase the supply of new clean energy development. Instead, introducing a new requirement with a high ACP rate could increase customers' costs without meeting the goal to incent new generation. Also, operationally, it likely will be very difficult to track resources that became commercially operational within the past three years, because new units will be added and removed each quarter; this would also require modifications to New England Power Pool Generation Information System ("NEPOOL-GIS") to include this new type of certificate. Finally, this concept would seem to duplicate revenue that projects are already afforded under the CPS. New projects with a commercial operational date after January 1, 2019 would qualify as a Clean Peak Resource in the CPS. Each MWH of generation would create a CPEC. Additionally, there are numerous multipliers that will be applied to the generation that may create substantially more CPECs. Many new clean energy projects will also include storage which would also be eligible for CPECs. The current market value of CPECs is slightly below its ACP rate of $45 per CPEC. Thus, new clean energy generation already has additional revenue opportunities for its generation compared to other clean

energy resources to offset recent development costs. More generally, all clean energy resources, regardless of vintage, play a vital role in helping the Commonwealth achieve and maintain reductions in its GHG emissions and avoid the impacts of global warming, which meets the purpose of the CES. In the interests of fairness, the CES should not focus more revenue on specific vintages.

4. Require Long-Term Planning

MassDEP proposes to create another new requirement, in addition to the CES and CES-E minimum percentages, that would require retail electricity sellers to annually procure a minimum percentage of "long-term planning" CECs that corresponds to electricity sales. "Long-term planning" CECs would be from CES-eligible resources with multiyear contracts to sell CECs. The purpose of this new requirement is to provide more stable revenue to clean energy generators, and a regional or a Massachusetts-specific auction process could implement this requirement.

National Grid supports either a Forward Clean Energy Market, net carbon pricing, or a hybrid of the two as more efficient and cost-effective means than short-term certificate markets like the RPS and CES. National Grid believes that the Massachusetts Department of Energy Resources' Forward Clean Energy Market design proposal offers the best path forward to incent clean energy development because it is a forward competitive market. In Massachusetts, a significant portion of clean energy has been achieved through SMART or the long-term power purchase agreements ("PPAs") for clean energy and offshore wind energy, pursuant to St. 2012, c. 209, s.36 and St. 2016, c.188, s.12 (a.k.a. Sections 83A, 83C, and 83D of the Green Communities Act). Long-term procurements are also required under the CPS standard. A requirement for "long-term planning" CECs is unnecessary when a significant portion of CES compliance is already met, or will be met, with CECs that are the result of these long-term procurements.

Options for More Comprehensive Clean Electricity Accounting

5. Adjust for Electricity Consumption at Sites with Behind-the-Meter ("BTM") Generation

BTM generation is not included in the CES compliance load obligation. It reduces overall electric load; however, it creates RECs for that generation consumed onsite that could be used for CES compliance by retail electricity suppliers that purchase their RECs. There is a mismatch between REC supply and compliance demand: either the overall load must account for this BTM generation consumed onsite or the REC supply must decrease by the generation consumed onsite. MassDEP proposes to rectify this mismatch between REC supply and compliance demand as follows:

> For example, if this energy is estimated to account for 5% of total electricity consumption in the state in a year, this could be addressed by requiring retail electricity sellers to adjust their sales upward by 5% when calculating their CES compliance obligations. That way, in the year when the standard is 60%, there

would be enough clean energy to cover 60% of total electricity consumption (vs. only retail sales).

National Grid opposes adjusting the CES to include BTM generation, for several reasons. First, virtually all BTM generation facilities within the EDCs' service territories are solar energy generating facilities, that are typically participating in net metering and/or the SMART program. Accordingly, most facilities are already being subsidized by EDC ratepayers as they generate and consume renewable energy on-site. Some net metering customers can claim their RECs (either RPS Class I or SRECs), which can be sold to retail electricity sellers and used to comply with the RPS or CES. However, customers that participate in the SMART program transfer their RECs to the EDCs in exchange for SMART compensation. Requiring retail electricity sellers to adjust their sales and compliance obligations to account for BTM energy consumption would duplicate costs borne by EDC customers. EDC customers are already subsidizing these BTM generators but would be made responsible for the CES compliance of the load offset by these BTM customers. This option would increase costs for all other customers due to higher load obligations from these BTM customers. Additionally, it is expected that BTM generation will only increase in future years, shifting more of these increased costs to a shrinking subset of customers. Increased standards would also result in more demand for RECs for compliance, resulting in higher costs and REC prices. In a constrained supply year, this might result in prices at or near the ACP rate.

Additionally, this proposal is impractical because of the competitive market for alternative supply to Basic Service. Competitive suppliers include the cost to comply with the various standards in their contract prices offered to customers. Without knowing the total BTM generation in a year in advance (5% in the example), the competitive suppliers would have increased difficulty calculating prices to offer customers. If this measure is adopted, competitive suppliers likely would include increased risk premiums in their supply offers to minimize the risk that they purchase too few RECs, resulting in higher customer costs. If MassDEP provided a BTM generation percentage in advance that should be applied to load, the competitive suppliers would no longer need to include risk premiums. However, MassDEP's goal to include the BTM generation in the compliance load obligation would not be completely met if the proposed BTM generation percentages differ from actual. For example, retail electricity sellers may be instructed to increase the compliance obligation load by 2% for next year, however the actual BTM generation may be 4% for that year, and therefore the goal is not met.

An example utilizing 2022 total retail load data illustrates the cost shifting from BTM generation customers to customers that do not have BTM generation.

2022 Retail Load Obligation (MWh)	Est. BTM Generation Consumed Onsite of Total	Revised Retail Load Obligation (MWh)
44,507,592	2,225,380	46,732,972

nationalgrid

The Discussion Document uses an estimate of BTM generation of 5% of total electricity consumed in the state. The 2022 Retail Load Obligation that is subject to the CES (and excludes the load consumed by municipal utilities) is 44,507,592 MWh. The BTM generation at the 5% estimate equates to 2,225,380 MWh. Those BTM MWh are receiving incentive payments via the SMART program or net metering. Additionally, those MWh generate either RPS Class I RECs or SRECs. The Discussion Document's proposal to increase load obligation of all other EDC customers by this 5% BTM generation will increase the required certificates used to comply with the CES and CES-E. Additionally, if this proposal was adopted by the DOER, required certificates would also increase for the RPS Class II, RPS Class II Waste Energy ("WE"), Alternative Energy Portfolio Standard ("APS"), and the CPS. Solely for 2022, $64 million in costs would be shifted from these BTM generation customers to the remaining EDC customers.

	Actual Certificate Requirement	Revised Certificate Requirement	Certificate Requirement Increase	Customer Cost Increase $
RPS Class I (14.3712%)	6,396,275	6,716,089	319,814	11,833,109
SREC I (1.5432%)	686,841	721,183	34,342	11,641,958
SREC II (4.0856%)	1,818,402	1,909,322	90,920	25,639,471
CES (4%)	1,780,304	1,869,319	89,015	3,115,531
CES-E (20%)	8,901,518	9,346,594	445,076	2,225,380
RPS Class II (3.6%)	1,602,273	1,682,387	80,114	2,163,069
RPS Class II WE (3.7%)	1,646,781	1,729,120	82,339	1,811,459
APS (5.5%)	2,447,918	2,570,313	122,396	1,346,355
CPS (4.5%)	2,002,842	2,102,984	100,142	4,506,394
Total	27,283,154	28,647,312	1,364,158	64,282,725

Furthermore, there will be higher costs in the future. This illustration uses the 2022 CES minimum standard of 24%. The CES minimum standard increases rapidly the next few years and reaches 60% in 2030. The APS and CPS minimum standards also increase annually. This illustration also does not reflect the increase in MWh due to electrification. Higher load through electrification requires more certificates procured to comply with the standard. Finally, BTM generation is expected to increase in the future, shifting more of these increased costs to a shrinking subset of customers. The estimate of 5% of total electricity in the state as BTM generation may be too conservative.

One possible solution would be to increase the compliance load obligation for each BTM customer by that customer's annual BTM generation. In that way, only the customers that benefit from these lucrative programs would directly bear the higher costs of increased compliance load obligation. However, this solution seems complicated and difficult to implement. Also, competitive suppliers may not have insight into the BTM generation of their customers, and

therefore not know how many RECs they will need to procure on the customers' behalf. It also likely would be difficult for MassDEP to determine the final compliance obligation load for each retail electricity seller.

