



Institute *for*  
**Policy Integrity**

NEW YORK UNIVERSITY SCHOOL OF LAW

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VIA E-MAIL

Attn: Reducing Greenhouse Gas Emissions under Section 3(d) of the Global Warming Solutions Act  
Subject: Comments of the Institute for Policy Integrity at New York University School of Law

The Institute for Policy Integrity at New York University School of Law<sup>1</sup> (“Policy Integrity”) respectfully submits these comments for consideration in the promulgation of regulations to implement § 3(d) of the Global Warming Solutions Act, codified at M.G.L. chapter 21N. Policy Integrity is a nonpartisan think tank dedicated to improving the quality of government decisionmaking through advocacy and scholarship in the fields of administrative law, economics, and public policy, with a particular focus on environmental issues. Policy Integrity has extensive experience advising stakeholders and government decisionmakers on the rational, balanced use of economic analysis, both in federal practice and at the state level.

The Commonwealth of Massachusetts shows its dedication to reducing its greenhouse gas emissions in the Global Warming Solutions Act, in Governor Baker’s Executive Order 569, and in these proposed regulations. As stated by Governor Baker, “climate change presents a serious threat to the environment and the Commonwealth’s residents, communities, and economy.”<sup>2</sup>

Massachusetts Department of Environmental Protection (“MassDEP”) has proposed a set of regulations to limit the greenhouse gas emissions from electric power plants, natural gas pipelines, government-owned transportation equipment, and utility-owned switchgear equipment. MassDEP has also proposed to require retail sellers of electricity to purchase gradually increasing amounts of clean energy, and to set non-binding targets for greenhouse gas emissions from the transportation sector.

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<sup>1</sup> These comments do not purport to represent the views of New York University School of Law, if any.

<sup>2</sup> Mass. Exec. Order 569 (Sept. 16, 2016), <http://www.mass.gov/governor/legislationexecorder/execorders/executive-order-no-569.html>.

MassDEP can take additional steps to ensure that the goals of the Global Warming Solutions Act can be achieved in a cost-effective way. In particular, MassDEP should:

- Ensure that the proposed regulations for the electric sector will reduce global greenhouse gas emissions by taking steps to reduce the leakage to other states in the Regional Greenhouse Gas Initiative (“RGGI”) program;
- Design regulations to minimize compliance costs and maximize flexibility for regulated entities, while ensuring that greenhouse gas emissions limits will be achieved; and
- Consider enforceable emissions limits on the transportation sector rather than unenforceable “targets,” or at least clarify that it is not relying on the transportation emissions “targets” to reduce greenhouse gases to the 2020 target mandated by the Global Warming Solutions Act.

**I. The Emissions Cap on Power Plants Should Account for RGGI Leakage and Should Incorporate Best Practices for Marketable Permit Systems.**

The proposed regulation on the greenhouse gas emissions of power plants, titled “Reducing Greenhouse Gas Emission from Electricity Generating Units,” is a powerful tool that can reduce the Commonwealth’s emissions by a meaningful amount. However, as proposed, there is a risk that the emissions that Massachusetts reduces will leak into other RGGI states, leading to no change in regional greenhouse gas emissions. To achieve the Commonwealth’s policy goals, MassDEP should introduce measures to prevent such leakage. In addition, the proposed regulation should minimize the costs of compliance and maximize economic efficiency by adopting the best features of other marketable permit systems. This includes using allowances rather than “over-compliance credits,” holding auctions to distribute allowances, and empowering regulated entities to “bank” accrued allowances but not “borrow” future allowances.

The proposed regulation explains that “MassDEP’s intent for the proposed regulation . . . is to enforce in-state reductions that are projected to occur because of other policies, not to create a market for emission reductions that would overlap with the RGGI program.”<sup>3</sup> As proposed, the current proposal does create “a market for emissions reductions that would overlap with the RGGI program.” Instead of its current approach, MassDEP should directly offset the impacts of this proposed regulation on RGGI, while embracing and improving the market elements of its proposal.

**A. The Regulation Should Address Emissions Leakage Within RGGI States.**

Because Massachusetts is part of RGGI, the power plants in Massachusetts are part of a regional cap-and-trade system for greenhouse gas emissions. RGGI imposes a cap on regional emissions by issuing a limited number of tradeable allowances. Each allowance gives its owner the ability to emit one ton of carbon dioxide (“CO<sub>2</sub>”), or to sell it to another emitting entity. When the demand for allowances is higher than the existing cap, the cap is considered to be “binding.”

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<sup>3</sup> Mass. Dep’t of Env’tl. Prot., Background Document on Proposed New and Amended Regulations: Air Pollution Control for Stationary and Mobile Sources 5 (Dec. 16, 2016) (to be codified at 310 CMR pts. 7, 60) [hereinafter MassDEP Background Document].

