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December 23, 2020

The Honorable Michael J. Barrett,
Senate Chair, Joint Committee on Telecommunications, Utilities & Energy
State House, Room 109-D
Boston, MA 02133

The Honorable Thomas A. Golden
House Chair, Joint Committee on Telecommunications, Utilities & Energy
State House, Room 473B
Boston, MA 02133

RE: Comments on Draft Regulations Amending Renewable Portfolio Standard Class I and II Regulations, 225 C.M.R. §§ 14.00 *et seq.* and 15.00 *et seq.* (H.5169)

Dear Chairmen Barrett and Golden and Members of the Joint Committee:

The Massachusetts Attorney General's Office (AGO) offers the following comments to aid the Joint Committee on Telecommunications, Utilities, and Energy's (Committee) consideration of the Department of Energy Resources's (DOER) draft regulations amending 225 C.M.R. §§ 14.00 and 15.00 *et seq.* and associated guidelines¹ (collectively, Draft Regulations), which significantly amend the eligibility criteria and procedures for biomass generation units under the Commonwealth's Renewable Energy Portfolio Standards (RPS) program.

While unique to this Committee and DOER, the long-honored obligation to review and issue a report on draft DOER regulations is a purposeful cross-check on the regulatory implementation of the energy policy developed by this Committee. G.L. c. 25A, § 12. **In light of the significant public concern and scientific evidence regarding the climate and public health impacts of DOER's Draft Regulations,² the AGO encourages the Committee to recommend that DOER initiate a public stakeholder process, including a period for public comment, on the Draft Regulations and accompanying analyses of the final**

¹ 225 C.M.R. §§ 14.00 *et seq.*: *Renewable Energy Portfolio Standard – Class I*; 225 C.M.R. §§ 15.00 *et seq.*: *Renewable Energy Portfolio Standard – Class II*; *Guideline on Eligible Biomass Fuel for Renewable Generation Units*; *Guideline on Overall Efficiency and Lifecycle Greenhouse Gas Analysis*.

² See, e.g., Springfield City Council, Unanimous Resolution in Opposition to State Subsidies & Incentives for Biomass Incinerating Power Plants in Massachusetts (Dec. 21, 2020).

regulatory package. Further, the AGO requests that prior to issuing its report on the Draft Regulations, the Committee hold a hearing to consider those well-founded concerns.

The Commonwealth was prescient in stringently constraining biomass participation in the RPS program, and we should not reverse course now. In this letter, the AGO explains that (1) forest biomass energy production—the burning of woody fuel from forests to generate electricity—will only exacerbate the climate and public health crises facing the Commonwealth; (2) DOER’s Draft Regulations and their complex accompanying analyses, which stakeholders have not had sufficient time to review, raise important substantive and procedural legal concerns; and (3) the Draft Regulations contain numerous provisions that may increase—not decrease—greenhouse gas and other harmful pollutant emissions, and the analyses purporting to support the Draft Regulations appear to overlook important considerations, make unsupported assumptions, reach dubious conclusions, and in any event show the regulations may indeed have troubling emissions impacts. For example:

- DOER analyzed the emissions, forest, and electricity sector impacts of only the regulations as proposed in April 2019, not the Draft Regulations submitted to this Committee, which contain significant changes from DOER’s proposal;
- DOER continues to inflate its emissions-reduction calculations by employing a biomass lifecycle greenhouse gas calculator that determines emissions over time based on only a single year’s worth of data;
- DOER proceeded with its misguided proposal to limit forest salvage through vague, unenforceable “Sustainable Forestry Management” practices, leaving it to third-party foresters to police compliance;
- DOER failed to account for the significant soil carbon emissions associated with tree harvesting and forest thinning;
- DOER acknowledged that three percent of New England forests will be permanently lost to development over the next fifty years, but failed to assess the additional and cumulative impacts of climate change on those forests and lifecycle greenhouse gas emissions;
- The Draft Regulations may indeed pave the way for increased generation and construction of new, polluting biomass facilities, including the proposed facility in Springfield; and
- The analyses accompanying DOER’s Draft Regulations suggest that, in order to participate in the Massachusetts RPS market, units would have to increase their “supply radius,” importing qualifying feedstocks from farther away and potentially putting greater pressure on forests and increasing transportation emissions.

In short, the scientific and technical bases for DOER's conclusions that expanding RPS eligibility for burning woody biomass will lead to an increased reduction in greenhouse gas emissions, not result in a significant increase in biomass plant operations across the region, and have no significant impact on the region's forests are, at best, unsubstantiated and, at worst, erroneous and contradicted by the findings of DOER's own consultants. As a general rule, those analyses also fail to reflect the current scientific understanding of the climate impact of burning wood for fuel and continue to set as a benchmark for efficiency combined cycle natural gas plants—another highly emitting fossil fuel energy source on which, science tells us, we must rapidly reduce reliance. We request that the Committee's review address these concerns.

1. Climate and Public Health Impacts of Biomass Electricity Generation

As this Committee understands well, we are in the midst of a rapidly accelerating climate crisis. This summer, we endured prolonged significant or critical drought conditions in every corner of the Commonwealth,³ and the nation watched in horror as skies over California turned orange and thousands were displaced due to unprecedented mega forest fires.⁴ Wind storms and an unusually active hurricane season also exacted a grim toll,⁵ and 2020 is on track to be the hottest year on record.⁶ The Intergovernmental Panel on Climate Change (IPCC) has warned that, to have a roughly 50 percent chance of limiting warming to 1.5-2.0 degrees Centigrade, ***global emissions must be reduced by nearly half in the next ten years***, at least 80 percent by 2050, and then decline to zero or become net negative.⁷ Recognizing the urgency of the climate crisis, the Commonwealth has imposed nation-leading statewide greenhouse gas emission targets under its Global Warming Solutions Act (GWSA). *See* G.L. c. 21N, § 3(b). And just this year the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) issued a draft determination establishing net zero as the Commonwealth's new greenhouse gas emissions limit for 2050.⁸

Policies that subsidize wood burning, like the revised RPS eligibility requirements for biomass set forth in DOER's Draft Regulations, move the Commonwealth in the wrong direction. Our forests are one of our first lines of defense against climate change because of their

³ *See* Massachusetts September 2020 Drought Status (Oct. 9, 2020), <https://www.mass.gov/doc/september-2020/download>.

⁴ *See, e.g.,* Joseph Serna, *Changes Caused by Worsening Wildfires in California Forests Will Last Centuries*, L.A. Times (Dec. 21, 2020), <https://www.latimes.com/california/story/2020-12-21/worst-california-wildfire-season-has-altered-forests-for-centuries-to-come>; Kendra Pierre-Louis & John Schwartz, *Why Does California Have So Many Wildfires*, N.Y. Times (Dec. 3, 2020), <https://www.nytimes.com/article/why-does-california-have-wildfires.html>.

⁵ *See* 2020 Atlantic Hurricane Season takes infamous top spot for busiest on record, NOAA (Nov. 10, 2020), <https://www.noaa.gov/news/2020-atlantic-hurricane-season-takes-infamous-top-spot-for-busiest-on-record>.

⁶ *See* Andrea Thompson, *2020 Will Rival 2016 for Hottest Year on Record*, Sci. Am. (Dec. 15, 2020), <https://www.scientificamerican.com/article/2020-will-rival-2016-for-hottest-year-on-record/#:~:text=As%20of%20the%20end%20of,records%20go%20back%20141%20years>.