The simplest and most transparent solution, which also complies with cost-causation principles, is that RECs should not be created and therefore not used for CES compliance if the BTM generation is consumed onsite. Customers participating in net metering and/or the SMART program will still receive their incentive payments for that generation, but the customers' generation that is used onsite will not result in RECs. Any generation that is in excess of the customers onsite load should be minted as a REC. This solution rectifies this mismatch between this REC supply and compliance demand caused by BTM generation. It also does not unfairly shift costs to the Commonwealth's customers that do not have BTM generation. While MassDEP does not have the authority to change REC minting for BTM generation, it can be the leader in the discussion with other New England jurisdictions to make this change. Also, to lessen the financial impact to BTM generation, the change could be implemented over several years before the BTM generation customers are no longer eligible for RECs.

6. Redefine the Numerical Percentage Standard

The CES minimum standard for each year is known and specified in CES regulations, but the CES-E minimum standard is known only several years in advance because the CES-E minimum standard is a calculation utilizing historical load data. Due to this formula-based minimum standard, it is not possible to clearly specify the percentage of electricity consumption that will be met by clean energy in a future year until the CES-E percentage obligation is established. MassDEP suggests that it may be useful to set a total percentage of clean energy further in advance. The final allocation of the percentage of clean energy that will be provided by the CES and the CES-E will be determined when the CES-E is finally calculated. For example, as stated in the Discussion Document at 3, "[a] total standard of 95% could be established in regulation for a future year; then, if the CES-E contribution was determined to be 22% in that year based on electricity sales, the CES would automatically be set at 73% so that the sum of both components would equal 95%." National Grid opposes changing the CES minimum standard.

Admittedly, projections of future electricity consumption from clean energy supply may be helpful to some, but it does not warrant implementing a total standard percentage compliance obligation simply to provide guidance of future electricity consumption and clean energy supply. While the proposal may appear simple, implementation will eventually require procurement of certificates, which will lead to volatility of costs. There are significant price differences between CES-E certificates that have an ACP, or ceiling price, of $10 per MWh, and CECs for the CES that have an ACP of $35 per MWh. If there is an unexpected decrease in the future CES-E minimum standard and it is set lower than expected, customers will be subject to an offsetting increase of the higher-priced CES requirement to meet the total standard. For example, suppose in 2030 that a total standard is set as 80% with the expectation that the CES is 60% of the 80% total and the CES-E expected to be the remaining 20%. Based on current ACP rates, the total cost for the 80% is $23 per MWh ($35 ACP rate x 60% plus $10 ACP rate x 20%). Suppose that, when the

CES-E percentage is finally calculated, it is lowered to 15% of the 80%, perhaps due to significant increase of load and/or a loss of CES-E generation. In this example, based on current ACP rates, the total cost for the 80% total standard increases by 5.43% to $24.25 ($35 ACP rate x 65% plus $10 ACP rate x 15%).

Rather than modifying the CES regulations to change the CES minimum standard, National Grid proposes that MassDEP release preliminary CES-E obligations for informational purposes utilizing forecasted load. National Grid's proposal would provide useful information to those that would like projections of future electricity consumption from clean energy supply without subjecting our customers to potential higher costs.

Finally, National Grid would like to address the upcoming complexity of accounting for Section 83D generation that will count towards the CES. To comply with Section 83D, the EDCs solicited and entered into a long-term contract for up to 9.45 TWh annually. Once commercial, the generation from 83D will be allocated to all retail electricity sellers to comply with the CES. While the 9.45 TWh is fixed annually, the percentage of load will vary year to year. For example, in 2030 the CES is 60%, the RPS Class I is 40%, and the remaining 20% must be a CEC. It is currently unclear how much of this 20% will be met by Section 83D generation, and therefore retail electricity suppliers will not know how many CECs they must procure to meet their remaining obligation. MassDEP should begin discussions regarding Section 83D generation and its allocation to meeting the CES. Perhaps a new requirement should be created specifically for Section 83D, with a new minimum standard, and a corresponding reduction in the CES to account this new category. For example, in 2030 when the CES is 60% and the RPS Class I is 40%, MassDEP should calculate an 83D minimum standard based on the 9.45 TWh divided by expected load. For instance, if that calculation is 15%, then the 2030 CES would be 40% RPS Class I, 15% 83D generation, and the remaining 5% either a CEC or an RPS Class I REC.

7. Count Hydropower used to Comply with MA RPS Class II toward CES-E Compliance

Hydroelectricity used to comply with the RPS Class II obligation does not count towards the CES-E. MassDEP proposes to adjust the CES-E to allow for the RPS Class II obligation to count towards the CES-E. Rather than the RPS Class II minimum standard counting towards the CES-E, MassDEP suggests increasing the CES-E by RPS Class II minimum standard. The RPS Class II minimum standard, which is calculated annually by the DOER, is 3.4137% in 2025.

To the extent that this change simplifies clean energy accounting and makes the CES reflect the percentage of electricity consumption served by clean energy, National Grid supports it. In previous comments, National Grid suggested that MassDEP expand the CES by including various Massachusetts renewable policies under one standard because they all support clean energy and reduce emissions. National Grid recommended combining the Commonwealth's fragmented clean energy efforts to provide a comprehensive view of Massachusetts' progress in combatting climate change. The result would be one government agency tracking and reporting on all clean energy initiatives and providing comprehensive reports for future state policy decisions. However, to accomplish this goal, National Grid suggests that all RPS Class II generation count towards the

CES-E. This includes not only RPS Class II obligation, but also the RPS Class II Waste Energy obligations.[6]

National Grid recommends that the RPS Class II obligation be tracked separately from the CES-E. The DOER adjusts the RPS Class II minimum standard annually per a formula contained in the regulations and is known a little more than a year in advance of the compliance year. The CES-E minimum standard, on the other hand, is known several years in advance of the compliance year. Incorporating another standard that annually calculates a minimum standard is incompatible with the Discussion Document's goal to redefine the numerical percentage standard (as described in the section above).

Finally, National Grid proposes that the MassDEP revisit its amendment to the CES which increased the CES-E stringency from 20% to 25% of 2018 retail sales starting in 2023. CES-E generation is approximately 12 TWH annually. In its comments filed June 3, 2022, National Grid opposed the increase to 25% of 2018 retail sales for two reasons: the proposal to increase the stringency assumed that the 12 TWh of generation will continue in the future and it also neglected to account for the increase in load as a result of anticipated future electrification. National Grid proposed that MassDEP should annually monitor the 12 TWh and lower it in situations such as generation retirements or some other permanent decrease in generation.

As stated in 310 CMR 7.75(4)(b), the calculation for CES-E percentages uses historical load for four years prior before the calendar year for which the percentage requirement applies. For example, the 2030 CES-E percentage will be based on the load in 2026. However, with the anticipated load growth due to electrification, historical load four years prior may be a poor proxy for future years. A methodology relying solely on historical data will likely result in CES-E percentages that are inaccurate and higher than necessary. With a static supply of CES-E generation, at best, this will result in high demand and prices near the ACP, resulting in increased costs to customers.

In 2023, the amendment to the CES went into effect and resulted in an increase of the CES-E minimum standard from 20% to 26%. In prior year, the CES-E ACP rate was lower, and market prices for CES-E certificates were between $3 and $5. In 2023, with the increase of the CES-E ACP rate and the increased minimum standard, the market prices are slightly lower than the $10 ACP rate, indicating that there is insufficient supply to meet demand. With electrification and increasing load obligations, this supply constrained market will likely continue.

MassDEP should use this supplemental program review to amend the CES-E regulations to use a load forecast that incorporates electrification to determine future minimum standards.

---

[6] Qualification as an RPS Class II Waste Energy resource is limited to waste-to-energy plants that meet MassDEP regulations for such facilities. The MassDEP regulations provide for enhanced sorting and recycling and for each plant to remit to the MassDEP 50% of the proceeds from its RPS Class II Waste-to-Energy certificates. The MassDEP uses the funds to help support municipal recycling programs. See page 24 of the DOER 2019 Annual Compliance Report.

8. Improve the Ability of the CES to Deliver Clean Energy when it is Needed

MassDEP addresses the need to increase clean energy supply when electricity demand is the highest. The Discussion Document provides two options to improve the timing of clean energy supply with electricity demand. The first option is to prohibit any generation during hours when wholesale electricity prices are negative to become a CEC, thus removing any revenue for that clean energy project during that period. The second option is to change the CES compliance period from an annual period to quarterly or monthly. The purpose of the change is to have the clean energy generation more closely align with when the electricity is consumed. National Grid opposes both of these proposals.