When the cap is binding and there is excess demand for allowances, if a power plant no longer needs the allowance to comply with RGGI, it can sell it to another compliance entity that needs more allowances to emit more CO<sub>2</sub>. This means that while the composition of the emitters has changed, the total emissions would still be equal to the RGGI cap due to the design of the cap-and-trade program. Currently, the RGGI cap is binding on power plant operators, and will continue to be binding for the foreseeable future.<sup>4</sup>

Therefore, any emissions reductions achieved by Massachusetts power plants as a result of the proposed regulations will free up more RGGI allowances for power plants outside of Massachusetts, allowing them to increase their emissions and also lowering the market price of RGGI allowances by reducing the demand for allowances. This will mean that the proposed emissions limit on Massachusetts power plants will fail to truly reduce global greenhouse gas emissions, hindering the Commonwealth's goal of mitigating climate change. One solution to this problem would be for Massachusetts to retire additional RGGI allowances to ensure that its efforts to reduce greenhouse gas emissions have a real impact, and to avoid lowering the market price of RGGI allowances.

To illustrate the problem of leakage within RGGI, consider a hypothetical scenario in 2020. The RGGI adjusted cap for 2020 is 56.3 million metric tons of CO<sub>2</sub>.<sup>5</sup> Suppose Massachusetts power plants would emit 10 million tons in 2020 without this proposed regulation, while power plants in the other RGGI states would emit the remaining 46.3 million tons. In addition, suppose that the proposed regulation reduces emissions from Massachusetts power plants from 10 million tons to 8.7 million tons in 2020. Because the proposed regulation does not change the overall RGGI cap, power plants in the rest of the region could still produce 56.3 million tons, with 47.6 million tons emitted from power plants outside of Massachusetts. In other words, the 1.3 million tons of reductions in Massachusetts could “leak” into other RGGI states, thwarting Massachusetts' efforts to combat climate change. In addition, the market price of RGGI allowances will likely drop as a result of lower demand from power plants in Massachusetts, reducing the revenue that all RGGI states receive through the auction of allowances.

In the Global Warming Solutions Act, the Massachusetts General Court foresaw the possibilities of leakage and impacts on RGGI, and directed the Commonwealth's agencies to take consider these issues. MassDEP is required, when setting emissions limits on the electric sector, to “tak[e] into account the regional greenhouse gas initiative.”<sup>6</sup> Furthermore, the Secretary of Energy and

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<sup>4</sup> The states in RGGI reached an agreement to significantly reduce the regional emissions cap beginning in the year 2014, addressing RGGI's past problems of oversupply and modifying the cap to eliminate the unused allowances. This adjustment caused allowance prices to significantly rise, and observers noted that the new emissions cap would effectively constrain the emissions of power plants in RGGI states. See Brooks Miner, *The Cap Matters Most in Cap-And-Trade Markets*, FIVETHIRTYEIGHT (Jun. 2, 2014), <https://fivethirtyeight.com/features/the-cap-matters-most-in-cap-and-trade-markets/>; *Auction Results*, REG'L GREENHOUSE GAS INITIATIVE, [https://www.rggi.org/market/co2\\_auctions/results](https://www.rggi.org/market/co2_auctions/results) (last visited Feb. 16, 2017).

<sup>5</sup> *The RGGI CO<sub>2</sub> Cap*, REG'L GREENHOUSE GAS INITIATIVE, <https://www.rggi.org/design/overview/cap> (last visited Feb. 20, 2017).

<sup>6</sup> M.G.L. c. 21N, § 3(c).

Environmental Affairs is required to address the extent of leakage in a periodic report on the implementation of the Act.<sup>7</sup> The Act defines “leakage” as “the offset of a reduction in emissions of greenhouse gases within the commonwealth by an increase in emissions of greenhouse gases outside the commonwealth,” which is a major risk if this regulation does not address its impacts on RGGI.<sup>8</sup> Thus, MassDEP should address the impacts of this regulation on RGGI not only as a matter of good policy, but also to properly follow the mandates of the Global Warming Solutions Act.

MassDEP could implement this idea by amending the regulations that implement RGGI at 310 CMR 7.70. Language should be added in the area of 310 CMR 7.70(5)(c), establishing a “Global Warming Solutions Act Set-Aside Account.” Massachusetts could periodically purchase a quantity of allowances sufficient to offset the impact of this regulation, calculated as described above,<sup>9</sup> and either retire them or hold on to them indefinitely.<sup>10</sup> To fund these purchases, MassDEP can raise revenue from auctioning Massachusetts-specific allowances, as described below.

