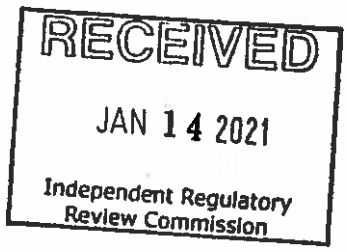
#3274

Clean Air Council
Natural Resources Defense Council
PennFuture
Sierra Club Pennsylvania Chapter

January 14, 2021

Via e-mail to RegComments@pa.gov
And via *eComment*



Environmental Quality Board
P.O. Box 8477
Harrisburg, PA 17105-8477

Re: Comments on Proposed CO2 Budget Trading Program

Citizens for Pennsylvania's Future (PennFuture), Sierra Club, Natural Resources Defense Council (NRDC), and Clean Air Council (hereinafter "Joint Commenters") appreciate the opportunity to comment on the Environmental Quality Board's (EQB) proposed CO2 Budget Trading Program ("Program").[1] ***Subject to the recommended modifications described below the Joint Commenters strongly support the EQB's proposed regulation, and we respectfully request that the EQB accept our recommendations, which will make the Program stronger and more equitable.***

PennFuture is a membership based non-profit advocacy organization that is leading the transition to a clean energy economy in Pennsylvania and beyond; protecting our air, water and land; and empowering citizens to build sustainable communities for future generations.

Sierra Club is a non-profit environmental organization whose mission is to explore, enjoy, and protect the wild places of the Earth and to practice and promote the responsible use of the Earth's resources and ecosystems. The Sierra Club currently has about 30,000 members in Pennsylvania, and these members have a strong interest in addressing the existential threat of climate change, as well as reducing the air and water pollution associated with the burning of fossil fuels for electricity.

NRDC is a nonprofit environmental organization with more than 1.4 million members, including more than 16,000 in Pennsylvania. Since 1970, NRDC's attorneys, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. NRDC's top institutional priority is to fight climate change and build an equitable clean energy future.

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[1] On November 7, 2020, the Environmental Quality Board published a Notice of Proposed Rulemaking requesting submission of comments on the Program by January 14, 2021. 50 Pa.B. 6212, Saturday, November 7, 2020.

Clean Air Council is a member-supported non-profit environmental organization that has served the Mid-Atlantic Region since 1967. The Council is dedicated to protecting and defending everyone's right to a healthy environment. On behalf of its 35,000 members across Pennsylvania, the Council works through a broad array of related sustainability and public health initiatives to advance its goals, using public education, community action, government oversight, and enforcement of environmental laws.

The following comments are divided into five sections: first, an introduction that establishes the urgent need to reduce greenhouse gases in Pennsylvania and around the world and explains the particular importance of cutting carbon dioxide pollution from the power sector; second, a discussion of the Board's authority to promulgate the Proposed Regulation under the Pennsylvania Air Pollution Control Act; third, a set of technical comments concerning various Program design elements; fourth, a general discussion of how the Department should invest proceeds from RGGI allowance auctions; and finally, a brief statement of conclusion.

Outline

I. Introduction

A. It Is Urgent that We Reduce Greenhouse Gases Immediately

Our Commonwealth is a significant emitter of climate-disrupting carbon pollution. We rank second in the nation in fracked gas production and third in coal production.[2] We are also globally significant polluters: as a commonwealth we emitted more energy-related carbon pollution in 2015 than 172 of the 194 nations that signed on to the Paris Climate Agreement.[3] We therefore have a moral imperative, particularly in the absence of meaningful federal action, to do our fair share to significantly reduce greenhouse gas emissions within our borders and add to multistate and international efforts to avoid potentially catastrophic levels of climate disruption.

[2] US Energy Information Administration, 2017 production.
[3] International Energy Administration Atlas of Energy.