National Grid supports the CPS which is designed to increase clean energy during the periods when net demand of electricity is the highest. Clean Peak Resources contribute to the Commonwealth's environmental protection goals concerning air emissions including, but not limited to, those required by the GWSA, by displacing non-renewable generating resources during Seasonal Peak Periods, while also having added benefits of reducing peak demand and system losses and increasing grid reliability. National Grid, however, does not support excluding clean energy generated during hours when wholesale electricity prices are negative to become a CEC.

It is understood that most renewable resources are intermittent and will generate anytime the sun is shining, and the wind is blowing. The CPS and its incentives for energy storage, and other initiatives such as SMART paired with storage, will help provide clean energy when demand is highest. However, RECs/CECs should continue to be minted regardless of when it is generated because it has long been recognized that these are intermittent resources. Additionally, it is mostly due to the intermittent nature of renewable energy that there are periods of negative wholesale electricity prices. Often, before renewable energy was a significant source of energy supply, high wholesale electricity prices were associated with use during peak parts of the day. With the proliferation of clean energy supply during these hours, peak demand is more than met, and the prices become negative because there is excess supply.

Additionally, such a change would penalize EDC customers, not generators, that are paying for unit-contingent, clean energy power purchase agreements and the SMART program. These generators receive a fixed price from EDC customers for their output, and in turn, EDC customers receive the wholesale electricity revenue and the RECs. The Discussion Document's proposal likely would effectively remove REC revenue that would offset the PPA and SMART program costs, thus resulting in higher recovery factors for electric customers. Once under contract or tariff, the generators would not be harmed by the exclusion of the clean generation as CECs, but EDC customers would be harmed. Additionally, some of the PPAs address negative wholesale electricity prices by crediting customers when the PPA generates during hours when wholesale electricity prices are negative. A market structure already exists for the generator to operate during periods of positive wholesale electricity prices. However, the PPAs and the SMART generators will not operate any differently if the Discussion Document's proposal regarding CEC minting is adopted.

National Grid also opposes changing the CES compliance period from annual to quarterly or monthly. On November 13, 2019, the DOER issued a Renewable Portfolio Standard Frequency of Compliance Stakeholder Questions. The DOER was considering changing the annual compliance cycles for the RPS to a more frequent compliance cycle. National Grid noted that more frequent compliance filings would significantly increase workload for multiple parties, including the filing parties, the DOER, and 15dministerator of the NEPOOL-GIS. Even if the compliance cycles changed without increasing the filing frequency, quarterly or monthly compliance periods would still increase the complexity. A typical REC product for a given year would be changed to four products with quarterly compliance periods. For example, a 2024 RPS Class I REC would be changed to Q1 2024, Q2 2024, Q3, 2024, and Q4 2024. Monthly compliance cycles would be even more complicated with 12 products – one for each month. Additionally, it will result in high REC prices in some compliance periods, increasing customer costs. Ultimately, the DOER did not change the compliance cycles.

Other Potential Program Improvements

9. Update CES Eligibility Criteria

MassDEP proposes to modify CES regulations for CES-eligible resources in order to align with recently proposed EPA standards regarding GHG emissions. Specifically, a CES resource must have a 50% reduction in GHG emissions as compared to an existing natural gas generator. MassDEP proposes changing the GHG emissions reduction to 90% to align with the proposed EPA standards.

Because National Grid supports lower emissions, it generally supports this update to CES eligibility. However, it may be appropriate to wait to modify the CES regulations until the revised EPA standard is finalized.

10. Just Transition Fee

Finally, MassDEP proposes that it could consider requiring qualifying clean energy resources to pay a fee associated with CES qualification, CEC transfers, or the use of CECs for compliance. The purpose of the fees collected would then be used to support equitable siting of CES-eligible projects, such as solar on rooftops in low-income communities.

National Grid supports using ACP funds to help develop clean energy projects throughout the Commonwealth to help it achieve its goals. However, National Grid believes that any fees charged to clean energy resources or load serving entities to comply with the CES should be passed through to the Commonwealth's customers. The amount of revenue expected to be raised from such fees would be insignificant compared to the funds accumulated in prior years from ACPs. The Commonwealth should fully use the revenue received from ACPs to develop new renewable resources before levying additional fees on resources. In 2021, utilizing the DOER's 2021 Annual Compliance Report, National Grid estimates customers' ACPs totaled $145.7 million. The MassDEP received approximately $53.5 million in ACP funds to comply with the CES, and the Mass Clean Energy Center ("MA CEC") received approximately $92.2 million to comply with its

various DOER requirements. National Grid expects the MassDEP and Mass CEC to receive similar, or greater, ACP funds in 2022 and 2023, providing several hundred millions of dollars that can be used to develop clean energy projects.

MassDEP and the MA CEC should also consider refunding ACP funds to EDCs after a certain amount of time has elapsed. The EDCs would credit the funds to customers during periods with certificate shortages and/or rising commodity costs. For example, in Rhode Island, the Office of Energy Resources used funds it received from the Regional Greenhouse Gas Initiative to help offset high winter commodity costs.

Conclusion

National Grid appreciates the opportunity to comment on these possible options to strengthen the CES, and thanks MassDEP for its consideration of these comments. If you have any questions, please do not hesitate to contact me at 516-315-0366 or by email at: Christopher.meyer@nationalgrid.com.

Very truly yours,

NATIONAL GRID

Christopher L. Meyer

Director, Wholesale Electric Supply & Long-Term Clean Energy Supply

Via Electronic Mail

January 19, 2024

Bonnie Heiple, Commissioner
MassDEP
1 Winter Street
Boston, MA 02108

RE: NECEC Comments - MassDEP's Clean Energy Standard Program Review

Dear Commissioner Heiple,

The Northeast Clean Energy Council ("NECEC") appreciates the opportunity to provide comments to the Massachusetts Department of Environmental Protection ("MassDEP") addressing measures to strengthen the Massachusetts Clean Energy Standard ("CES"). We thank MassDEP for engaging stakeholders in a transparent and open manner and for extending the opportunity for public comment.

We support many of the interventions outlined by MassDEP designed to strengthen the CES and to more accurately account for the energy used within the state. We look forward to working with you to refine and implement the proposals in the coming months to accelerate the Commonwealth's efforts to meet its climate and emission reduction commitments.

NECEC leads the just, equitable, and rapid transition to a clean energy future and a diverse climate economy. NECEC is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development.

NECEC members span the broad spectrum of the clean energy industry, including energy efficiency, clean transportation, wind, solar, energy storage, microgrids, fuel cells, and advanced and "smart" technologies. NECEC is dedicated to growing the clean energy economy in Massachusetts and across the region, in pursuit of our mission to create a world-class and equitable clean energy hub in the Northeast. The Council's 250+ members include companies based in Massachusetts, doing business or hoping to make future investments in the state.

Northeast Clean Energy Council | 444 Somerville Ave, Somerville, MA 02143 | www.necec.org

Strengthening The Standard

NECEC supports all the strategies proposed for strengthening the CES. As a regional leader in climate commitments, Massachusetts must also meet the regional standards of implementation.

Raising the CES Alternative Compliance Payment ("ACP") rate is a necessary step towards ensuring that every program participant is prioritizing clean energy use and development over paying for alternative forms of compliance. Raising the rate will turn the ACP from being the preferred option into a backup alternative and send a market signal that clean energy generation is the ultimate goal.

The ACP rate should be designed to be on par with or above current energy credit market rates. Mass. Class I Renewable Energy Credits ("RECs") have traded mostly near the $40 mark since 2021, which is a helpful reference point to begin the design of a new ACP rate. By setting a rate that runs similar to or higher than the RECs, MassDEP will encourage better compliance with reduced reliance on ACPs within the state.

To channel ACP funds in the most optimal ways toward achieving state goals, NECEC supports dedicating CES ACP funds to supporting new CES-eligible projects. This financial structure is one NECEC has supported since the establishment of the CES in 2017. This fund allocation is a viable way to address funding needs for clean energy development without negatively impacting other programs.

NECEC also supports the proposal to add new projects and long-term planning requirements to the CES. Both of these initiatives would encourage the development and modernization of the state's energy systems and would stand in agreement with the general need to increase energy generation capacity in the state. We also support the proposal to update eligibility to follow the proposed EPA standard, though we recommend providing the utmost clarity to clean energy developers by establishing a clear numerical emissions standard for CES-eligible projects.