⁷ Intergovernmental Panel on Climate Change, *Global Warming of 1.5° C – Summary for Policy Makers*, SPM-14,16 (Oct. 6, 2018), http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

⁸ *See* Sec'y of Energy and Envtl. Affs., *Request for Comments* (Feb. 26, 2020), <https://www.mass.gov/doc/draft-letter-of-determination-on-the-2050-emissions-limit-revised-342020/download>.

ability to sequester carbon.⁹ Yet DOER’s new regulations threaten their integrity and will result in increased greenhouse gas emissions almost certainly in the short term—when we need to be drastically reducing emissions—and most likely over the longer term, notwithstanding the flawed analyses accompanying DOER’s Draft Regulations. Per BTU, wood has about the same carbon content as coal,¹⁰ and, according to the Environmental Protection Agency, wood contains about 75% more CO₂ per British thermal unit (BTU) than natural gas.¹¹ As a result, wood that is harvested and burned for energy immediately increases CO₂ emissions—even where it is displacing fossil fuels.¹²

Moreover, while it is generally true that forest regrowth can partially offset greenhouse gas emissions generated from wood burning in some circumstances, in New England, in general, and in Massachusetts, in particular, that regrowth can take up to a century or longer.¹³ In the meantime, biomass energy production will accelerate irreversible harms associated with climate change that render rates of future forest regrowth even less certain, including extreme weather events like ice storms and hurricanes,¹⁴ increased insect populations, droughts, and changing rainfall patterns.¹⁵ Additionally, though some burned biomass fuel, like forest-derived salvage, would decay and generate greenhouse gas emissions if left in place, that process, too, would unfold slowly over time, as compared to the immediate release of greenhouse gas emissions from

⁹ See William Moomaw et al., *Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good*, 2 Front. For. Glob. Change 27, 4-5 (June 11, 2019) (concluding that Western Massachusetts forests have a “particularly high untapped capacity for carbon storage and sequestration” because of “high growth,” “low decay rates,” and no significant harvest in the last 75-150 years).

¹⁰ John D. Sterman et al., *Does Replacing Coal with Wood Lower CO₂ Emissions? Dynamic Lifecycle Analysis of Wood Bioenergy*, 13 *Envtl. Res. Letters* 1, 2 (2018), <https://iopscience.iop.org/article/10.1088/1748-9326/aaa512>.

¹¹ U.S. Envtl. Prot. Agency, *Emission Factors for Greenhouse Gas Inventories* (Mar. 26, 2020), <https://www.epa.gov/sites/production/files/2020-04/documents/ghg-emission-factors-hub.pdf>.

¹² Sterman at 2 (“Burning wood instead of coal creates a carbon debt—an immediate increase in atmospheric CO₂ compared to fossil energy.”); see Philippe Leturcq, *GHG Displacement Factors of Harvested Wood Products: The Myth of Substitution*, 10 *Sci. Rep.* 20752, 4 (Nov. 27, 2020), <https://doi.org/10.1038/s41598-020-77527-8> (“The combustion emission of wood is clearly higher than that of other fuels.”); Mary S. Booth, *Not Carbon Neutral: Assessing the Net Emissions Impact of Residues Burned for Bioenergy*, 13 *Envtl. Res. Letters* 035001, 1 (Feb. 21, 2018), <https://iopscience.iop.org/article/10.1088/1748-9326/aaac88/pdf> (“Biomass power plants tend to emit more CO₂ than fossil fueled plants per MWh, and as shown by a number of studies, net emissions from bioenergy can exceed emissions from fossil fuels for decades.”).

¹³ See Tara W. Hudiburg et al., *Meeting GHG Reduction Targets Requires Accounting for All Forest Sector Emissions*, 14 *Envtl. Res. Letters* 095005, 7 (Aug. 23, 2019) (“While it is theoretically possible that a replacement forest will grow and absorb a like amount of CO₂ to that emitted decades or a century before, there is no guarantee that this will happen, and the enforcement is transferred to future generations.”); Moomaw at 2 (“[N]ewly planted forests require many decades to a century before they sequester carbon dioxide in substantial quantities.”).

¹⁴ See U.S. Global Change Research Program, *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, 179 (2018) (rev’d 2020) (“Fourth National Climate Assessment”), https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf (explaining that extreme weather, such as “high winds, thunderstorms, hurricanes, heat waves, intense cold period, intense snow events, ice storms, and extreme rainfall” will likely increase over the next century).

¹⁵ See *id.* at 206-07, 234, 236-37 (describing likelihood of changes in insect activity, drought, and rainfall as a result of climate change); see Sterman at 8 (“The carbon debt incurred when wood displaces coal may never be repaid if development, unplanned logging, erosion or increases in extreme temperatures, fire, and disease (all worsened by global warming) limit regrowth or accelerate the flux or carbon from soils and the atmosphere.”).

burning such materials.¹⁶ And beyond stack emissions, wood harvesting also significantly increases greenhouse gas emissions by releasing carbon stored in soil into the atmosphere,¹⁷ and climate change may further increase the release of soil carbon resulting from wood harvest.¹⁸

Critically, biomass combustion also emits “traditional” harmful pollutants, including particulate matter, that present serious health threats, especially to the communities in which these plants are sited.¹⁹ Small particulate matter, which consists of liquid or solid particles “small enough to be inhaled deeply,”²⁰ accounts for most of the health impacts of air pollution in the United States²¹ and is connected to a multitude of adverse health consequences, including premature death, cardiovascular effects, asthma, bronchitis, pneumonia, chronic obstructive pulmonary disease,²² and, most recently, a higher COVID-19 death rate.²³ Black and Latinx communities in Massachusetts experience disproportionately higher particulate matter exposure.²⁴ As a result, environmental justice communities with higher concentrations of particulate matter experience these adverse health consequences at higher rates.²⁵ Incentivizing biomass combustion in the Commonwealth would further burden communities already disproportionately affected by pollution with dangerous additional particulate matter emissions. The proposed biomass facility in Springfield, for example, would jeopardize the health of an

¹⁶ Booth at 2.

¹⁷ Steven P. Hamburg et al., *Losses of Mineral Soil Carbon Largely Offset Biomass Accumulation 15 Years After the Whole-Tree Harvest In a Northern Hardwood Forest*, 144 *Biogeochemistry* 1, 1 (June 15, 2019) (“If . . . the extent of forest harvesting is expanded to meet demand for bioenergy or to manage ecosystem carbon sequestration, then it will take substantially longer than previously assumed to offset harvest- or bioenergy-related carbon dioxide emissions with carbon uptake during forest regrowth.”); Fourth National Climate Assessment at 244 (“Increased disturbances such as harvesting, wildfire, and insect and disease damage can also release carbon stored in soils, especially where multiple disturbances occur over a short time span.”); see Moomaw at 4 (“Some older forests continue to sequester additional soil organic carbon and older forests bind soil organic matter more tightly than younger ones. If current management practices continue, the world’s forests will only achieve half of their biological carbon sequestration potential; intensifying current management practices will only decrease living biomass carbon and increase soil carbon loss.” (citations omitted)).

¹⁸ David L. Achat et al., *Forest Soil Carbon Is Threatened By Intensive Biomass Harvesting*, 5 *Sci. Reps.* 1, 6 (Nov. 4, 2015) (“[Soil organic carbon (“SOC”)] losses in topsoils due to conventional harvests increased with increasing initial SOC, the latter being itself partly controlled by climate. . . . Climatic influence was clearer for intensive harvests, as demonstrated by the positive relationships between SOC losses and mean annual temperature and evapotranspiration.”).

¹⁹ See, e.g., Fourth National Climate Assessment at 519 (discussing particulate matter emission from wildfires); Luke P. Naeher et al., *Woodsmoke Health Effects: A Review*, 19 *Inhalation Toxicology* 67 (2007).

²⁰ Fourth National Climate Assessment at 518.

²¹ *Id.* at 520.

²² *Id.* at 517-19.

²³ See Off. Mass. Attorney Gen. Maura Healey, *COVID-19’s Unequal Effects in Massachusetts* 6 (2020) (“Mass. AGO COVID-19 Report”), <https://www.mass.gov/doc/covid-19s-unequal-effects-in-massachusetts/download> (citing Xiao Wu et al., *Air pollution and COVID-19 mortality in the United States*, 6 *Sci. Advances* 45 (2020), https://advances.sciencemag.org/content/6/45/eabd4049?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosfutureofwork&stream=future).

²⁴ Mass. AGO COVID-19 Report at 5 (citing Anna Rosofsky, et al., *Temporal Trends in Air Pollution Exposure Inequality in Massachusetts*, 161 *Envtl. Res.* 76 (2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5761067/pdf/nihms917702.pdf>).

²⁵ See Mass. AGO COVID-19 Report at 6-7 (citing Wu at 46).

environmental justice community already deemed the nation’s “asthma capital.”²⁶ In sum, the science shows that biomass energy generation only exacerbates climate and public health harms.