There is an analogous provision of the RGGI Model Rule<sup>11</sup> and MassDEP’s implementing regulations<sup>12</sup> that allows the Commonwealth to set aside and retire allowances to ensure that voluntary purchases of renewable energy result in real reductions of regional greenhouse gas emissions. In addition to setting aside and retiring allowances to account for voluntary purchases of renewable energy, Massachusetts and other RGGI states also set aside allowances for a variety of public policy goals.<sup>13</sup> The purpose of this adjustment would be not only to avoid leakage of emissions but also to avoid an oversupply of RGGI allowances, ensuring that the participants in the RGGI market do not see the value of their allowances drop precariously. By retiring allowances, Massachusetts would be assuming responsibility for the impact of its own policies, rather than imposing a problem of oversupply on other states in the region.

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<sup>7</sup> M.G.L. c. 21N, § 5(vii).

<sup>8</sup> M.G.L. c. 21N, § 1.

<sup>9</sup> In the hypothetical 2020 scenario above, a sufficient quantity of allowances would mean the 1.3-million-ton difference between Massachusetts’ emissions *without* the proposed power plant cap (but with RGGI), and Massachusetts’ emissions *with* the proposed power plant cap.

<sup>10</sup> MassDEP lacks the authority to set aside additional allowances before auction, M.G.L. c. 21A, § 22(c), but if MassDEP can obtain authority to do so, it would be a simpler way of implementing this mechanism.

<sup>11</sup> REG’L GREENHOUSE GAS INITIATIVE, MODEL RULE 44–47 (Dec. 23, 2013) (section XX-5.3(j)), [https://www.rggi.org/docs/ProgramReview/\\_FinalProgramReviewMaterials/Model\\_Rule\\_FINAL.pdf](https://www.rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Model_Rule_FINAL.pdf).

<sup>12</sup> 310 CMR 7.70(5)(c)(1)(b).

<sup>13</sup> *State Set-Aside Accounts*, REG’L GREENHOUSE GAS INITIATIVE, [http://www.rggi.org/docs/CO2AuctionsTrackingOffsets/Allocation/States\\_Set-Aside\\_Accounts.pdf](http://www.rggi.org/docs/CO2AuctionsTrackingOffsets/Allocation/States_Set-Aside_Accounts.pdf) (last visited Feb. 16, 2017). *See also* REG’L GREENHOUSE GAS INITIATIVE, MODEL RULE, *supra* note 11, at 41, 44–48 (section XX-5.3(a), (j), (k)) (giving discretion to states to allocate allowances, and including templates for set-aside allocations of allowances). *But see* M.G.L. c. 21A § 22(c) (restricting MassDEP’s authority to set aside allowances *before auction*).

## B. The Regulation Should Use Allowances Instead of Over-Compliance Credits.

Rather than the proposed “Over-Compliance Credits,” the emissions cap on Massachusetts power plants should use allowances. Both approaches will ensure that the aggregate emissions limit will be met, but allowances will create a market with more liquidity, will allow for regulated power plants to plan for compliance more easily, and will also be necessary for auctions.

Allowances will create a more liquid market simply because there will be many more of them. The number of Over-Compliance Credits would be equal to the amount that power plants undershoot their individual emissions limits, but the number of allowances would be equal to the number of tons of CO<sub>2</sub>e in the aggregate emissions limit on power plants. A more liquid market will facilitate transactions among power plants. This is a desirable outcome because it means that the market will more efficiently find the lowest-cost sources of emissions reduction. In addition, these allowances could be tradeable across the different § 3(d) programs that limit aggregate emissions, since this would lead to lower compliance costs for regulated entities.<sup>14</sup>

A system of Over-Compliance Credits would make it difficult for power plant operators to plan for compliance, because Over-Compliance Credits are awarded in retrospect. Under the proposal, Over-Compliance Credits would be created after every year of operations, on May 1 of the following year.<sup>15</sup> As a result, operators of power plants would not know the quantity of Over-Compliance Credits until the operating year is over. The number of available credits would also be uncertain because additional Over-Compliance Credits could be generated from any unused portion of the set-aside for new power plants.<sup>16</sup> It is possible that there would be an insufficient number of Over-Compliance Credits for power plants to meet their compliance obligation collectively, due to this difficulty of foreseeing the quantity of credits. In contrast, power plant operators could buy and sell allowances over the course of the operating year, and adjust operations as needed.

## C. The Regulation Should Auction Allowances Instead of Distributing Them Based on Historical Generation Data.

The proposed regulation would allocate individual emissions limits to power plants on the basis of past generation, and reserve a certain number of allowances for new generation. This approach may be problematic in several ways: a handful of companies will control a large amount of the power plant cap, and new power plants will either get a favorable outcome or an unfavorable one, depending on how many are constructed. Instead, MassDEP should allocate allowances by

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<sup>14</sup> See Erik Haites & Michael Mehling, *Linking Existing and Proposed GHG Emissions Trading Schemes in North America*, 9 CLIMATE POL’Y 373, 374 (2009); Christian Flachslund et al., *To Link or Not to Link: Benefits and Disadvantages of Linking Cap and Trade Systems*, 9 CLIMATE POL’Y 358, 359 (2009); Richard G. Newell & Robert N. Stavins, *Cost Heterogeneity and Potential Savings from Market-Based Policies*, 23 J. REGULATORY ECON. 43, 44 (2003).