Improving Accounting Methods

NECEC supports updating the accounting systems of the Clean Energy Standard to reflect electricity use across the state more accurately.

Behind the Meter (BTM) energy will continue to make up an increasing proportion of energy production and use in the Commonwealth, especially as customers install both solar arrays and storage solutions that allow them to use that energy on demand. Including BTM systems in energy accounting will allow Massachusetts to have a more accurate picture of clean energy use. In addition, adjusting the CES compliance requirement calculations to account for BTM consumption will also indirectly help to incentivize additional BTM development as a means of reaching CES goals.

Excluding clean energy generated during periods of negative wholesale electricity prices could add substantial complexity that could undermine participation for a variety of energy generators. We are concerned that this intervention might dissuade the development of clean energy,

especially solar and wind, whose energy generation cannot be controlled by human intervention.

While NECEC supports efforts towards a Just Transition, CES projects are a part of the solution and their development should be incentivized in ways that do not create a financial burden for participants. Another way of collecting funds for the Just Transition could be to use a percentage of income from ACPs as a source of funding for Just Transition initiatives.

NECEC believes the proposed revisions will substantially improve the CES's ability to achieve the Commonwealth's clean energy and environmental commitments. We appreciate MassDEP's work to conduct a supplemental review of the CES and to propose and seek input on measures that will accelerate progress toward a decarbonized electricity sector.

Sincerely,

Natalie Hildt Treat
Director of Public Policy
Northeast Clean Energy Council
ntreat@necec.org

Oliwia D. Krupinska
Policy and Regulatory Analyst
Northeast Clean Energy Council
okrupinska@necec.org

NRG ENERGY, INC. COMMENTS

TO THE

MASSACHUSETTS DEPARTMENT OF ENVRIONMENTAL PROTECTION

ON STRENGTHENING THE MASSCHUSETTS CLEAN ENERGY STANDARD

NRG Energy, Inc. ("NRG") appreciates the opportunity to provide these comments for the Department's consideration in its deliberations on Strengthening the Clean Energy Standard ("CES"). NRG's retail affiliates serve residential, small business and large commercial customers in Massachusetts, as well as throughout New England.[1]

NRG reviewed the Discussion Document posted to the MassDEP website. NRG also participated in the virtual stakeholder meeting on January 11, 2024. We will focus our comments on the proposed option to raise the CES Alternative Compliance Payment ("ACP") rate.

NRG does not dispute MassDEP's premise that increasing the ACP rate and bringing it into alignment with other ACP rates in the region could "increase the ability of the CES to bring new clean energy on line and ensure that it is counted toward Massachusetts' clean energy goals."[2] Rather, we offer recommendations for the implementation of a rate increase, if such were to be adopted.

NRG affiliates serve millions of megawatt hours of electric load to commercial and residential customers in Massachusetts. NRG is also the electric commodity provider for two dozen municipal aggregation programs in the Commonwealth, including more than 200,000 customers in the Boston Community Choice Electricity program.

A near term increase to the CES ACP rate would have a significant financial impact to companies like NRG and their customers who hedged RPS market volatility, with no tangible results. Assuming it takes two years or longer to get a new renewable project from concept to power flowing on the grid, it makes no sense to implement an ACP increase in the next three years. Increasing the CES ACP in 2024, 2025, or even 2026 before projects could physically be built merely amounts to unnecessarily amassing CES ACP funds without the intended result of more renewable generation on the grid.

NRG recommends that any increase to the CES ACP rate be implemented no sooner than the 2027 compliance year. NRG further recommends any increase be implemented on a graduated basis.[3] In any event, existing retail contracts should be "grandfathered" from any

[1] The NRG Energy, Inc. affiliates licensed by the Massachusetts Department of Public Utilities to serve electricity include NRG Business f/k/a Direct Energy Business, LLC; Direct Energy Services, LLC; Energy Plus Holdings, LLC; Green Mountain Energy Company, Inc.; NRG Home f/k/a Reliant Energy Northeast LLC; XOOM Energy Massachusetts, LLC.

[2] MassDEP Discussion Document, Strengthening the Clean Energy Standard, December 2023, at p.1.

[3] An increase in the current CES ACP rate of $35 per MWh could be spread out over multiple compliance years. For example, if the target increase is set at $65 per MWh, a graduated increase could be scheduled accordingly: $40 per MWh in Year 1, $50 per MWh in Year 2, and $65 per MWh in Year 3.

increase for the duration of the term in order to insulate commercial customers as well as municipal aggregation programs from financial impact due to a "change in law" price increase pass-through in the middle of their contract term.

NRG also recommends an appropriate alignment between the CES ACP rate and the Massachusetts Class I ACP rate. It seems ironic that the MassDEP is attempting to align CES pricing with that of other ACP rates in the region, when in fact the CES ACP is not even aligned with the MA Class I ACP.

Lastly, NRG supports the proposal in the Discussion Document for dedicating CES ACP funds to supporting new CES-eligible projects.

Thank you for considering NRG's input to the discussion about options for strengthening the Clean Energy Standard. We look forward to continuing the conversation with MassDEP.

Respectfully submitted,

NRG Energy, Inc.

/s/ John Holtz

John Holtz
Senior Director, Market Development & Regulatory Affairs
NRG Energy, Inc.
804 Carnegie Center
Princeton, NJ 08540
John.Holtz@nrg.com

Dated: January 19, 2024

COMMONWEALTH OF MASSACHUSETTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION

310 CMR 7.75: CLEAN ENERGY STANDARD	:	JANUARY 19, 2024

COMMENTS OF
RETAIL ENERGY SUPPLY ASSOCIATION
RE DECEMBER 2023 DISCUSSION DOCUMENT

The Retail Energy Supply Association ("RESA")[1] hereby submits its comments in response to the Department of Environmental Protection's ("MassDEP") December 2023 Strengthening the Clean Energy Standard Discussion Document setting forth options for potential changes ("Proposed Changes") to the Clean Energy Standard ("CES").[2]

INTRODUCTION

RESA is a non-profit organization and trade association whose members are active participants in the retail competitive markets for electricity, including the Massachusetts retail electric market. Several RESA member companies are licensed by the Department of Public Utilities to serve residential, commercial and industrial customers in Massachusetts and are presently providing electricity service to customers in the Commonwealth. As such, RESA has an interest in ensuring that the Proposed Changes do not have an adverse effect on RESA

[1] The comments expressed in this filing represent the position of the Retail Energy Supply Association (RESA) as an organization but may not represent the views of any particular member of the Association. Founded in 1990, RESA is a broad and diverse group of retail energy suppliers dedicated to promoting efficient, sustainable and customer-oriented competitive retail energy markets. RESA members operate throughout the United States delivering value-added electricity and natural gas service at retail to residential, commercial and industrial energy customers. More information on RESA can be found at www.resausa.org.

[2] *See generally,* MassDEP Discussion Document, Strengthening the Clean Energy Standard (Dec. 2023) ("Discussion Document").

members, their customers or the continued success of the competitive retail electric market in Massachusetts.

BACKGROUND

In 2017, the MassDEP adopted the CES, which requires that the electric distribution companies ("EDCs") and competitive suppliers (i.e., load serving entities ("LSEs")) procure a minimum percentage of electricity sales from clean energy sources with a commercial operation date after December 31, 2010.[3] In 2020, the MassDEP adopted changes to the CES that, *inter alia*, require the EDCs and competitive suppliers to procure a minimum percentage of electricity sales from facilities with a commercial operation date before 2011 ("CES-E").[4]

In December 2023, the MassDEP issued the Discussion Document detailing the Proposed Changes and soliciting stakeholder feedback.[5] RESA now hereby submits its comments in response to the Discussion Document.

COMMENTS

RESA understands the MassDEP's desire to modify the CES to support clean energy development consistent with the Clean Energy and Climate Plan ("CECP") for 2025 and 2030, the 2050 CECP, and sector based greenhouse gas emissions limits.[6] However, many of the Proposed Changes will create regulatory uncertainty and add unnecessary operational complexity without achieving the desired result. The MassDEP can mitigate this by: (a) providing as much regulatory certainty as possible; (b) protecting existing customer expectations; and (c) limiting the potential complexity of any changes. Thus, for the reasons discussed more fully below,

[3] 310 CMR 7.75(4)(a).
[4] 310 CMR 7.75(4)(b).
[5] *See generally*, Discussion Document.
[6] *Id.* at 1.