2. Potential Legal Issues Raised by DOER’s Draft Regulations and Analyses

Like DOER’s proposed regulations published in April 2019, the Draft Regulations raise several substantive and procedural legal concerns that warrant further consideration during Committee review and before DOER finalizes amendments to its RPS biomass program.

First, to the extent the Draft Regulations could lead to an increase in greenhouse gas emissions, *see infra* Section 3, the Draft Regulations would run counter to both the Commonwealth’s obligation to “attain actual, measurable, and permanent emissions reductions” under the GWSA, *Kain v. Dep’t of Env’tl. Prot.*, 474 Mass. 278, 300 (2016), and the low-emission eligibility requirements set forth in the RPS statute, G.L. c. 25A, § 11F. The GWSA, for its part, “is designed to make Massachusetts a national, and even international, leader in the efforts to reduce the greenhouse gas emissions that cause climate change.” *New England Power Generators Ass’n v. Dep’t of Env’tl. Prot.*, 480 Mass. 398, 399 (2018). The statute accordingly requires the Commonwealth and its agencies to reduce statewide greenhouse gas emissions by at least eighty percent below 1990 levels by 2050 and to meet interim declining limits every decade along the way to maximize the Commonwealth’s ability to meet the 2050 target. G.L. c. 21N, § 3(b); *see also id.* § 6 (“In implementing its plan for statewide greenhouse gas emissions limits, the commonwealth and its agencies *shall promulgate regulations that reduce energy use, increase efficiency and encourage renewable sources of energy in the sectors of energy generation, buildings and transportation.*” (emphases added)).²⁷ The Secretary of EEA accordingly has directed that Massachusetts reduce statewide greenhouse gas emissions by at least twenty-five percent below 1990 levels by 2020,²⁸ and has issued a draft determination establishing net zero greenhouse gas emissions as the Commonwealth’s new emissions limit for 2050—a public process that is still underway.²⁹

DOER’s RPS program is a key component of the Commonwealth’s efforts to meet the GWSA’s interim and 2050 limits by incentivizing renewable energy sources while phasing out dirtier fuel. Indeed, it is important not only as a climate policy in its own right, but also as a foundation for EEA and the Department of Environmental Protection’s implementation of the GWSA through its declining emissions cap on the electric sector and Clean Energy Standard. *See* G.L. c. 21N, § 3(c)-(d); 310 C.M.R. §§ 7.72-7.75 & 60.05-60.06. If the Draft Regulations would, by expanding subsidies for biomass energy, increase greenhouse gas emissions, the RPS program would be inconsistent with the GWSA’s near- and long-term emissions-reduction

²⁶ Asthma and Allergy Found. Am., *Asthma Capitals 2019: The Most Challenging Places to Live with Asthma*, 33 (2019), <https://www.aafa.org/media/2426/aafa-2019-asthma-capitals-report.pdf>.

²⁷ The AGO is also aware of ongoing efforts by the Committee Chairs to reach agreement on wide-ranging climate proposals intended to further the Commonwealth’s efforts to meet GWSA targets.

²⁸ *See* Sec’y of Energy and Env’tl. Affs., *2015 Update of the Clean Energy and Climate Plan for 2020* (Dec. 31, 2015), <https://www.mass.gov/doc/clean-energy-and-climate-plan-for-2020/download>.

²⁹ *See* Sec’y of Energy and Env’tl. Affs., *Request for Comments* (Feb. 26, 2020), <https://www.mass.gov/doc/draft-letter-of-determination-on-the-2050-emissions-limit-revised-342020/download>.

mandates and its core “anti-backsliding” purpose. *See* G.L. c. 21N, § 3(b), (d) (requiring adoption of declining statewide emissions limits and declining source category emissions limits, respectively); *Kain*, 474 Mass. at 287 (GWSA’s “central purpose” is “reducing emissions in the Commonwealth”).³⁰

Additionally, to the extent the Draft Regulations would increase greenhouse gas emissions, they may be in significant tension with the RPS statute. In particular, the statute requires that qualifying renewable energy generating sources include only those biomass facilities that use “low emission advanced biomass power conversion technologies.” G.L. c. 25A, § 11F(b)(8), (c)(7), and (d)(8). If DOER weakens its existing biomass eligibility and efficiency requirements, its regulations may exceed the scope of their enabling legislation and newly eligible facilities may no longer actually qualify as “low emission” and “advanced” within the meaning of the statute.

Second, DOER’s promulgation of the Draft Regulations appears to be in conflict with the administrative rulemaking procedures set forth in Chapter 30A. In particular, the Draft Regulations contain potentially significant changes from the regulations proposed for public comment that arguably warrant further public process. *Cf.* G.L. c. 30A, § 2 (public “notice shall . . . either state the express terms or describe the substance of the proposed regulation”). For example, the Draft Regulations include an entirely new provision expanding eligible forest salvage to include damaged trees “harvested through a [Department of Conservation and Recreation] approved cutting plan.”³¹ That change, DOER recognized, “will allow a greater amount of Forest Salvage to qualify for the RPS”³² even though, DOER noted elsewhere, the “appropriate calculation of carbon emissions of Forest Salvage is an evolving topic.”³³ Additionally, the Draft Regulations for the first time “create a phased approach to reduction in the cap” on Class I Alternative Compliance Payments (ACP) that electricity suppliers may pay to the Massachusetts Clean Energy Center in lieu of demonstrating RPS compliance, setting a declining Alternative Compliance Payment that starts at \$60 per megawatt hour (MWh) in 2021 and declines to \$40 per MWh in 2023.³⁴ But the proposed regulations would have capped the ACP at \$70 per MWh and gave no indication that a declining cap was under consideration.³⁵ DOER’s insufficient notice of such major changes, if not remedied before finalizing the Draft Regulations, would subvert the purpose of notice and comment rulemaking to provide meaningful opportunity for public review and input.

³⁰ *Cf. Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 256 (D.D.C. 1972) (interpreting Federal Clean Air Act’s purpose to prohibit degradation of existing air quality), *aff’d sub nom. Fri v. Sierra Club*, 412 U.S. 541 (1973).

³¹ Draft Regulations at 225 C.M.R. § 14.02 (definition of “Forest Salvage” within definition of “Eligible Biomass Woody Fuel”).

³² DOER, Response to Comments at 13 (§ VII.D) (Dec. 4, 2020), <https://www.mass.gov/doc/rps-reponse-to-comments-12-04-20/download>.

³³ *Id.* at 10 (§ VII.B.).

³⁴ *Id.* at 3 (§ V.A.); *see* Draft Regulations at 225 C.M.R. § 14.08(3).

³⁵ *See* Proposed Regulations at 225 C.M.R. § 14.08(3), https://www.mass.gov/files/documents/2019/04/08/225%20CMR%2014.00%20Draft%20RPS%20Class%20I%20CLEAN%2028030119%29_0.pdf; DOER, RPS and APS Stakeholder Announcement, RPS Class I § 3.b. (May 15, 2019), <https://www.mass.gov/files/documents/2019/05/15/RPS%20and%20APS%20Stakeholder%20Announcement.pdf>.

Relatedly, DOER has not provided any opportunity for public input or review of the highly complex analyses, assumptions, or conclusions of the studies accompanying its Draft Regulations. In 2019, the AGO actively participated in DOER's stakeholder process on the proposed regulations preceding the Draft Regulations, including submitting comments identifying numerous proposed changes that appeared to be inconsistent with Massachusetts climate policy and DOER's statutory mandate to incentivize low-emission, advanced renewable energy.³⁶ In those comments, the AGO also urged DOER to comprehensively assess and model through a transparent, iterative public process both the effect of further biomass subsidies on electricity sector demand for biomass energy and the likely short- and long-term emissions impacts of each of its proposed changes against an accurate baseline.