<sup>15</sup> Proposed 310 CMR 7.74(6)(a)(1).

<sup>16</sup> Proposed 310 CMR 7.74(5)(d)(2) (allocating any part of the emissions limit set-aside for new power plants that is not used by new power plants to existing power plants as Over-Compliance Credits).

auction, which would lead to a more efficient allocation of resources. Auctions produce greater benefits to society than free allocations of allowances to polluters, because they send superior price signals to ratepayers.<sup>17</sup> In addition, the revenue raised from auctions can be used for public programs, redistributed to ratepayers, or be used to lower other distortionary taxes, lowering the social costs of regulation.<sup>18</sup>

According to the table published by MassDEP in connection with this proposed regulation, five of the regulated power plants would control about 70% of potential Over-Compliance Credits.<sup>19</sup> Two of these power plants are owned by the same company,<sup>20</sup> meaning that only four companies would control about 70% of the power plant cap. This could lead to oligopoly behavior and an uncompetitive market for allowances. In contrast, an auction would allow all power plant operators to buy their allowances in transparent way from MassDEP.

The proposed regulation sets aside 1.5 million tons of emissions for new power plants. It is important to allow new power plants to begin operation, but this method would lead to disconcerting results. If the new power plants collectively emit less than the 1.5 million tons, they would have zero compliance costs. This means that they would have no incentive to worry about emissions up to this limit. However, if the new power plants collectively emit more than the 1.5 million tons allocated for them, they would be forced to buy Over-Compliance Credits from the existing power plants. The Over-Compliance Credits would largely be controlled by a few companies, as noted above. An auction would solve this problem by treating new and existing power plants equally.

An advantage of an auction is that it will raise revenue that can be used for other governmental goals. Auctions from RGGI have raised more than \$2.58 billion through September 2016.<sup>21</sup> By the end of 2014, Massachusetts had reinvested over \$300 million in clean energy, renewable energy, and energy efficiency from RGGI proceeds.<sup>22</sup> The revenue from the Massachusetts power plant allowance auction could be used to purchase RGGI allowances to offset the effect of these regulations on the RGGI program. The revenue could also be used to reduce distortionary taxes, fueling economic growth and increasing the net benefits of the regulations.<sup>23</sup>

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<sup>17</sup> See Dallas Burtraw et al., *The Effect of Allowance Allocation on the Cost of Carbon Emission Trading* 28–29 (Res. for the Future, Discussion Paper No. 01-30, 2001), <http://www.rff.org/files/sharepoint/WorkImages/Download/RFF-DP-01-30.pdf>.

<sup>18</sup> *See id.*

<sup>19</sup> MassDEP Background Document, *supra* note 3, at 39 (Table 4).

<sup>20</sup> According to our research, Engie (formerly GDF Suez) owns both ANP Bellingham and ANP Blackstone. *See* ENGIE, ANALYST PACK: FY 2015 RESULTS, at sheet 2.1, <https://www.engie.com/wp-content/uploads/2016/04/analyst-pack-fy-2015.xlsx>. These two power plants collectively make up 23% of total Massachusetts average generation for the years 2013–2015, as shown in MassDEP Background Document, *supra* note 3, at 39.

<sup>21</sup> REG’L GREENHOUSE GAS INITIATIVE, THE INVESTMENT OF RGGI PROCEEDS THROUGH 2014, at 4 (2016), [https://www.rggi.org/docs/ProceedsReport/RGGI\\_Proceeds\\_Report\\_2014.pdf](https://www.rggi.org/docs/ProceedsReport/RGGI_Proceeds_Report_2014.pdf).

<sup>22</sup> *Id.* at 27.

<sup>23</sup> A study by Resources for the Future shows effects of different ways to reuse revenue from climate policy programs. While the paper focuses on the revenue raised by a carbon tax, a similar

#### D. The Regulation Should Allow Banking of Allowances, But Not Borrowing.

MassDEP is requesting comment on whether the regulation should allow power plants to “bank” allowances for the future or “borrow” allowances from the future. Banking would allow a power plant to use allowances issued in one year for a subsequent year, while borrowing would allow a power plant to use, in the present, allowances that it will receive in future years. MassDEP should allow banking but not borrowing of allowances.

Banking allows power plant operators to plan their operations over a longer timeframe, and hedge against the possibility of future shortages of allowances. It also incentivizes early action to reduce emissions. Without banking, the market price of allowances could drop to zero towards the end of the year if power plant operators foresee a surplus of allowances.<sup>24</sup> However, banking could also allow power plant operators to build up large reserves of allowances. If MassDEP is concerned about a large surplus of allowances, MassDEP could limit the number of years over which allowances may be banked.<sup>25</sup>

Borrowing gives more flexible options to power plant operators, but at a high price. Borrowing allows power plant operators to defer emissions reductions, and at a sufficient scale it could lead to violations of the 2020 emissions limit and future limits. Borrowing also poses a problem because of the possibility of bankruptcy. If a power plant operator foresees it will likely go through bankruptcy soon, it will borrow as many allowances as possible with no intention of repaying them, and MassDEP will be unable to enforce the aggregate emissions limit.