RESA requests that the MassDEP consider revising the Proposed Changes before issuing proposed regulations.

I. MASSDEP SHOULD PROVIDE AS MUCH REGULATORY CERTAINTY AS POSSIBLE AND PROTECT EXISTING CUSTOMER EXPECTATIONS

In Massachusetts, LSEs are already required to satisfy nine (9) unique renewable and clean energy obligations.[7] Complying with these various obligations is already complex. If adopted, the Proposed Changes would create two (2) additional obligations with which LSEs would need to comply further increasing the complexity of compliance.[8]

Ultimately, when considering any changes to the CES (whether it be those in the Discussion Documents or others), the MassDEP should ensure that the compliance requirements are straightforward, easily calculable, and identified for a multi-year period to allow businesses to manage their affairs more effectively and reduce risk premiums; thus, mitigating costs borne by ratepayers. The MassDEP should also ensure that it protects existing customer expectations.

A. Compliance Obligations And ACP Rates Should Be Established With Certainty In Advance

The Discussion Document includes proposals to:

- increase the ACP rate;[9]
- add a requirement that some fraction of each year's compliance obligation be met with CECs from generation with a commercial operation date that is within the prior three years (i.e., a "recent vintage" requirement) and impose a "relatively high per-MWH ACP" to incent new generation to be built;[10]

[7] *See* 310 CMR 7.75; 225 CMR 14.00; 225 CMR 15.00; 225 CMR 16.00; 225 CMR 21.00.

[8] *See* Discussion Document, at 2 (proposing to add a "recent vintage" obligation and a long-term planning requirement).

[9] Discussion Document, at 1.

[10] *Id.* at 2.

- add a requirement that a certain percentage of the compliance obligation be met through multi-year contracts with clean energy generators (i.e., a long-term planning requirement);[11]

- increase the compliance obligation to account for behind-the-meter ("BTM") electricity consumption;[12]

- redefine the numerical percentage standard;[13]

- count hydropower used to comply with Massachusetts Renewable Portfolio Standard ("RPS") toward CES-E compliance and congruently increase the CES-E compliance obligation;[14] and

- potentially transition to monthly or quarterly compliance periods.[15]

First and foremost, the Discussion Document does not indicate the date on which the MassDEP contemplates these changes would be effective.[16] Moreover, the Discussion Document does not detail: (a) how the ACP rate will be established or how far in advance it will be known; (b) how the recent vintage compliance obligation will be established or how far in advance it will be known; (c) how the long-term planning compliance obligation will be established or how far in advance it will be known; (d) how LSEs will know how much the compliance obligations will increase to account for BTM consumption; or (e) how the increase in the CES-E compliance obligation to account for the inclusion of hydropower will be established or how far in advance it will be known.[17] Further, although the Discussion Document indicates that some of the changes are intended "to 'lock in' a particular percentage standard instead of requiring analysis of

[11] *Id.*

[12] *Id.* at 2-3.

[13] *Id.* at 3.

[14] *Id.*

[15] *Id.*

[16] *See generally*, Discussion Document.

[17] *See generally,* Discussion Document.

contributing components and load projections to estimate the overall effect of the CES,"[18] those changes will actually create more uncertainty.[19]

As the Discussion Document acknowledges, increasing the ACP will increase the cost of CECs.[20] Because LSEs will need to purchase additional CECs to satisfy new compliance obligations and increases in existing compliance obligations, costs will increase even further. These increased costs will be passed onto consumers in higher Basic Service rates and competitive supply prices. In addition, if competitive suppliers do not know and cannot reasonably estimate their actual compliance obligations and costs with certainty, they will include significant risk premiums in their prices to account for the uncertainty. These risk premiums will further compound the costs that customers will be forced to pay as a result of the Proposed Changes. Furthermore, if the compliance obligation or cost is ultimately less than the suppliers estimated, customers will have paid more than was actually necessary.

Alternatively, competitive suppliers may include a provision in their customer contracts that either passes through the cost of compliance or allows the supplier to adjust the contract price once the compliance obligation and cost for a particular year are known. However, customers place a high value on price certainty for budgeting and planning purposes. Suppliers can best provide such certainty if the future cost of service can be predicted with reasonable accuracy.

To obviate the need for risk premiums or less attractive contract terms, RESA urges the MassDEP to provide a schedule that allows suppliers to know ***with certainty*** what their compliance obligations and the ACP rates will be for the life of the obligation. Such certainty

[18] *Id.* at 2.

[19] *See* Section II *infra*.

[20] Discussion Document, at 1.

will allow suppliers to make appropriate forward CEC contracting decisions and obviate the need to include risk premiums in their customer contracts to cover quantity and cost uncertainty. Alternatively, if the MassDEP requires flexibility to respond to changing conditions, RESA proposes that, the MassDEP publish a schedule that establishes each of the compliance obligations and ACP rates for a compliance year at least three (3) years forward. By establishing a three (3) year forward compliance obligation, the MassDEP can eliminate the risk premium in the majority of customer contracts. Further, taking such an approach would reduce the criticality of including exemptions for existing contracts.[21]

B. Existing Customer Expectations Should Be Protected

Equally important as regulatory certainty and the adoption of changes on a prospective basis is the need to protect existing customer expectations. When a new or modified obligation is imposed, it impacts existing contracts that were priced based on any prior obligation and may have a term of service that extends over multiple years. This is particularly severe when proposed changes are not applied prospectively. As noted above, if adopted, the Proposed Changes could materially increase the costs that customers are forced to bear to support clean energy development and affect existing contracts between competitive suppliers and customers.

As the MassDEP most certainly appreciates, the competitive electricity market in the Commonwealth continues to advance and competitive suppliers continue to enter into contractual obligations, often with multi-year terms of service,[22] while potential CES amendments are being considered and will continue to do so until final regulations are promulgated. However, competitive suppliers do not take market positions or enter into

[21] *See* Section I.B *infra*.

[22] *See* Energy Switch Massachusetts website (available at: http://www.energyswitchma.gov) (displaying multiple fixed price offers that extend thirty-six (36) months into the future) (last visited Jan. 19, 2024).

agreement terms with customers based simply on the announcement that a regulatory change may occur or even based on the release of proposed regulatory revisions. Rather, since announced or even proposed regulatory revisions are subject to change based on the regulatory input process,[23] competitive suppliers take market positions and enter into agreements based only on actual regulatory requirements officially promulgated by the governing regulatory authority. In this way, customers are not exposed to undesirable contracting arrangements, unnecessary price increases and/or pricing volatility as a result of speculative regulatory changes that may never be adopted or that may be significantly modified through the regulatory process before such changes ultimately become effective. As consequence, only after the MassDEP officially promulgates any amendments to the CES will suppliers modify their market positions and/or the terms of their agreements with customers to account for any new or modified obligations or requirements. Accordingly, RESA requests that the MassDEP create a compliance exemption (subject to suppliers providing appropriate documentation) from the obligations of any amendments to the CES regulations until the expiration of any contracts existing as of the effective date of these amendments. In this way, the MassDEP can establish a paradigm that protects existing customer expectations.

While competitive suppliers may have contractual and legal means to address change of law circumstances, these mechanisms will have a direct and immediate financial effect on customers that have contracted for a fixed price and will be subject to new and unanticipated charges that are not within their budgets. These unanticipated charges could place customers in untenable positions because they may be required to pay these new costs per the terms of their

[23] *See, e.g.*, Response to Comments on Proposed Amendments to 310 CMR 310 CMR 7.75 *Clean Energy Standard*, http://www.massdep.org/BAW/air/cesf-rtc.pdf (Dec. 2017) (last visited Jan. 19, 2024) (outlining the Department's responses, including updates to proposed amendments to the CES, to stakeholder comments).

contractual agreements. Such an unexpected cost impact would be particularly difficult for customers with limited budgetary flexibility. Moreover, such unexpected changes would undermine the consumers' underlying confidence that the competitive electricity market can provide and deliver the type of pricing products they desire and have contracted to meet their energy needs. Accordingly, in order to avoid disrupting these existing agreements, just as the MassDEP recognized an exemption for existing contracts at the time it promulgated the CES regulations,[24] it should recognize a comparable exemption from any amendments to those regulations.