Following public comment, DOER commissioned a technical analysis by Sustainable Energy Advantage, LLC, of the potential impact of the proposed regulations on biomass generation (SEA Report) and conducted assessments of the proposal's potential impact on lifecycle greenhouse gas emissions (GHG Analysis) and state and regional forests (Forest Impact Assessment).³⁷ But DOER did not engage with the public in designing, commissioning, or conducting those complex analyses or publish their results for public comment—in stark contrast to DOER's approach in other regulatory proceedings in which each progressive step includes stakeholder comment. Instead, DOER for the first time publicly released the results of the analyses when it submitted the final Draft Regulations to this Committee this month, nearly a year and a half after the comment period closed. DOER has thus cabined public review to the tail end of a busy legislative session, during conference committee discussions of the climate bill, over the holidays, in the height of the global COVID-19 pandemic, and just before the Executive Office of Energy and Environmental Affairs release of its 2030 Clean Energy and Climate Plan and roadmap identifying pathways to meet the Commonwealth's ambitious and critical 2050 emission-reduction goals.³⁸

Accordingly, the AGO believes that further stakeholder process, including opportunity for public comment, is needed to allow meaningful consideration of the significant emissions implications of the Draft Regulations, including changes that appear for the first time in the Draft Regulations and the analyses undergirding DOER's approach. The Committee's report is an appropriate opportunity to emphasize that need.

³⁶ Massachusetts Attorney General's Office Comments to the Department of Energy Resources regarding Proposed Amendments to Renewable Portfolio Standard Class I and II Regulations, 225 C.M.R. §§ 14.00 *et seq.*, 15.00 *et seq.* (July 26, 2019) (Mass. AGO Comments) (incorporated herein as Attachment A).

³⁷ See Sustainable Energy Advantage, *Renewable Portfolio Standard Technical Analysis of Biomass* (Dec. 4, 2020), <https://www.mass.gov/doc/rps-technical-analysis-of-biomass-report/download>; DOER, *Renewable Energy Portfolio Standard-Forest Impact Assessment* (Dec. 2020), <https://www.mass.gov/doc/rps-forest-impact-assessment/download>.

³⁸ Indeed, it appears that stakeholder input and review of DOER's analyses would have been helpful by identifying issues like those set forth in this letter, including that the analyses assess only the regulations as proposed, not as submitted to this Committee, and appear to rely on questionable assumptions and yield troubling conclusions, as discussed *infra* Section 3.

3. AGO Concerns Regarding the Draft Regulations and Analyses

Finally, though the AGO has not had sufficient time to comprehensively review and evaluate the regulatory package submitted to the Committee, the Draft Regulations and accompanying analyses of their impact appear problematic in important ways.

First, the Draft Regulations inexplicably retain many of the provisions in the proposed regulations that have the potential to increase greenhouse gas emissions and harm public health, as explained in AGO's comments on the proposal.³⁹ To be sure, the AGO appreciates that DOER has abandoned several of its damaging proposed amendments, validating some stakeholder concerns that the regulations as proposed would have hindered the Commonwealth's emissions-reduction and public health goals.⁴⁰ But those concerns unfortunately did not drive DOER's revisions to the vast majority of its regulatory package. For example, DOER continues to employ a biomass greenhouse gas "tool" (i.e., calculator) that determines emissions over time based on a single year's worth of data and thus arbitrarily inflates its emissions-reduction calculations.⁴¹ And DOER proceeded with its misguided proposal that forest-derived residues and forest-derived thinnings may be sourced from forests meeting vague, unenforceable "Sustainable Forestry Management" practices, resting the integrity of its entire program on the say-so ("independent[] verifi[cation]") of third-party foresters.⁴²

Second, as discussed *supra* Section 2, the Draft Regulations include new provisions that may reduce RPS compliance and expand eligible fuel and thereby potentially increase greenhouse gas emissions. But the SEA Report, GHG Analysis, and Forest Impact Analysis evaluate only the regulations as proposed and not the Draft Regulations as submitted to the Committee.⁴³ In other words, it appears that *no analyses* have been performed in connection with the actual Draft Regulations DOER now plans to implement. Because the analyses do not include any projections with respect to the Draft Regulations' new provisions and do not provide sufficient data to isolate the impact of any particular regulatory change in the proposal, it is impossible even to approximate the potential impact of the Draft Regulations from the information provided. For example, the Draft Regulations would likely substantially increase eligible forest salvage to include salvage from DCR-approved cutting plans, without any

³⁹ See Mass. AGO Comments at 6-9.

⁴⁰ See, e.g., Draft Regulations at 225 C.M.R. §§ 14.05(1)(a)7.c., 14.05(8)(b)1. & 15.05(1)(a)8.c., 15.05(5)(b)1. (abandoning proposals to reduce overall efficiency requirement from sixty percent to fifty percent and to waive efficiency requirement for units burning more than ninety-five percent forest salvage), 14.05(1)(a)7.d. & 15.05(1)(a)8.d. (abandoning proposal to extend period for calculating lifecycle greenhouse gas emissions from twenty to thirty years).

⁴¹ See Mass. AGO Comments at 8; DOER, *RPS: Guideline on Overall Efficiency and GHG Analysis* (last updated Dec. 4, 2020), <https://www.mass.gov/doc/rps-guideline-on-overall-efficiency-and-ghg-analysis>.

⁴² See Mass. AGO Comments at 9; Draft Regulations at 225 C.M.R. §§ 14.02, 14.05(8)(a) & 15.02, 15.05(5)(a). DOER undertook this revision, despite its prior consultant's conclusion that "the sustainable management of forests is critical to ensuring carbon can be sequestered." SEA Report, App. B: DOER RPS Lifecycle Greenhouse Gas Analysis, at 2 (Dec. 2020), <https://www.mass.gov/doc/rps-technical-analysis-of-biomass-appendix-b/download> (citing Manomet Ctr. for Conservation Scis., *Biomass Sustainability and Carbon Policy Study* (June 2010), https://www.manomet.org/wp-content/uploads/2018/03/Manomet_Biomass_Report_Full_June2010.pdf).

⁴³ See SEA Report at 8, 26 (describing and assessing "proposed policy changes").

assessment of the amount of eligible salvage available under such cutting plans or its impact on forests and greenhouse gas emissions if burned.⁴⁴

Third, the analyses of the proposed regulations themselves appear to omit key considerations, rely on questionable assumptions, draw unsupported conclusions, and in any event disclose troubling emissions and forest impacts. For example, the GHG Analysis appended to the SEA Report appears to leave unanswered the extent to which the regulations as proposed would lead to increased greenhouse gas emissions from disturbing forest soil,⁴⁵ despite soil's well-documented role as a carbon sink.⁴⁶ Additionally, DOER's Forest Impact Assessment noted that, at current annual loss rates, 1.2 million acres, or three percent, of New England forests could be permanently be lost to development over the next fifty years, yet DOER failed even to mention—let alone account for—the additional and cumulative impact of climate change on forests, including increased extreme weather events, drought, changes in rainfall patterns, and increased damage from insects.⁴⁷

The SEA Report also assumed that only six of the forty-six existing biomass generation units in New England might increase generation materially as a result of the regulations and therefore expressly *does not study* the impact of the proposed regulations on the forty remaining units.⁴⁸ But the SEA Report's stated reasons for excluding those forty facilities from the analysis may not hold up. It is unclear, for example, whether the proposed changes, including expansion of eligible fuel and relaxation of compliance procedures, could nonetheless result in increased generation at already eligible biomass facilities or entice retired units to come back online. Additionally, even with respect to the six units actually studied, the SEA Report acknowledged that “the market and policy landscapes and supply responses to those landscape [sic] are constantly shifting,” undermining its core conclusion that the proposed regulations would not cause those units to participate in the Massachusetts RPS market because other states' markets are currently more lucrative.⁴⁹

Further, the SEA Report's conclusion that RPS revenue under the proposed regulations is “extremely unlikely to be sufficient to finance a new biomass facility” answers the wrong question.⁵⁰ The pertinent question is whether the incentives available under the amended RPS program would move the needle for a new biomass facility that has other sources of financing available, like federal funding and long-term municipal contracts. Of particular concern to the AGO, the SEA Report claimed that the “exact status” of the proposed biomass generation plant in Springfield is “not known” and so did not assess the impact of the proposed regulations on the viability of that facility taking into account its current, knowable contracts and financing.⁵¹ And, indeed, it appears the Draft Regulations may prove lucrative for that facility, as they altogether

⁴⁴ See, e.g., Draft Regulations at 225 C.M.R. § 14.02.

⁴⁵ See generally SEA Report, App. B.

⁴⁶ See supra nn.15-16.

⁴⁷ See Forest Impact Assessment at 3.

⁴⁸ See SEA Report at 12-13.

⁴⁹ *Id.* at 1-2, 33.