#### II. **The Clean Energy Standard Should Implement a Technology-Neutral, Flexible Compliance System.**

In addition to directly regulating greenhouse gas emissions from power plants, MassDEP has proposed a Clean Energy Standard. As a policy tool, the Clean Energy Standard is not the most economically efficient tool to reduce greenhouse gas emissions. Instead, the most economically efficient public policy tool to achieve greenhouse gas reductions is to use a carbon price that would lead the power generators that use dirtier energy resources to internalize the externalities caused by greenhouse gas emissions fully. Using a carbon price—either through a carbon tax or a cap-and-trade scheme—to achieve greenhouse gas reductions would be the least-cost way of

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reasoning would also apply to the welfare consequences of revenue recycling from allowance auctions. Yunguang Chen & Marc A.C. Hafstead, *Using a Carbon Tax to Meet US International Climate Pledges* 11–12 (Res. for the Future, Discussion Paper No. 16-48, 2016), <http://www.rff.org/files/document/file/RFF-DP-16-48.pdf>.

<sup>24</sup> Richard Schmalensee & Robert N. Stavins, *Lessons Learned from Three Decades of Experience with Cap-and-Trade* 16–17 (Res. for the Future, Discussion Paper No. 15-51, 2015), <http://www.rff.org/files/document/file/RFF-DP-15-51.pdf>.

<sup>25</sup> See KEVIN KENNEDY ET AL., RESPONSE TO THE COMMITTEE’S WHITE PAPER ON A CLEAN ENERGY STANDARD 25 (2011), [http://pdf.wri.org/wri\\_response\\_clean\\_energy\\_standard.pdf](http://pdf.wri.org/wri_response_clean_energy_standard.pdf) (discussing banking and borrowing of credits for a proposed federal Clean Energy Standard).

achieving carbon emission reductions compared to other alternatives.<sup>26</sup> Thus, the most efficient method for the Commonwealth to achieve its policy goals is to use its already existing carbon pricing tool, RGGI, and to modify its proposed power plant cap to ensure the full value of external damage caused by emissions can be internalized. However, Massachusetts may be able to achieve other goals through its proposed Clean Energy Standard, such as encouraging investment in renewable energy technology and creating local jobs.

If MassDEP does, indeed, want to prioritize these other goals, it should consider several modifications to the proposed Clean Energy Standard in order to achieve these goals in a more economically efficient way. The qualification criteria for energy resources should not include a sharp emissions rate threshold. The Clean Energy Standard should allow banking, but not borrowing, of Clean Energy Credits. Alternative compliance Payments (“ACPs”) should be set by taking into account potential interactions with other policies such as Renewable Portfolio Standards to ensure program goals can be achieved.

A. The Clean Energy Standard Should Take a Technology-Neutral Approach to Qualifying Generators, and Should Use a “Smooth” Emissions Threshold Instead of the Proposed “Sharp” Emissions Threshold.

The proposed Clean Energy Standard correctly adopts a technology-neutral definition of what energy resources would be eligible to generate Clean Energy Credits.<sup>27</sup> However, MassDEP proposes to set an emissions threshold at roughly 500 pounds of carbon dioxide equivalent (“CO<sub>2</sub>e”) per Megawatt-hour for energy resources to qualify.<sup>28</sup> Energy resources below the threshold will generate one Clean Energy Credit per Megawatt-hour, while energy resources above the threshold will not be eligible to create any Clean Energy Credits. This creates a strong incentive for developers to create a large number of energy resources that are just below the threshold, rather than a range of energy resources of differing technologies. For example, if carbon capture and sequestration technology continues to become cheaper, this policy could result in the development of a large number of natural gas power plants whose emissions are just below the threshold, instead of renewable energy resources.

Instead of taking a binary approach to determining what energy resources qualify as “clean” for the Clean Energy Standard, MassDEP should allow a range of energy resources to qualify to create different amounts of Clean Energy Credits, using a “smooth” threshold instead of a “sharp” one. For example, an energy resource that emits 500 pounds of CO<sub>2</sub>e per Megawatt-hour

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<sup>26</sup> Erik Paul Johnson, *The Cost of Carbon Dioxide Abatement from State Renewable Portfolio Standards*, 36 RES. ENERGY ECON. 332, 349–50 (2014); Karen Palmer & Dallas Burtraw, *Cost-Effectiveness of Renewable Electricity Policies*, 27 ENERGY ECON. 873, 893 (2005); Carolyn Fischer, Richard G. Newell, *Environmental and Technology Policies for Climate Migration*, 55 J. ENVTL. ECON. MGMT. 142, 160 (2008) (finding that lowest cost emissions reductions come from a combination of an emissions price with a small “learning subsidy”).