II. ADJUSTING THE COMPLIANCE OBLIGATIONS AS PROPOSED WILL NOT SATISFY THE STATED OBJECTIVES OR PRINCIPAL GOAL OF THE PROPOSED CHANGES

The Discussion Document also includes several proposals intended "to 'lock in' a particular percentage standard instead of requiring analysis of contributing components and load projections to estimate the overall effect of the CES."[25] However, the proposals intended to achieve these objectives will likely have the exact opposite effect and at substantially higher costs to ratepayers.

A. Adjusting The Compliance Obligation To Account For BTM Consumption Will Create More Uncertainty And Undermine The MassDEP's Goals

The Discussion Document includes a proposal to increase LSE compliance obligations to account for BTM electricity consumption.[26] However, adoption of this proposal would result in more estimations and uncertainty about the overall compliance obligation in contravention of the MassDEP's stated objective of establishing a set percentage "instead of requiring analysis of

[24] *See* 310 CMR 7.75(5)(d).

[25] Discussion Document, at 2.

[26] Discussion Document, at 2-3.

contributing components and load projections."[27] This proposal would also create operational complexities for suppliers.

Customer consumption can vary widely and, therefore, cannot be known with certainty or even accurately estimated in advance. Further, the EDCs are the only entities with access to the information necessary to determine the actual amount of BTM consumption throughout their service territories – information that is not shared with suppliers. As a result, it is impossible for suppliers to determine the impact BTM consumption will have on their compliance obligations at the time that they enter into agreements with customers. In order to compensate for this uncertainty, suppliers will build risk premiums into their pricing that will only further exacerbate the cost impacts of the Proposed Changes on ratepayers.

Because of this uncertainty, suppliers are also less likely to enter into contracts to purchase a set number of CECs at some point in the future to avoid buying more certificates than they will need to meet their compliance obligations. Therefore, more purchases will made in the spot market – likely at a higher price, which will further increase the cost to consumers of the Proposed Changes. The unwillingness of suppliers to enter into contracts to purchase a set number of CECs at some point in the future will increase uncertainty for clean energy generators about how many and at what price they may be able to sell CECs. As a consequence, generators may be less willing to build new generation in direct contravention of main goal of the Proposed Changes.[28]

[27] *Id.* at 2.

[28] *See* Discussion Document, at 1 (indicating that the Proposed Changes are being considered "to support clean energy development").

B. Redefining The Numerical Percentage Will Also Increase Uncertainty And Undercut The MassDEP's Goals

The Discussion Document also includes a proposal to redefine the numerical percentage standard.[29] However, the manner in which this is proposed to be achieved appears to actually increase the uncertainty and complexity of the compliance obligations, which conflicts with the MassDEP's stated objective of establishing a set percentage.[30]

Currently, the CES and CES-E are additive.[31] The CES is known for future years but the CES-E obligation is not.[32] As a consequence, LSEs do not know their total obligation for a future year "until the CES-E percentage is finalized."[33] To remedy this, the Discussion Document contemplates that the total obligation will be set in regulation.[34] However, as described, it appears that the individual CES and CES-E obligations would be determined "based on electricity sales" in a particular year.[35] Thus, both the CES and CES-E obligations would be unknown and vary from year-to-year – undermining the MassDEP's objective of locking in a percentage standard.

Moreover, this proposal does not indicate when the CES and CES-E percentages would be made known. As a consequence, suppliers would be unable to make informed decisions about how many CECs and CEC-Es to buy to satisfy their obligations. To try to account for this uncertainty, suppliers will build risk premiums into their pricing that will only further compound the cost burden of the Proposed Changes on ratepayers. In addition, suppliers will also be less

[29] *Id.* at 3.

[30] *Id.* at 2.

[31] *Id*.

[32] *Compare* 310 CMR 7.75(4)(a) (establishing a set percentage for the CES through 2050) *with* 310 CMR 7.75 (establishing a formula for calculating the CES-E).

[33] Discussion Document, at 3.

[34] *Id*.

[35] *Id*.

likely to enter into contracts to purchase a set number of CECs and CEC-Es at some point in the future; thereby, increasing the uncertainty for generators selling CECs and CEC-Es about how many certificates they may be able to sell and at what price. This uncertainty could make generators less willing to build new clean energy resources in conflict with the principal goal of the Proposed Changes.[36]

C. Increasing The CES-E Compliance Obligation To Account For Class II Hydro Would Substantively Change The Clean Energy Requirements

The Discussion Document includes a proposal to "count MA RPS Class II compliance toward CES-E compliance on a percentage basis."[37] The stated purpose of this proposed change is "to simplify clean energy accounting by making the CES percentage standard more reflective of the total fraction of Massachusetts electricity consumption that is served by clean energy, not to substantively change the clean energy requirements."[38] However, the Discussion Document also contemplates increasing the CES-E "to avoid reducing the combined impact of the MA RPS Class II and CES-E standards."[39] Such an increase would substantively change the clean energy requirements contravening the stated purpose for allowing Class II Hydro to count toward CES-E compliance.

D. The Proposed Changes Will Not Incent Clean Energy Resources To Generate Electricity At Specific Times

The Discussion Document notes that "[c]urrently there is no requirement that clean electricity counted under the CES be generated when there is corresponding demand for electricity in Massachusetts."[40] One option being considered to address this issue is prohibiting

[36] *See* Discussion Document, at 1 (indicating that the Proposed Changes are being considered "to support clean energy development").

[37] *Id.* at 3.

[38] *Id.*

[39] *Id.*

[40] Discussion Document, at 3.

"clean energy generated during periods of negative wholesale electricity prices from generating CECs."[41] However, because this option does not change the basis on which CECs are issued (i.e., minted), it will not change when generation occurs. As a consequence, it will not achieve the desired result.

In the New England Power Pool Generation Information System ("NEPOOL GIS"), certificates are minted quarterly based on generation during a particular ***month***.[42] Because of this, it would be impossible to avoid the creation of a CEC unless negative wholesale electricity prices were in place for the entire calendar month. Thus, it is not feasible to implement this option within NEPOOL GIS. Furthermore, intermittent clean energy generators that rely on nature to provide their "fuel" do not have the ability to control when they generate electricity.

Moreover, any attempt to account for periods of negative wholesale electricity prices outside of the NEPOOL GIS framework will create uncertainty for LSEs about which CECs will be accepted to demonstrate compliance. As a result, suppliers will build risk premiums into their pricing that will only further compound the cost impacts of the Proposed Changes on ratepayers. Because of this uncertainty, suppliers also will be less likely to enter into contracts to purchase a set number of CECs and CEC-Es at some point in the future in order to avoid buying certificates that they will be unable to use to demonstrate compliance with the CES regulations. As a consequence, more purchases will made in the spot market – likely at a higher price that will further increase the costs associated with the Proposed Changes that ratepayers will be forced to bear.

---

[41] *Id.*

[42] *See* NEPOOL Generation Information System, "Important NEPOOL GIS Dates," available at: https://nepoolgis.com/ (noting the quarterly issuance date for certificates based on each month's generation) (last visited Jan. 19, 2024).

The unwillingness of suppliers to enter into contracts to purchase a set number of CECs and CEC-Es at some point in the future will increase uncertainty for clean energy generators about how many and at which price they may be able to sell CECs. As a consequence, generators may be less willing to build new generation; thereby, undermining the principal goal of the Proposed Changes.[43]

E. The Proposal To Increase Compliance Frequency Will Not Achieve The Desired Result And Will Needlessly Add Operational Complexities

In order to induce clean energy resources to generate "when there is corresponding demand for electricity in Massachusetts," the MassDEP is also alternatively considering increasing the frequency with which LSEs must demonstrate CES compliance to quarterly or monthly.[44]

First and foremost, the best way to encourage generators to engage in a desired behavior is to do so directly. Moreover, imposing additional compliance obligations on LSEs will not incent clean energy resources to generate clean energy when there is corresponding demand. As noted above, CECs are minted quarterly based on monthly generation. Thus, a clean energy resource could generate all of its electricity in a given month during periods of low demand and ***still*** create CECs for that month. Thus, imposing a requirement that LSEs buy CECs from a specific month or quarter will not force or even incent clean energy resources to generate during periods of higher demand.

Moreover, even though it will not achieve the desired result, imposing a monthly or quarterly compliance obligation will add operational complexities to the purchase of CECs and compliance with the CES. As a preliminary matter, competitive suppliers have devoted

[43] *See* Discussion Document, at 1 (indicating that the Proposed Changes are expected to increase clean energy development).