⁵⁰ *Id.* at 2, 24, 32.

⁵¹ *Id.* at 10 & n.15.

waive the efficiency requirement for facilities using more than ninety-five percent non-forest-derived residues⁵²—*the fuel stock the facility is permitted to burn*. See *In re Palmer Renewable Energy, LLC*, Dkt. Nos. 2011-021 &-02, 2012 WL 5377276, at *1-2 (Mass. Dep’t Env’tl. Prot. July 9, 2012) (Recommended Final Decision after Remand).

Finally, the SEA Report, taken at its word, actually suggests that the regulations may yield increased emissions. Specifically, the SEA Report suggests that changes to biomass requirements may *increase* overall biomass generation at the six marginal plants studied by four to thirteen percent, over 2019 levels.⁵³ The SEA Report also suggests that biomass output will increase over the study period, with 2025 generation at these facilities increasing by as much as 63.8 percent over 2019 levels.⁵⁴ Increases in biomass generation might be higher still, if some fraction of the forty units excluded from SEA’s analysis do, in fact, respond to the policy changes.⁵⁵ And were new production to come online, the SEA Report acknowledged, “an increase in production from zero to greater than zero would, under DOER’s greenhouse gas accounting methods, show an increase in greenhouse gas emissions in early years.”⁵⁶ Additionally, the Biomass Resource Evaluation appended to the SEA Report concluded that, because none of the facilities deemed to be candidates for participation in the new RPS biomass market are likely to be able to meet the fifty percent overall efficiency requirement, participation will require those plants to increase their “supply radius” to secure ninety-five percent of their fuel from non-forest residues and forest salvage—apparently by importing those feedstocks from farther away and potentially putting greater pressure on forests and increasing emissions from transporting such fuel.⁵⁷

In sum, DOER’s Draft Regulations and accompanying analyses raise more questions than they answer—questions that warrant further, in-depth review.

⁵² See Draft Regulations at 225 C.M.R. §§ 14.05(1)(a)7.c., 14.05(8)(b)2. & 15.05(1)(a)8.c., 15.05(5)(b)2.

⁵³ The six marginal generators produced a total of 994,073 MWh from “wood and wood waste” in 2019 according to government sources. See U.S. Energy Info. Admin., Form-923, Schedules 3-5, 1, https://www.eia.gov/electricity/data/eia923/archive/xls/f923_2019.zip. SEA estimates that policy changes would *increase* biomass output by 247,907 MWh to 800,186 MWh over the six-year study period. SEA Report at 32. On an annualized basis, therefore, the changes would increase output by between 41,317 MWh (4.2%) and 133,364 MWh (13%) over 2019 levels.

⁵⁴ SEA’s analysis indicates that in 2025, output would increase by 634,000 MWh over the baseline. See *Id.* at Table 10. If the 2025 output figures are representative of longer-term trends, then the policy changes would increase biomass output at these facilities by 63.8 percent, over 2019 levels.

⁵⁵ *Id.* at 12-13.

⁵⁶ *Id.* at 30.

⁵⁷ SEA Report App. A: Biomass Resource Evaluation, at 21 (Dec. 4, 2020), <https://www.mass.gov/doc/rps-technical-analysis-of-biomass-appendix-a/download>.

Conclusion

As the Supreme Judicial Court has emphasized, Massachusetts climate policy “is designed to go well beyond business as usual in terms of reducing emissions: to upend, rather than to uphold, the status quo.” *New England Power Generators Ass’n, Inc.*, 480 Mass. at 406. And the Commonwealth has both a legal and a moral obligation to protect our most vulnerable communities from harmful air pollution. Incentivizing additional forest biomass energy production would be a step backward, not forward, in those critical efforts.

For the reasons described herein, we encourage the Committee to recommend that DOER initiate a public stakeholder process, including a period for public comment, on the Draft Regulations and analyses supporting those regulations. Further, the AGO requests that, prior to issuing its report on the Draft Regulations, the Committee hold a hearing to consider the well-founded public concern and scientific evidence regarding the significant climate and public health impacts of biomass generation in the Commonwealth.

Sincerely,

A handwritten signature in black ink, appearing to read 'Melissa Hoffer', with a long horizontal flourish extending to the right.

Melissa Hoffer
Chief, Energy and Environment Bureau

ATTACHMENT A



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July 26, 2019

BY ELECTRONIC MAIL

Department of Energy Resources
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Boston, MA 02114
Attn: Attention John Wassam
DOER.RPS@mass.gov

Re: Comments on Amendments to Renewable Portfolio Standard Class I and II Regulations, 225 C.M.R. §§ 14.00 *et seq.*, 15.00 *et seq.*

The Office of Attorney General Maura Healey (the “AGO”) appreciates the opportunity to offer these comments on the woody biomass provisions of the Massachusetts Department of Energy Resources’s (“DOER”) proposed amendments to 225 C.M.R. §§ 14.00 *et seq.*: *Renewable Energy Portfolio Standard – Class I*, 225 C.M.R. §§ 15.00 *et seq.*: *Renewable Energy Portfolio Standard – Class II*, and its proposed *Renewable Energy Portfolio Standard Guideline on Eligible Biomass Fuel for Renewable Generation Units* and *Draft Guideline on Overall Efficiency and Lifecycle Greenhouse Gas Analysis* (together, the “Proposed Amendments”).¹ The Proposed Amendments raise significant concerns about the potential for increased greenhouse gas emissions from biomass energy under the Commonwealth’s vital Renewable Energy Portfolio Standard (“RPS”) program and may undermine the Commonwealth’s nation-leading efforts to address climate change by achieving significant reductions in emissions over the short and long terms.

In these comments, the AGO provides (1) background information regarding Massachusetts’ climate policy and the emissions implications of woody biomass, (2) brief concerns about the legal implications of the Proposed Amendments to DOER’s RPS regulations, and (3) specific recommendations regarding the Proposed Amendments. The AGO urges DOER to reconsider its proposed changes to the woody biomass provisions of the Proposed Amendments as they appear to be inconsistent with Massachusetts climate policy and DOER’s statutory mandate to incentivize low-emission, advanced renewable energy.

¹ The AGO’s comments solely concern the Proposed Amendments related to woody biomass and do not address the other provisions of the Proposed Amendments.

Background

The AGO strongly supports Massachusetts's efforts to lower greenhouse gas emissions and promote clean, renewable energy. As the Fourth National Climate Assessment makes clear, the Earth's climate system is rapidly changing, almost wholly due to human activity, like deforestation and combustion of fossil fuels, that results in the emission of greenhouse gases.² Global annual average surface air temperature increased by 1.8 °F from 1901 to 2016, making this period “the warmest in the history of modern civilization.”³ Climate change presents a serious threat to the Commonwealth and its residents. According to recent research by the University of Massachusetts, the Northeast, including Massachusetts, will continue to see temperatures rise higher and more quickly than the rest of the United States and the world.⁴ Sea level rise, too, is projected to be higher on the East Coast of the United States than the global average.⁵ By 2100, Massachusetts is projected to experience between 4.0 and 7.6 feet of sea level rise relative to mean sea level from the year 2000, with up to 10.2 feet possible under a high-emissions scenario.⁶ Warmer temperatures, extended heat waves, flooding, changing precipitation, and increasingly severe weather events are already having significant impacts on public health, the environment, and agriculture in Massachusetts, causing billions in property damage and straining key infrastructure like the electrical grid.⁷

These accelerating climate harms underscore the need to reduce greenhouse gas emissions in the near term, as quickly as possible. According to the 2018 report of the Intergovernmental Panel on Climate Change, limiting global warming to 1.5 °C will require rapid—within the next ten to fifteen years—and far-reaching economy-wide transitions, including massive electrification of the economy with *carbon-free* fuels.⁸ Massachusetts law

² USGCRP, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II: REPORT-IN-BRIEF 4 (D.R. Reidmiller et al. eds., 2018), https://nca2018.globalchange.gov/downloads/NCA4_Report-in-Brief.pdf. The Fourth National Climate Assessment is a two-volume peer-reviewed assessment released by the U.S. Global Change Research Program coordinated by thirteen federal agencies and representing the work of over 200 governmental and nongovernmental experts. See USGCRP, CLIMATE SCIENCE SPECIAL REPORT: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME I (D.J. Wuebbles et al. eds., 2017), available at <https://science2017.globalchange.gov/> (“FOURTH ASSESSMENT, Vol. I”); USGCRP, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II: REPORT-IN-BRIEF 1 (D.R. Reidmiller et al. eds., 2018), available at https://nca2018.globalchange.gov/downloads/NCA4_Report-in-Brief.pdf.