<sup>27</sup> MassDEP Background Document, *supra* note 3, at 29.

<sup>28</sup> *See id.* (half of the lifecycle emissions of a natural gas power plant, which is approximately 1000 pounds of CO<sub>2</sub>e per MWh). CO<sub>2</sub>e is a concept that allows different greenhouse gases to be measured in the same terms. One ton of CO<sub>2</sub>e is any combination of quantities of greenhouse gases which have the same global warming potential as one ton of carbon dioxide.



could create one half of a Clean Energy Credit per Megawatt-hour generated, while an energy resource that emits 200 pounds of CO<sub>2</sub>e per Megawatt-hour could generate an entire Clean Energy Credit per Megawatt-hour generated. In between, a resource that emits 350 pounds of CO<sub>2</sub>e per Megawatt-hour could receive three-quarters of a Clean Energy Credit per Megawatt-hour generated. This fraction of a Clean Energy Credit could gradually increase or decrease as the emissions of the energy resource fall or rise.

While further study may be necessary to determine what emissions should qualify for what amount of Clean Energy Credits, one starting point could be the thresholds used in the example above, where 500 pounds of CO<sub>2</sub>e per Megawatt-hour gives one-half credit, and 200 pounds of CO<sub>2</sub>e gives one entire credit. The level of 500 pounds of CO<sub>2</sub>e per Megawatt-hour approximates either a natural gas power plant that uses 50% carbon capture and sequestration, or a biomass plant using a dedicated fuel source.<sup>29</sup> In contrast, most other technologies commonly perceived as “clean” tend to cluster below 200 pounds of CO<sub>2</sub>e per Megawatt-hour, making this a natural point to set the threshold.

#### B. The Clean Energy Standard Should Allow Banking, But Not Borrowing.

The Clean Energy Standard should allow retail sellers of electricity to bank excess Clean Energy Credits, but not borrow credits from future years. The issue of banking and borrowing is discussed above in Section 1.D in the context of the emissions cap on power plants, and the same arguments apply in favor of allowing banking but not borrowing of Clean Energy Credits.

#### C. The Clean Energy Standard Should Carefully Set Alternative Compliance Payments.

Requiring utilities to purchase clean energy supply for which there is a price premium necessarily leads to an increase in cost to ratepayers. This incremental expense to ratepayers can be best managed by choosing appropriate and achievable clean energy targets, and flexible mechanisms to achieve least cost compliance outcomes. Because even a carefully designed standard involves some uncertainty about its costs, most states include consumer protection backstop mechanisms to limit the cost of their renewable energy mandates.<sup>30</sup>

MassDEP proposes an ACP to help protect electric ratepayers from sudden spikes in the price of renewable energy.<sup>31</sup> As a consumer protection feature, an ACP should ideally be set to match the value that the policies are expected to deliver to the Commonwealth, so that cost of the CES does

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<sup>29</sup> See Steffen Schlömer et al., *Annex III: Technology-Specific Cost and Performance Parameters*, in MITIGATION OF CLIMATE CHANGE: CONTRIBUTION OF WORKING GROUP III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 1329, 1335 (Ottmar Edenhoffer et al. eds., 2014). The figures in this source are given in grams of CO<sub>2</sub>e per kilowatt-hour, so they must be converted to pounds per Megawatt-hour.

<sup>30</sup> Gabriella Stockmayer et al., *Limiting the Costs of Renewable Portfolio Standards: A Review and Critique of Current Methods*, 42 ENERGY POLICY 155, 156 (2012); see also generally BRENDAN PIERPOINT, CLIMATE POLICY INITIATIVE, LIMITING THE COST OF RENEWABLES: LESSONS FOR CALIFORNIA (June 2012), <http://climatepolicyinitiative.org/wp-content/uploads/2012/06/Limiting-the-Cost-of-Renewables-Lessons-for-California.pdf>.

<sup>31</sup> MassDEP Background Document, *supra* note 3, at 28.

not exceed its benefits. If the ACP is set too high, consumers may pay more for renewable energy than is justified, because the ACP will not serve its cost containment function.<sup>32</sup> If the ACP is set too low, suppliers will be able to comply with the clean energy standard without actually acquiring new clean energy supply, undermining the Commonwealth's renewable energy goals.<sup>33</sup>

The current proposal for the alternative compliance payment is to set the payment amount at 50% of the alternative compliance payment for the Renewable Portfolio Standard, which would be about \$34 per Megawatt-hour in 2017.<sup>34</sup> MassDEP should carefully consider this level, in three significant respects, to ensure that this low ACP does not hinder its policy goals.