[44] *Id.* at 3.

considerable effort to developing strategies for complying with their CES obligations based on systems for trading renewable and clean energy certificates that have been in place for decades. These strategies may include purchasing and retiring CECs during the current compliance year, relying on previously banked CECs, and making ACPs. Moreover, suppliers that purchase and retire CECs during the current compliance year may use various procurement strategies to do so, including making purchases of CECs in regular amounts and at regular intervals throughout the calendar year, purchasing CECs when prices fall to certain levels regardless of the time of year, and entering into long-term contracts to secure supplies of CECs at set prices years before the CECs are actually generated. Increasing the frequency with which LSEs must demonstrate compliance has the potential to upend these carefully developed strategies and to impose additional costs that would ultimately be borne by customers.

Because compliance obligations must be met annually, a common contracting practice is to enter into an arrangement by which a supplier buys CECs for an entire annual compliance year for guaranteed delivery by June 1 of the following year. In order for suppliers to demonstrate compliance either monthly or quarterly, there would need to be a fundamental change in this practice (i.e., CECs would need to be sold and delivered[45] on a monthly or quarterly basis). However, because such a change would only apply in Massachusetts, it is unclear if those selling certificates would be willing to agree to such a change. If not, suppliers would be forced to pay the ACP, which would substantially reduce demand for CECs and the prices that clean energy generators will receive for those CECs in contravention of the MassDEP's principal goal of incenting new clean energy development.

[45] Notably, the CECs could not be delivered until, at least, four to six months after the generation month. *See* NEPOOL Generation Information System, "Important NEPOOL GIS Dates," available at: https://nepoolgis.com/ (noting the issuance date and trading period applicable to each generation month) (last visited Jan. 19, 2024).

Furthermore, the proposal raises significant questions about the means by which suppliers will be able to demonstrate compliance with the CES. For instance, the proposal does not identify how the monthly or quarterly compliance obligations would be calculated. What will suppliers use to determine their load in the month or quarter? Will it be the same source as that used to calculate the total load obligation at the end of the year? Will the MassDEP provide this information or will the suppliers be required to obtain it from another source? If the latter, what will that source be? If it becomes too complex for suppliers to determine their monthly and quarterly obligations, they may simply resort to paying the ACP. This will substantially reduce demand for CECs and the prices that clean energy generators will receive for those CECs, which will contravene the MassDEP's principal goal of spurring further clean energy development.[46]

Moreover, the proposal does not define how the monthly and quarterly compliance obligations could be satisfied. For instance, will LSEs simply need to establish monthly or quarterly compliance with the overall CES obligation? Or will LSEs need to establish monthly or quarterly compliance with the obligation associated with each individual component (e.g., the CES-E and any of the new standards set forth in the Discussion Document) of the CES? Applying a monthly or quarterly compliance obligation to the particular components of the general obligation could exacerbate limitations on the supply of available certificates during particular quarters. For example, because solar facilities tend to generate less energy in the winter months than in the summer months because of seasonal variation in day-length, the number of solar certificates available in the winter months could be constrained. Seasonal fluctuations in generation is even larger in the case of hydroelectric, where, because of seasonal snow melt, output in the spring months far exceeds output in the summer and early fall. If LSEs

[46] *See* Discussion Document, at 1.

are required to settle solar and hydro certificates during those months or quarters, the limited supply could lead to significant increases in the prices of those certificates — once again, increasing the cost of compliance for all suppliers and, ultimately, the prices paid by all ratepayers (including those served by the EDCs) – even though the proposal will not achieve the desired result of incenting clean energy resources to generate "when there is corresponding demand for electricity in Massachusetts."[47]

III. THE PROPOSED INCREASES TO THE ACP RATE ARE NOT LIKELY TO PRODUCE THE DESIRED RESULTS

While RESA understands the MassDEP's desire to try to incent certain actions by clean energy generators, the manner in which it proposes to do so is unlikely to lead to the desired outcome and will result in substantial cost increases that ultimately will be borne by all ratepayers in higher Basic Service rates and competitive supply prices. Thus, before adopting the Proposed Changes, RESA urges the MassDEP to evaluate whether there are alternative means that are more likely to achieve its objectives and that will not result in such a substantial burden on ratepayers.

A. Increasing The ACP Rate May Not Have The Desired Effect And Could Result In Substantial And Ongoing Cost Increases That Will Be Borne By Ratepayers

The first proposal in the Discussion Document is to increase the ACP rate because it could increase the market price of CECs in order to support the development of more clean energy resources.[48] However, the price that a clean energy generator can receive for CECs is only one factor that influences the decision to build additional generation. Thus, it is not

[47] Discussion Document, at 3.

[48] Discussion Document, at 1.

necessarily true that an increase in CEC prices will lead to more development of clean energy resources.

In addition, while the CEC prices may increase initially in response to an increase in the ACP, once there is sufficient supply to satisfy the demand for CECs, the prices will come back down. Once prices fall, if more clean energy resources are still needed to meet the State's goals, MassDEP may need to raise the ACP rate again; thereby, further increasing the costs that Massachusetts ratepayers will be forced to bear. Similarly, raising the ACP rate to try to ensure that more CECs are sold in Massachusetts than surrounding states[49] may also only have a temporary effect. This will also likely result in the other states, who are also trying to achieve their goals, increasing their ACP rates, which will require MassDEP to further increase its ACP rate, and so on. As a consequence, there could be cascades of increases all across New England; compounding the cost increases that ratepayers will be forced to absorb. Conversely, the proposal to dedicate CES ACP funds to supporting new CES-eligible projects[50] is much more likely to spur new clean energy development and will not result in a significant burden on consumers. Thus, RESA supports the adoption of that change.

The Discussion Document also includes a proposal to add a recent vintage and impose a "relatively high per-MWH ACP" to incent new generation to be built.[51] As noted above, the price that a clean energy generator can receive for CECs is only one factor that influences the decision to build additional generation. Consequently, it is not necessarily true that an increase in the ACP rate will lead to more development of clean energy resources. Moreover, an even higher

[49] *Id*. (noting that "raising the ACP rate to a level consistent with (or higher than) other regional programs would better ensure that when the regional supply of clean energy increases due to Massachusetts' clean energy contracts, the increase in regional supply is fully counted toward Massachusetts' clean energy goals vs. those of other states that have similar programs with higher ACP rates.").

[50] *Id.*

[51] Discussion Document, at 2.

ACP rate will only further increase the costs that ratepayers will be required to assume. Thus, before issuing proposed regulations, RESA urges the MassDEP to consider alternative means by which to incent clean energy development that are more likely to create the desired outcome and may be less costly.

B. Long-Term Contracting Is Inconsistent With Other Stated Goals, Antithetical To A Competitive Market And Likely To Result In Sunk Costs

In order to provide more certainty for clean energy generators, the Discussion Document includes a proposal to add a long-term planning requirement.[52] However, this contravenes the MassDEP's stated desire to "avoid providing unnecessary support over the operational life of projects."[53] Requiring that competitive suppliers enter into long-term agreements is also inconsistent with a competitive market structure in which suppliers are consistently trying to find ways to differentiate themselves and provide customers with cost-efficient and value-added products because it will require all LSEs to buy the same underlying product (i.e., CECs) at the same price.

In addition, Massachusetts does not have the administrative infrastructure or experience to administer such a program successfully. While it is possible for the Commonwealth to develop the administrative framework to include long-term contracting within the CEC obligations, if the effort is unsuccessful, the funds expended to create the framework may be unrecoverable – funds that could have been invested in other efforts with a higher likelihood of success (e.g., incentives for developers to build additional clean energy generation). Thus, RESA recommends that the MassDEP forgo adopting the long-term planning requirement.

[52] *Id.*

[53] *Id.* (identifying one of the benefits of a potential recent vintage requirement).

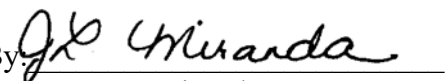
IV. MASSDEP SHOULD HOLD A TECHNICAL MEETING

As the foregoing demonstrates, many of the Proposed Changes will not achieve their desired result or will undermine other goals. While the filing of comments can point out these issues, it does not provide a meaningful opportunity for consideration of alternatives to achieve those goals. This can best be accomplished through an open dialogue process in which all interested stakeholders can provide input on a particular proposal and understand the implications of such proposals on other stakeholders. Such a process also provides an opportunity for the MassDEP to ask follow-up questions and more fully vet potential alternatives that could result in proposals that achieve the desired objectives at a lower cost and with less disruption. Thus, RESA recommends that the MassDEP conduct a technical meeting to discuss its proposals and the comments received before issuing proposed amendments.