³ FOURTH ASSESSMENT, Vol. I, at 10, 13, 17 (Exec. Summ.), 39, 40 (Ch. 1), 78, 80-84 (Ch. 2).

⁴ Horton et al., *Northeast*, in CLIMATE CHANGE IMPACTS IN THE UNITED STATES: THE THIRD NATIONAL CLIMATE ASSESSMENT, 373 (2014), available at <http://nca2014.globalchange.gov/report/regions/northeast>.

⁵ FOURTH ASSESSMENT, Vol. I, at 10 (Exec. Summ.).

⁶ See NORTHEAST CLIMATE ADAPTATION SCIENCE CTR., MASSACHUSETTS CLIMATE CHANGE PROJECTIONS- STATEWIDE AND FOR MAJOR DRAINAGE BASINS 15 (Mar. 2018), https://nescaum-dataservices-assets.s3.amazonaws.com/resources/production/MA%20Statewide%20and%20MajorBasins%20Climate%20Projections_Guidebook%20Supplement_March2018.pdf.

⁷ See, e.g., *id.* at 4-6; MASSACHUSETTS DEP'T OF PUB. HEALTH, CAPACITY TO ADDRESS THE HEALTH IMPACTS OF CLIMATE CHANGE IN MASSACHUSETTS, 6 (Apr. 2014), available at <http://www.mass.gov/eohhs/docs/dph/environmental/exposure/climate-change-report-2014.pdf>; Horton, *supra*, at 379; Runkle et al., *Massachusetts State Summary*, NOAA TECHNICAL REPORT NESDIS 149-MA, 4 (2017), available at <https://statesummaries.ncics.org/MA>.

⁸ IPCC. 2018. GLOBAL WARMING OF 1.5 °C - SUMMARY FOR POLICYMAKERS, SPM-15-16, Sec. C.1.3. (approved by IPCC Oct. 6, 2018), available at http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf.

accordingly requires sweeping immediate and long-term emission reductions within the Commonwealth, mostly notably under the Global Warming Solutions Act (GWSA), G.L. c. 21N.

Working in collaboration with Massachusetts agencies, the AGO has a long history of legal advocacy to secure reductions in the greenhouse gas emissions that are the key driver of climate change. The AGO led the federal litigation that resulted in the United States Supreme Court’s determination in *Massachusetts v. EPA* that greenhouse gases are pollutants and that EPA was obliged to regulate greenhouse gas emissions under the federal Clean Air Act if it found such emissions endanger public health or welfare. *See* 549 U.S. 497 (2007). In subsequent administrative proceedings and litigation, the AGO has worked closely with other states to advocate for and defend federal findings and regulations addressing climate change and to fight now-pending rollbacks of those policies.⁹

Here at home, the AGO has supported Massachusetts agencies’ critical efforts to lower greenhouse gas emissions from numerous sources, including successfully defending the Massachusetts Executive Office of Energy Affairs (“EEA”) and Department of Environmental Protection’s (“DEP”) recently promulgated declining emissions cap on the electric sector and its Clean Energy Standard (“Cap and CES Regulations”), 310 C.M.R. §§ 7.74-7.75, under the GWSA. *See New England Power Generators Ass’n v. Department of Env’tl. Prot.*, 480 Mass. 398 (2018). And through its advocacy on behalf of ratepayers, the AGO has sought to ensure that utilities and other participants in the energy markets make reasonable and prudent investments in clean energy initiatives while avoiding ratepayer subsidies for costly and unneeded fossil fuel infrastructure. With the timing and substance of federal climate action now in question, it is more critical than ever that the Commonwealth maintain and strengthen its leadership in cost-effectively reducing greenhouse gas emissions while demonstrating that the transition to clean energy promotes good-paying jobs, economic growth, and consumer savings.

It is in this context of climate crisis and the Commonwealth’s and the AGO’s shared interest and commitments to address that crisis that the AGO’s concerns regarding DOER’s Proposed Amendments arise. Unlike the zero-carbon technologies recognized under the RPS, forest biomass energy production—the burning of woody fuel from forests to generate electricity—is not a sustainable climate solution. It is not “carbon neutral,” as EPA has recently claimed.¹⁰ In fact, burning forest biomass to generate electricity has the potential to *increase* greenhouse gas emissions if technologies, forest management, and fuel sources are not carefully

⁹ *See, e.g.*, California et al. v. EPA, No. 18-1114 (D.C. Cir. filed May 1, 2018); New York et al. v. EPA, No. 18-1174 (D.C. Cir. filed June 26, 2018); Comments of the Attorneys General of Massachusetts et al. on EPA’s Proposed Revisions to the Refrigerant Management Program’s Extension to Substitutes (Nov. 15, 2018), Doc. ID No. EPA-HQ-OAR-2017-0629-0300; Comments of the Attorneys General of New York et al. on EPA’s Proposed Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guideline Implementing Regulations; Revisions to New Source Review Program (Oct. 31, 2018), Doc. ID No. EPA-HQ-OAR-2017-0355-24817; Comments of the Attorneys General of California et al. on EPA’s Proposed Review of Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (Mar. 18, 2019), Doc. ID No. EPA-HQ-OAR-2013-0495-12736.

¹⁰ Scott Pruitt, Administrator, Env’tl. Prot. Agency, Policy Statement: EPA’s Treatment of Biogenic Carbon Dioxide Emissions from Stationary Sources that Use Forest Biomass for Energy Production, *available at* <https://www.epa.gov/air-and-radiation/epas-treatment-biogenic-carbon-dioxide-emissions-stationary-sources-use-forest>.

understood and regulated. As DOER’s own groundbreaking 2010 Manomet Study explains, *net cumulative emissions in 2050 of biomass electricity are approximately equal to those from equivalent electricity generated by coal burning*, and cumulative total emissions are substantially higher with biomass electricity generation than equivalent electricity generated by natural gas combustion—the dominant and marginal fuel in the New England electric grid.¹¹ Although some of the emitted carbon can eventually be resequenced through forest regrowth, that process takes decades and some emissions—like those resulting from the cutting, processing, transportation, and drying of woody biomass fuel—will never be offset.¹²

Harvesting of Massachusetts forests for bioenergy facilities also can have significant impacts on ecosystems and the long-term sustainability of important state industries such as recreation, tourism, and even forestry.¹³ And burning of biomass materials releases particulate matter and other harmful pollutants that have serious health effects in surrounding communities, especially in combination with other local pollution commonly experienced in environmental justice communities and in regions like western Massachusetts where wood-fired heating is widespread.¹⁴

Expanding subsidies for polluting biomass energy production without appropriate safeguards through a program meant to promote clean “renewable energy” would be inconsistent with the Commonwealth’s greenhouse gas emission reduction mandate. And, in light of the critical role forests play in mitigating emissions, the Commonwealth should be working to preserve and replenish our forests as important carbon sinks, not putting incentives in place to burn them as fuel. As discussed in more detail below, the AGO is concerned that the Proposed Amendments would promote and subsidize forest biomass energy production under the RPS program by removing or weakening the restrictions on woody biomass eligibility established in 2012, notwithstanding the legal and scientific imperatives to reduce greenhouse gas emissions as rapidly as possible.

Questions AGO Urges DOER to Consider Before Finalizing the Proposed Amendments

The Proposed Amendments raise several legal concerns that DOER should assess carefully before finalizing any rule, many of which relate to the central question whether the Proposed Amendments would result in increased greenhouse gas emissions. That complex question, however, has not yet been answered by DOER, because DOER has not yet modeled or assessed the likely emissions impacts of its proposed action. At the very least, DOER should take this opportunity to further extend the rulemaking process to comprehensively assess and model through a transparent, iterative public process both the effect of further biomass subsidies on electric market demand for biomass energy and the likely short- and long-term emissions impacts of each of its proposed changes against an accurate baseline. It is critically important for

¹¹ MANOMET CTR. FOR CONSERVATION SCIENCES, BIOMASS SUSTAINABILITY AND CARBON POLICY STUDY 7 (June 2010), *available at* https://www.manomet.org/wp-content/uploads/old-files/Manomet_Biomass_Report_Full_June2010.pdf (“MANOMET STUDY”).