First, in its policy objectives, the Clean Energy Standard is very similar to the Renewable Portfolio Standard, so it is unclear why the alternative compliance payment levels for the Clean Energy Standard is lower than the alternative compliance payment for the Renewable Portfolio Standard by such a large degree. If MassDEP decides to select diverging values for the alternative compliance payments for these similar programs, it should explain its reasons for doing so.

Second, \$34 per Megawatt-hour is very close to the current trading price of Renewable Energy Credits, which can also be used to meet the Clean Energy Standard in Massachusetts.<sup>35</sup> As a result, alternative compliance payments may become a highly popular method of complying with the Clean Energy Standard, because the ACP would cost around the same amount as the expected price of complying with the Clean Energy Standard. This would defeat the Clean Energy Standard's goal of increasing the development of clean energy resources, as retail sellers of electricity would simply be paying the Commonwealth rather than buying the output of new clean energy resources.

Third, regional conditions play an important role in the success of clean energy goals. If renewable energy credits can be bought and sold across state lines, then in-state generation would highly depend on the ACP levels of neighboring states. If the ACP levels in a neighboring state are significantly higher, then this price disparity could distort the market in the Commonwealth by signaling a tolerance for higher prices in that state. This effect can be compounded if a state limits RECs to only those generated in-state while the neighboring states do not. If in-state clean energy generators have the opportunity to do so, they will sell their RECs to the neighboring state that offers higher REC prices, shrink eligible supply for meeting the in-

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<sup>32</sup> WARREN LEON, CLEAN ENERGY STATES ALLIANCE, DESIGNING THE RIGHT RPS 46 (2012) <http://www.cesa.org/assets/2012-Files/RPS/CESA-RPS-Goals-and-Program-Design-Report-March-2012.pdf>.

<sup>33</sup> *Id.*

<sup>34</sup> *Alternative Compliance Payment Rates*, MASS. EXEC. OFFICE OF ENERGY & ENVTL. AFFAIRS, <http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/retail-electric-supplier-compliance/alternative-compliance-payment-rates.html> (last visited Feb. 16, 2017).

<sup>35</sup> MassDEP Background Document, *supra* note 3, at 29; proposed 310 CMR 7.75(7)(a)(1)(a).

state CES goals, and therefore drive the REC prices in the state toward its (low) ACP.<sup>36</sup> This would lead to the Commonwealth falling short of achieving its goals for in-state clean energy generation.

MassDEP should carefully consider all three of these factors in deciding the appropriate level to select for the alternative compliance payment for the Clean Energy Standard. There is at least some reason to believe that the current value of \$34 may be set too low.

### **III. The Transportation Sector Should Be Subject to a Binding Limit on Emissions, Using a Marketable Permit System.**

In contrast to the aggregate emissions limits on power plants, natural gas pipelines, and gas-insulated switchgear, the proposal contains no aggregate limit for the Massachusetts transportation sector. Instead, the proposal would create “targets” for the transportation sector, and no official action will be taken to further reduce greenhouse gas emissions from the transportation sector or elsewhere if its targets are not met.<sup>37</sup>

Rather than create unenforceable targets for the transportation sector, MassDEP should implement a binding cap on the emissions of the Massachusetts transportation sector. As noted by MassDEP, transportation accounted for 40.8% of Massachusetts’ 2013 greenhouse gas emissions, while electric generation only accounted for 21.5%.<sup>38</sup> MassDEP should not allow such a large source of greenhouse gas emissions to remain unconstrained by a binding § 3(d) emissions limit. Furthermore, if MassDEP restricts carbon emissions from the electricity sector, while only setting aspirational targets for transportation fuels, it will be creating an implicit subsidy for consumers to select gas-powered vehicles, rather than electric vehicles, which could drive emissions even higher.<sup>39</sup>

California has included transportation fuels in its cap-and-trade system since the beginning of 2015, and gasoline prices have risen moderately but much less than feared: about 11 cents per gallon rather than 73 cents.<sup>40</sup> A trade organization representing oil companies recently came out

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<sup>36</sup> See, e.g., Order Reducing Class III Requirements for 2013 to 0.5% of Retail Sales, N.H. PUC Order No. 25,674 (June 03, 2014) *available at* <http://www.puc.nh.gov/Regulatory/Orders/2014orders/25674e.pdf>.

<sup>37</sup> MassDEP Background Document, *supra* note 3, at 42; proposed 310 CMR 60.05(7).

<sup>38</sup> MassDEP Background Document, *supra* note 3, at 8–9.

<sup>39</sup> See David Coady et al., *How Large Are Global Energy Subsidies?* 4–5 (Int’l Monetary Fund, Working Paper No. 15/105, 2015), <http://www.imf.org/external/pubs/ft/wp/2015/wp15105.pdf> (discussing and quantifying untaxed environmental costs of energy production and usage as an implicit subsidy, or “[p]ost-tax consumer subsidy”). If the cost of carbon is internalized differently for electricity and gasoline, and gasoline is subject to a lower carbon price than electricity, this will discourage the adoption of electric vehicles because gasoline will have a higher implicit subsidy.