Two recent scientific assessments highlight the urgency of our call to action. In October 2018 the Intergovernmental Panel on Climate Change (IPCC) released a Special Report on the impacts of global warming.[4] This report highlights the projected differences in planetary impacts between a 1.5° C warming scenario and 2.0° C of warming. The differences are stark, including the complete loss of coral reefs and the fisheries they support, as well as additional sea level rise that threatens many millions of coastal residents and the very existence of many island nations. Avoiding the 2.0° scenario or worse will require "rapid and far reaching" efforts to reduce emissions by 45 percent[5] by 2030, and achieve net-zero emissions by 2050. Because emissions to date have already saddled us with 1° of warming, the Co-Chair of the IPCC Working Group that authored the report went so far as to say that "*The next few years are probably the most important in our history*." (Emphasis added).[6]

The next month, the United States Global Change Research Program released the Fourth National Climate Assessment (NCA4).[7] This report finds that climate change is no longer a future threat and that we are already dealing with its impacts as a nation. These impacts range from more extreme wildfires, more frequent intense and damaging storms exemplified by recent catastrophic hurricanes, and changes in temperature and rainfall patterns that cause significant agricultural losses. The report begins with this statement:

> Earth's climate is now changing faster than at any point in the history of modern civilization, primarily as a result of human activities. The impacts of global climate change are already being felt in the United States and are projected to intensify in the future—*but the severity of future impacts will depend largely on actions taken to reduce greenhouse gas emissions and to adapt to the changes that will occur*. (Emphasis added).[8]

B. Effects of Carbon Pollution in Pennsylvania

Several studies have projected the impacts that climate change will have here in the Commonwealth, including studies by the Department of Environmental Protection (DEP) (as

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[4] IPCC, 2018: Summary for Policymakers. In: Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [V. Masson-Delmotte, P. Zhai, H. O. Pörtner, D. Roberts, J. Skea, P. R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J. B. R. Matthews, Y. Chen, X. Zhou, M. I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, T. Waterfield (eds.)]. World Meteorological Organization, Geneva, Switzerland, 32 pp.

[5] Relative to 2010 levels.

[6] IPCC Press Release, October 8, 2018 Accessed at http://www.ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf.

[7] USGCRP, *2018: Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II: Report-in-Brief* [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 186 pp.

[8] USGCRP at 24.

mandated by Act 70 of 2008),[9] the US Environmental Protection Agency (EPA),[10] and the National Conference of State Legislatures (NCSL).[11] Some key findings are as follows:

- Our climate will be warmer and wetter, with an estimated 3° C (5.4° F) temperature increase and 8-10% annual precipitation increase by 2050.
- Tidal portions of the Delaware River could rise enough to inundate parts of Penn's Landing, the Philadelphia Airport, and nearby neighborhoods during regular high tides. Saltwater could move upstream far enough to contaminate major drinking water intakes.
- More frequent heavy rain events will cause regular flash flooding along inland rivers throughout the state. In areas with many steep slopes, landslides will be more common due to the combination of heavier rains and more frequent winter thawing. Higher temperatures generally mean stronger wind events that lead to more power outages. Precipitation from extremely heavy storms has already increased 70% in the Northeast region since 1958.
- Rising water temperatures make algal blooms on Lake Erie, which can be toxic to fish and humans, more frequent and severe.
- Agricultural production is expected to suffer, with losses expected to be greatest in corn (Pennsylvania's most important crop) as well as milk and beef (which together account for a third of the Commonwealth's $7.4 billion in annual agricultural production).
- Human health will be impacted in a variety of ways. Premature deaths due to extreme heat will increase. Ground level ozone (or smog) levels will increase with temperatures and exacerbate respiratory problems. New insect-borne diseases are likely to emerge. As winters warm, more ticks become infected with Lyme disease making humans more susceptible when they go outside.
- Pennsylvania's downhill ski and snowboard resorts are not expected to remain economically viable past mid-century.

The National Weather Service declared 2018 the wettest year on record across Pennsylvania, with the previous record having been set just seven years before.[12] This has had some disastrous consequences, including widespread flash flooding and a weather-related landslide that caused a gas pipeline explosion in Beaver County.[13] Unfortunately, years like this are only going to become more normal if we fail to mitigate climate disruption.