¹² *See, e.g.*, Philip Duffy, Woods Hold Research Ctr., Burning wood for energy is not “carbon neutral” (Apr. 25, 2018), <https://whrc.org/burning-wood-for-energy-is-not-carbon-neutral/>.

¹³ MANOMET STUDY at 8.

¹⁴ *See, e.g.*, Naeher, L.P., Brauer, M., Lipsett, M., Zelikoff, J.T., Simpson, C.D., Koenig, J.Q. & Smith, K.R., Woodsmoke health effects: a review, *Inhalation Toxicology* 67-106 (2007).

the Commonwealth to have an accurate understanding of the actual greenhouse gas emissions impacts of each of the Proposed Amendments in isolation and in combination, because finalizing any rule that would result in an emissions increase would likely conflict with the Commonwealth’s legal frameworks for reducing emissions in both the near and long terms—a course that would benefit neither DOER nor the Commonwealth’s ability to rapidly decarbonize its electric sector in the face of an ever more urgent climate emergency.

First, to the extent the Proposed Amendments could lead to an increase in greenhouse gas emissions, they would run counter to the Commonwealth’s obligation to “attain actual, measurable, and permanent emissions reductions” under the GWSA. *Kain v. Department of Env’tl. Prot.*, 474 Mass. 278, 300 (2016). The GWSA “is designed to make Massachusetts a national, and even international, leader in the efforts to reduce the greenhouse gas emissions that cause climate change.” *New England Power Generators Ass’n, Inc.*, 480 Mass. at 399. The statute accordingly requires the Commonwealth and its agencies to reduce statewide greenhouse gas emissions by at least eighty percent below 1990 levels by 2050 and to meet interim declining limits every decade along the way to maximize the Commonwealth’s ability to meet the 2050 target. G.L. c. 21N, § 3(b); *see also id.* § 6 (“In implementing its plan for statewide greenhouse gas emissions limits, the commonwealth and its agencies *shall promulgate regulations that reduce energy use, increase efficiency and encourage renewable sources of energy in the sectors of energy generation, buildings and transportation.*” (emphases added)). And, pursuant to that mandate, the Secretary of EEA has directed that Massachusetts reduce statewide greenhouse gas emissions by at least twenty-five percent below 1990 levels by 2020.¹⁵

DOER’s RPS program is a key component of the Commonwealth’s efforts to meet the GWSA’s interim and 2050 limits by incentivizing renewable energy sources while phasing out dirtier fuel. Indeed, it is important not only as a climate policy in its own right but also as a foundation for EEA and DEP’s implementation of the GWSA through its Cap and CES Regulations and DEP’s regulations of other sources of emissions. *See id.* § 3(c)-(d); 310 C.M.R. §§ 7.72-7.75 & 60.05-60.06. If the Proposed Amendments would, by expanding subsidies for biomass energy, increase greenhouse gas emissions, the RPS program would be inconsistent with the GWSA’s near- and long-term emissions-reduction mandates and its core “anti-backsliding” purpose.¹⁶

Second, to the extent the Proposed Amendments would increase greenhouse gas emissions, they may be in significant tension with the RPS statute. In particular, the statute requires that qualifying renewable energy generating sources include only those biomass facilities that use “low emission advanced biomass power conversion technologies.” G.L. c. 25A, §§ 11F(b)(8), (c)(7), and (d)(8). If DOER weakens its existing biomass eligibility and

¹⁵ *See generally* Secretary of Energy and Env’tl. Affs., 2015 Update of the Clean Energy and Climate Plan for 2020 (Dec. 31, 2015), *available at* <https://www.mass.gov/files/documents/2017/12/06/Clean%20Energy%20and%20Climate%20Plan%20for%202020.pdf>.

¹⁶ *See* G.L. c. 21N, § 3(b), (d) (requiring adoption of declining statewide emissions limits and declining source category emissions limits, respectively); *Kain*, 474 Mass. at 287 (noting GWSA’s “central purpose” is “reducing emissions in the Commonwealth”); *see also* *Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 256 (D.D.C. 1972) (interpreting Federal Clean Air Act’s purpose to prohibit degradation of existing air ambient air quality), *aff’d sub nom. Fri v. Sierra Club*, 412 U.S. 541 (1973).

efficiency requirements, its regulations may exceed the scope of their enabling legislation and newly eligible facilities may no longer actually qualify as “low emission” and “advanced” within the meaning of the statute.

Third, DOER has not fully explained its rationale for or the impact of many of the changes in the Proposed Amendments. For example, DOER has not explained why “align[ing]” the RPS requirements with Alternative Energy Portfolio Standard requirements or “simplify[ing] and streamlin[ing]” the regulatory requirements is important or preferable notwithstanding potential emissions increases.¹⁷ Additionally, as set forth above, DOER has not yet completed any rigorous assessment of the energy market and greenhouse gas emissions impacts associated with the Proposed Amendments, including any analysis of whether the proposed changes would affect Massachusetts’ ability to achieve its statutory emission-reduction mandates. In this regard, EEA and DEP’s recently promulgated Cap and CES Regulations may serve as a useful guidepost. Before finalizing those rules, EEA and DEP compiled an extensive rulemaking record and commissioned an independent analysis of the electricity bill and greenhouse gas emissions impacts of the regulations¹⁸—analyses on which the Supreme Judicial Court relied in upholding the regulations. *See New England Power Generators Ass’n, Inc.*, 480 Mass. at 408-10. The AGO urges DOER to conduct a similarly robust assessment—informed by public input and review—to ensure any final amendments comport with the GWSA, the RPS statute, and the Commonwealth’s nation-leading emissions-reduction and public health goals.

Specific Recommendations – 225 C.M.R. §§ 14.00 *et seq.*, and 15.00 *et seq.*

As the above discussion makes clear, it is critical that any changes to DOER’s RPS regulations do not increase greenhouse gas emissions. The AGO appreciates that DOER’s Proposed Amendments in some respects appear to tighten the regulations and potentially strengthen eligibility requirements for RPS Class I and II Renewable Generation Units.¹⁹ But multiple proposed changes appear to relax regulatory requirements and efficiency standards and may, for example, allow units with increased greenhouse gas emissions to qualify for Renewable Energy Credits or to receive more Renewable Energy Credits per megawatt hour of generation, thus potentially increasing emissions overall.

The AGO is particularly concerned about the following proposed changes and urges DOER to carefully assess and explain their impact before finalizing any rule:

¹⁷ DOER Memorandum to RPS/APS Stakeholders, *available at* <https://www.mass.gov/files/documents/2019/05/15/RPS%20and%20APS%20Stakeholder%20Announcement.pdf>.

¹⁸ EEA and DEP Response to Comments on 310 C.M.R. §§ 7.74-75 (Aug. 2017), *available at* <https://www.mass.gov/files/documents/2017/08/zo/3drtc-electricity.pdf>; Synapse Energy Economics Inc., Analysis of Massachusetts Electricity Sector Regulations: Electricity Bill and CO2 Emissions Impacts (Aug. 2017), *available at* <https://www.mass.gov/files/documents/2017/08/zw/3dapp-study.pdf>.

¹⁹ *See, e.g.*, Proposed 225 C.M.R. § 14.02 (defining eligible biomass woody fuel to include trees incapable of yielding an eight-foot, rather than a twelve-foot, saw log; eliminating current eligibility for yard waste and trees cut during non-agricultural land use change); *id.* § 14.05(8)(f) (replacing five-year probationary period with one-year period followed by revocation of Statement of Qualification if compliance not achieved; eliminating facilities’ ability to pay DOER to retain Statement of Qualification in lieu of compliance).