CONCLUSION

For all of the foregoing reasons, RESA requests that the MassDEP consider revising the Proposed Changes before issuing proposed regulations to: (a) provide as much regulatory certainty as possible; (b) protect existing customer expectations; and (c) avoid unnecessary complexity.

Respectfully submitted,
RETAIL ENERGY SUPPLY ASSOCIATION

By: 

Joey Lee Miranda
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103
Phone: (860) 275-8227
Fax: (860) 275-8299
E-mail: jmiranda@rc.com

January 19, 2024

Bonnie Heiple, Commissioner
MassDEP
1 Winter Street
Boston, MA 02108

RE: Sol Systems Comments - MassDEP's Clean Energy Standard Program Review

Dear Commissioner Heiple,

Thank you for the opportunity to contribute our insights and suggestions regarding the enhancement of the Massachusetts Clean Energy Standard (CES). This review marks a significant stride towards meeting the ambitious goals outlined in the Commonwealth's Clean Energy and Climate Plans[1] (CECP), especially regarding greenhouse gas emission reductions.

Sol Systems appreciates the Massachusetts Department of Environmental Protection's (MassDEP) efforts in proposing strategies that aim to strengthen the CES and enhance the precision of the state's energy accounting. While we are in alignment with most aspects of the proposed changes, we would like to offer additional insights and constructive feedback. We look forward to a collaborative engagement with you and other key stakeholders as we work towards finalizing these proposals.

Sol Systems is a leading national solar energy firm with an established reputation for integrity and reliability across its development, infrastructure, and environmental commodity businesses. Sol Systems is operating and building over 2 GW of solar projects valued at nearly $2 billion for Fortune 100 companies, municipalities, counties, utilities, universities, and schools and provides environmental commodity portfolio management services to more than 50,000 customers across the US. The company was founded in 2008, is based in Washington, D.C., and is led by its founder. Sol Systems works with institutional clients, corporate partners, and foundations to create a more sustainable future we can all believe in. We have over 500 active customers across the Commonwealth and have developed 24 on-site solar projects, totaling roughly 52 megawatts, for businesses across the Commonwealth.

I. Strengthening the Clean Energy Standard

Sol Systems supports the Department's proposal to increase the CES ACP rate to a level that fosters the development of new clean energy facilities. An ACP increase would elevate the market price of Clean Energy Certificates (CECs), thereby bolstering clean energy development throughout the Commonwealth. However, we are cognizant of the potential impact on ratepayer costs. To mitigate this, we suggest implementing rebates as a form of refunding a portion of the ACPs to ratepayers. This balanced approach would not only maintain essential market signals for developers but also cover administrative costs and fund clean energy programs without overburdening ratepayers.

[1] As required by the Global Warming Solutions Act of 2008 and the 2021 Climate Law (An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy), the 2025/2030 Clean Energy and Climate Plan includes Massachusetts' roadmap to realize economy-wide emissions limits and sector-specific sublimits in 2025 and 2030.

We respectfully caution against raising the ACP rate with the intent of shuffling regional supply back to Massachusetts. This only adjusts currently existing supply without necessarily increasing the actual number of clean energy projects, and does not ameliorate the fact that ratepayers are paying for the program without receiving benefits. Given development timelines, we advocate for increasing the ACP beginning a few years in the future and immediately beginning to refund a portion of ACPs to ratepayers, as mentioned above.

Sol Systems requests further clarification regarding the proposal to dedicate ACP funds to new CES-eligible projects. We support this if the purchases and retirements are clearly not attributed to the minimum compliance standard in the later year and are in excess of the later year's minimum standard. While supportive, we caution against the complexity that this could introduce into the market and the potential for distorted market signals.

We express reservations regarding MassDEP's proposal to retain ACP funds for future CEC purchases. This approach could inadvertently distort market dynamics and deprive ratepayers of the cost benefits arising from competitive market prices. Additionally, it could place an undue burden on MassDEP to determine the "lower price" for purchasing.

While we understand the desire to mitigate uncertainty for generators, we have reservations about the proposal for a percentage of the compliance obligation to be met via multi-year contracts. Long-term contracts can hinder the benefits of market competition and may not always align with operational successes. Furthermore, the Commonwealth has already found a cost-effective way to address increasing certainty. For example, offshore wind generators can meet the Class I standard through long-term contacts. However, if those generators are required to cease construction, other generators can step-in and meet supply since there is not a minimum requirement for long-term contracted resources.

II. More Comprehensive Clean Electricity Accounting

Sol Systems strongly supports the provision to adjust each year's compliance obligation to account for behind-the-meter (BTM) generation. Given that BTM generation is currently double-counted, the proposed methodology would ensure better environmental accounting integrity, while reducing administrative burdens through its lower data intensity and the elimination of the need to publish confidential data from utilities.

We also support including MA Class II under the CES-E. However, we recommend delaying the implementation until 2030 to provide market certainty and encourage further investment in clean energy by not carving out the CES standard further (if the proposed redefinition of numerical percentages is adopted).

We strongly advocate for the Department to prioritize practicality and uphold market stability. Consequently, we firmly believe that clean energy generated during periods of negative wholesale pricing should be eligible for CECs. Energy transactions below $0 are still mutually agreed upon by both buyers and sellers and serve as a critical market signal. This signal highlights opportunities for developers, encouraging them to leverage these circumstances by investing in battery technology and other energy storage solutions or to site new project development in more grid-optimal locations. Additionally, the data requirements and administrative burden may be too high for tracking negative pricing at the level granular enough to ensure each generator is creating CECs only for its energy sold above the set threshold.

We are also cautious about implementing quarterly or monthly compliance periods. If the Department moves forward with this proposal, Sol Systems strongly advocates that implementation be delayed until 2030 to allow time for a more complete and well-designed transition. Market participants have pre-existing contracts to purchase and sell annually accounted RECs; the majority of these contracts are likely to cover the next five years and many even extend beyond 2030. Absent of the proposed conditions, these contracts would likely need to be renegotiated to account for the change in compliance period. Delaying implementation would give parties enough time to do this. Additionally, the 2030 start date fits with development timelines, providing developers the ability to assess and build new clean energy systems to meet the new market's demand. Finally, adopting this framework should be done in tandem with the Massachusetts Department of Energy Resources (DOER) to ensure the Renewable Portfolio Standard and CES programs' compliance remain in sync. Consideration of and coordination with other state administrators is encouraged to ensure regional market alignment on more granular compliance.

III. Conclusion

While Sol Systems supports several aspects of the proposed CES revisions, we highlight specific areas of concern and offer recommendations aimed at achieving a balanced, effective, and equitable Clean Energy Standard. We appreciate the Massachusetts Department of Environmental Protection's efforts in advancing clean energy initiatives and look forward to contributing further to this important dialogue. Please do not hesitate to reach out with questions. We are available at the Department's convenience to provide any additional information or analysis.

Respectfully submitted,

Shannon Meyer-Johanson
Sr. Manager Policy & Government Affairs
Sol Systems

Brown, Jason R (DEP)

From: Susan Tordella <susan.tordella@gmail.com>
Sent: Thursday, January 18, 2024 4:55 PM
To: Strategies, Climate (DEP)
Subject: Mass DEP discussion - Strengthening the Clean Energy Standard

Comments:

If you do the math, wind & solar cannot provide the majority of reliable affordable clean energy. I urge you to include a designation as Nuclear Energy as CLEAN in the Clean Energy Standard.

Nuclear power is experiencing a renaissance and needs to be recognized as the fastest, cleanest and most reliable way to address climate change. Nuclear power contains 100 percent of its byproducts and safely disposes of it -- unlike toxic solar panels that are likely to end up in landfills, and wind turbine blades that are too large for disposal in land.

Renewables and their subsidies wreak havoc with our Grid because they are intermittent and the auctions are tilted to benefit them. Rolling blackouts are a real threat if you pay attention to ISO New England as more and more electricity is generated from renewables. Batteries that are big enough, affordable and can obtain the minerals are not available or realistic.
Renewables in the right locations have a role in addressing climate change. We cannot rely on them as the major source of energy. Please add nuclear power to the list of designated “clean “ energy.

--
Susan Tordella

Ayer, Mass.

www.eco-nuclearsolutions.org

Does climate change keep you up at night?