<sup>40</sup> See Michael Hiltzik, *Emissions Cap-and-Trade Program Is Working Well in California*, L.A. TIMES (June 12, 2015), <http://www.latimes.com/business/hiltzik/la-fi-hiltzik-20150613-column.html>; Letter from Mac Taylor, Legislative Analyst, Cal. Legislative Analyst’s Office, to

in favor of preserving California’s cap-and-trade system, even though the cap-and-trade system covers transportation fuels.<sup>41</sup>

MassDEP should implement a tradeable allowance system for an emissions limit on transportation, and the allowances should be tradeable across different § 3(d) programs. Tradeable allowance systems generally achieve emissions reductions at much lower cost by providing flexibility and encouraging innovation, maximizing net benefits to society.<sup>42</sup> This would fulfill the Global Warming Solution Act’s purpose of “minimiz[ing] costs and maximiz[ing] the total benefits to the commonwealth.”<sup>43</sup> The wider the range of different sectors regulated by the tradeable allowance system, the more options for mutually beneficial sales of allowances.<sup>44</sup> MassDEP should study how other jurisdictions, such as California, have put aggregate limits on the greenhouse gas emissions of the transportation sector in order to determine the finer details of such a regulation.

In the alternative, if MassDEP chooses not to implement an enforceable emissions limit on transportation, MassDEP should clarify that the transportation target does not qualify as a § 3(d) regulation, as articulated in the Supreme Judicial Court’s decision in *Kain*. The Court found in *Kain* that § 3(d) regulations must implement “binding caps on emissions” instead of “aspirational targets.”<sup>45</sup> The Supreme Judicial Court noted in *Kain* that Massachusetts’ preexisting regulations on vehicle emissions do not impose aggregate limits on vehicle emissions, but rather regulate the rates of allowable emissions from each vehicle.<sup>46</sup> As a result, the court found that the preexisting vehicle regulations “cannot ensure that aggregate emissions do not increase”<sup>47</sup> and so did not qualify as a § 3(d) regulation. Likewise, if MassDEP decides to finalize the nonbinding targets in the proposal, it should clarify that they are nonbinding targets and do not satisfy the agency’s requirements under § 3(d). MassDEP should further estimate how likely it is that rising aggregate vehicle emissions will thwart achievement of the 2020 emissions limit, by running sensitivity analyses of scenarios involving different gasoline prices and other variables.

The proposed regulations on the emissions of the Massachusetts Department of Transportation (“MassDOT”), Massachusetts Bay Transportation Authority (“MBTA”), and Executive Office transportation equipment should be made into tradeable allowance programs, and the allowances should be tradeable across different § 3(d) programs. Doing so would greatly increase the ease of compliance at no cost to the environment. Because the different Executive Offices have different timelines for replacing their vehicles and other equipment, as noted by MassDEP,<sup>48</sup> subjecting

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Tom Lackey, Assembly Member, Cal. State Assembly (Mar. 4, 2016), <http://www.lao.ca.gov/reports/2016/3438/LAO-letter-Tom-Lackey-040716.pdf>.

<sup>41</sup> Anne C. Mulkern, *Fearing Worse, Oil Industry Fights to Save Cap and Trade*, CLIMATEWIRE (Feb. 13, 2017), <http://www.eenews.net/climatewire/2017/02/13/stories/1060049916>.

<sup>42</sup> Schmalensee & Stavins, *supra* note 24, at 16.

<sup>43</sup> M.G.L. c. 21N, § 5(i).

<sup>44</sup> Schmalensee & Stavins, *supra* note 24, at 18.

<sup>45</sup> *Kain v. Dep’t of Env’tl. Protection*, 474 Mass. 278, 288 (2016).

<sup>46</sup> *Id.* at 299.

<sup>47</sup> *Id.*

<sup>48</sup> MassDEP Background Document, *supra* note 3, at 45.

them to rigid individual limits would be highly inefficient compared to allowing them to buy and sell allowances. Two Executive Offices have miniscule emissions limits, because they have tiny vehicle fleets, and thus they would benefit greatly from increased compliance flexibility.<sup>49</sup> This illustrates the significant benefits that would accrue under a tradeable allowance approach compared to the current proposal. Thus, MassDEP should change the proposed regulations of the emissions of MassDOT, MBTA, and the Executive Offices into a tradeable allowance program.

### **Conclusion**

The Institute for Policy Integrity appreciates the opportunity to submit these comments, and hopes that these comments will help MassDEP implement an effective and efficient program for reducing greenhouse gas emissions under § 3(d) of the Global Warming Solutions Act.

Respectfully submitted,

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<sup>49</sup> *Id.* at 48–49 (the Executive Office of Education, and the Executive Office of Labor and Workforce Development).