- **Adding “Eligible Biogas Fuel,” 225 C.M.R. §§ 14.02, 15.02:** The AGO urges DOER to specifically list the types of biogas that would be eligible under this definition beyond the currently eligible anaerobic digester gas and derivative biogases.
- **Expanding “Eligible Biomass Woody Fuel,” 225 C.M.R. §§ 14.02, 15.02:**
 - The AGO is concerned that DOER’s proposed addition of trees collaterally damaged during harvesting and entire trees and portions of trees harvested during rare species restoration and management could significantly expand the pool of eligible forest-derived residues, threatening to increase net greenhouse gas emissions from related energy production.
 - The AGO further urges DOER to retain the clear limitation that an injurious agent be a “major” threat to forest health or risk to private or public resources to render trees damaged by that agent eligible forest salvage. This qualifier is particularly important to ensure that the increased risks to forest health from climate change—like insect infestations—do not drastically expand the pool of available forest salvage fuel.
 - Additionally, adding agricultural wood waste (including whole trees) and post-consumer wood, as well as eliminating the concrete list of eligible forest products industry residues in favor of a general, vague definition, would increase the pool of eligible non-forest derived residues with new fuels that, again, could increase net greenhouse gas emissions.
 - Importantly, the Proposed Amendments’ expansion of forest salvage and non-forest derived residues is particularly concerning in light of DOER’s proposal to altogether eliminate the efficiency requirement for facilities burning such materials, as discussed below. *See* 225 C.M.R. § 14.05(1)7.c., (8)(b)1.-2. As the chief author of the Manomet Study explained in his comments on this rulemaking, the Manomet Study did not assess the complex question of how burning forest salvage will affect greenhouse gas emissions.²⁰ And DOER has not assessed how much wood might qualify as eligible salvage. DOER must fully understand these issues before finalizing the Proposed Amendments.
- **Deleting definition of “Dedicated Energy Crops,” 225 C.M.R. §§ 14.02, 15.02:** Deletion of the limitation that wood purposefully grown to produce fuel may not be grown on land that sequestered significant amounts of carbon, such as a forest, could result in deforestation of valuable carbon-rich lands, particularly in light of the vague sustainable forestry management standards and reduced efficiency standards discussed below.
- **Amending definition of “Eligible Liquid Biofuel,” 225 C.M.R. §§ 14.02, 15.02:**
 - The AGO urges DOER to clarify that it intends to incorporate only the Federal Clean Air Act’s definition of advanced biofuels, 42 U.S.C. § 7545(o)(1)(B) (requiring 50% reduction in lifecycle greenhouse gas emissions from a 2005 baseline), and not to incorporate any other EPA standards for such fuels, EPA accounting methods, or EPA determinations that specific fuels so qualify.
 - The AGO also urges DOER to (1) retain the requirement that DOER consult with EEA and DEP in determining whether fuels meet that definition in light of EEA and DEP’s expertise and statutorily mandated role in designing and implementing

²⁰ Comments of Thomas H. Walker, Consulting Resource Economist, on DOER RPS Class I & II Rulemaking 2-3 (June 4, 2019).

the Commonwealth's emissions-reduction policies, G.L. c. 21N, §§ 2-5; and (2) retain the requirement that DEP determine whether hazardous waste may be used as eligible fuel, again given DEP's expertise and statutory role in regulating such materials, G.L. c. 21C, § 4.

- Finally, the AGO is also concerned that deletion of the limitations on derivative waste feedstocks could increase the available pool of eligible fuels.
- **Deleting definition of “Lifecycle Greenhouse Gas Emissions,” 225 C.M.R. §§ 14.02, 15.02:** The AGO urges DOER to retain the existing definition of “Lifecycle Greenhouse Gas Emissions” to provide clarity within the regulation itself on what such emissions must include and to retain the requirement that DOER consult with DEP—again, as an expert agency in emissions impacts—in determining lifecycle emissions.
- **Expanding definition of “Useful Thermal Energy,” 225 C.M.R. §§ 14.02, 15.02:** DOER should clarify that a facility is not permitted to count energy used to dry biomass fuel as useful thermal energy—whether the produced fuel is then used at that same generating unit or at any other unit.
- **Deleting air permit compliance requirement, 225 C.M.R. § 14.05(1)(a)7.:** To ensure the RPS program does not subsidize environmental harm in the Commonwealth, DOER should retain in the Class I regulations the requirement that certain generating units affirmatively demonstrate not only that they have obtained—but also that they have complied with—air permits to qualify as an RPS Class I Renewable Generation Unit.
- **Lengthening timeframe for calculating lifecycle greenhouse gas emissions, 225 C.M.R. §§ 14.05(1)(a)7.d., 15.05(1)(a)7.d.:** The AGO strongly urges DOER to abandon its proposal to extend from twenty to thirty years the period for evaluating the reduction of lifecycle greenhouse gas emissions as compared to a new natural gas combined cycle unit. Such extension could inflate the offsetting benefits from forest regrowth and the foregone carbon emissions resulting from decomposition over the longer period, potentially making biomass energy appear more efficient overall. Additionally, extending the timeframe would contradict recent science confirming the need to reduce emissions in the very near term.
- **Calculating Lifecycle Greenhouse Gas Emissions, Draft Guideline on Overall Efficiency and Lifecycle Greenhouse Gas Analysis:** DOER's Draft Guideline on Overall Efficiency and Lifecycle Greenhouse Gas Analysis likewise appears to overestimate the efficiency of biomass energy by calculating the emissions associated with burning biomass fuel based on a single year of emissions rather than the cumulative emissions over the full revised thirty-year period. Instead, as the chief author of the Manomet Study explained in his comments on this rulemaking, the calculation of lifecycle greenhouse gas emissions should assess the *actual* future levels of greenhouse gases in the atmosphere, including the continued release and build-up of emissions in the atmosphere over the full twenty- or thirty-year period at the same time that it assesses reabsorption over that period.²¹
- **Reducing and eliminating efficiency requirements, 225 C.M.R. §§ 14.05(1)(a)7.c., 14.05(8)(b)1.-2., 15.05(1)(a)8.c., 15.05(5)(b)1.-2.:** The AGO strongly urges DOER to abandon its proposal to reduce the Class I eligibility efficiency requirement from 60% to 50% for units that have 5% or more fuel sourced from forest-derived residues and forest-

²¹ See *id.* at 2-3.

derived thinnings and to altogether eliminate any efficiency requirement for Class I or II units that utilize fuel that has over 95% of its fuel sourced from forest salvage and non-forest derived residues. As noted above, this proposed change is particularly troubling in light of the Proposed Amendments' significant increase in the pools of such eligible fuels—including the potentially massive additional forest salvage that may result from climate change—and the poorly understood emissions impacts of burning such materials.²² DOER's proposed efficiency requirements would plainly relax the emissions standards applicable to RPS Class I or II Renewable Generation Units and be a step in the wrong direction for the Commonwealth.

- **Incorporating vague sustainable forestry provisions, 225 C.M.R. §§ 14.02, 14.05(8)(a), 15.02, 15.05(5)(a):** While DOER's sustainable forestry management provisions reflect important concerns like conservation of biological diversity and maintenance of forest contributions to global carbon cycles, they appear to lack any enforceable detail. The AGO urges DOER to revisit the definition of "Sustainable Forestry Management" in consultation with EEA, DEP, and the Division of Fisheries and Wildlife to add concrete, measurable requirements for forest management for each listed criterion.
- **Reducing oversight, 225 C.M.R. §§ 14.05(8), 15.05(5):** The Proposed Amendments would appear to eliminate the advisory panel consisting of representatives of EEA and DEP, among others, to monitor processes for verification of compliance with the regulations and to report on the success of DOER's verification and enforcement. The Proposed Amendments also appear to eliminate the requirements that DOER's forest impact assessment evaluate the appropriateness and accuracy of greenhouse gas accounting and that its report be provided to EEA and the public by a date certain. The AGO urges DOER to retain these important provisions to ensure agency and public oversight and accurate accounting of the regulations' emissions impacts.

²² See *id.* at 4.

Conclusion

As the Supreme Judicial Court recently emphasized, Massachusetts climate policy “is designed to go well beyond business as usual in terms of reducing emissions: to upend, rather than to uphold, the status quo.” *New England Power Generators Ass’n, Inc.*, 480 Mass. at 406. Incentivizing additional forest biomass energy production would be a step backward, not forward, in this effort. The AGO looks forward to further productive dialogue with DOER toward addressing climate change and securing a clean energy future for the Commonwealth.

Respectfully submitted,

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