II. Authority [back to outline]

[9] Shortle, J, D Abler, S Blumsack, A Britson, K Fang, A Kemanian, P Knight, M McDill, R Najjar, M Nassry, R Ready, A Ross, M Rydzik, C Shen, S Wang, D Wardrop, S Yetter. *2015 Pennsylvania Climate Impacts Assessment Update*. The Pennsylvania State University, University Park.
[10] US EPA. *What Climate Change Means for Pennsylvania (2016)* EPA 430-F-16-040.
[11] NCSL, *Pennsylvania: Assessing the Costs of Climate Change (2008)*.
[12] https://twitter.com/NWSStateCollege/status/1089926448809422849/photo/1
[13] Davidson and LaRussa, 9/10/18. "Heavy rain contributed to Beaver County pipeline blast" https://triblive.com/local/regional/14064921-74/heavy-rain-contributed-to-beaver-county-pipeline-blast

Section 5(a)(1) of the Pennsylvania Air Pollution Control Act (APCA) specifically provides that the EQB has both the power and the duty to "adopt rules and regulations, for the prevention, control, reduction and abatement of air pollution;"[14] to "establish and publish maximum quantities of air contaminants that may be permitted under various conditions;"[15] and to "adopt rules and regulations to implement the federal Clean Air Act (CAA)."[16] The APCA also authorizes the EQB to establish fees to support air pollution control programs and goes so far as to require emissions fees pursuant to section 502 of the CAA.[17]

A. Carbon dioxide is a form of air pollution subject to regulation under APCA

The APCA defines the term *air pollution* broadly and includes "any form of contaminant...in such place, manner or concentration inimical or which may be inimical to the public health, safety or welfare..."[18] The fact that carbon dioxide, as a greenhouse gas and a key factor in climate change, is "inimical to the public health, safety or welfare" has been extensively documented by the Intergovernmental Panel on Climate Change,[19] the U.S. Global Change Research Program,[20] and by the DEP itself.[21] The Supreme Court of the United States has also found that "the harms associated with climate change are serious and well recognized" and that the failure to regulate greenhouse gas emissions presented a risk of harm that was both actual and imminent.[22]

Furthermore, carbon dioxide is included in the definition of the term "regulated pollutant" found in APCA, Section 502 of the CAA, and Pennsylvania's existing air quality regulations. All of those rules and regulations define the term *regulated pollutant* to include those compounds regulated under CAA sections 111 or 112.[23] The Affordable Clean Energy (ACE) rule, finalized in 2019,[24] specifically regulates greenhouse gases—including carbon dioxide—under section 111(d) of the CAA thus including carbon dioxide in the list of regulated pollutants.

B. Regulation of electric sector carbon dioxide emissions is in the public interest.

The courts have repeatedly found that the reduction of air pollution is in the public interest. In *Com., Dep't of Envtl. Prot. v. Pennsylvania Power Co*, the court found: "...[T]he purpose behind the Pennsylvania Air Pollution Control Act (APCA) and the provisions contained therein is to provide the people of this Commonwealth with air which is of a higher quality than that required by federal law. Examining this purpose, there is little doubt that the reduction of air pollution to

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[14] Section 5(a)(1) of the Act of January 8, 1960, P.L. 2119, *as amended.* (APCA)
[15] *Id. at* (a)(2).
[16] *Id. at* (a)(8).
[17] *Id. § 6.3.*
[18] *Id. § 3.*
[19] IPCC (2014), *Climate Change 2014: Impacts, Adaptation, and Vulnerability.* [K. R. Smith, A. Woodward, et. al.]
[20] USGCRP, Fourth National Climate Assessment, Vol II, (2018).
[21] PA DEP, Pennsylvania Climate Change Impacts Assessment Update (April, 2020).
[22] *Mass v. EPA*, 549 US 497 (2007).
[23] *See:* APCAat *§ 6.3(m), 42 U.S.C. § 7661a(b)(ii), and 25 PA Code § 127.705(c).*
[24] 84 Fed Reg. 32520 (July 8, 2019).

such a degree is a valid public interest. In speaking on this same question in the case of *Bortz Coal Co. v. Commonwealth*, 2 Pa.Cmwlth. 441, 444-45, 279 A.2d 388, 391 (1971), this Court pointed out that the regulation of air pollution has long been a valid public interest."[25]

In *Com., Dep't of Envtl. Res. v. Locust Point Quarries, Inc.*, the court stated, "The Commonwealth is committed to the conservation and maintenance of clean air by Art. I, s 27 of the Pennsylvania Constitution. To that effect, through Section 4002 of the Air Pollution Control Act, the legislature has declared as policy the protection of air resources to the degree necessary for the protection of the health, safety and well-being of the citizens; the prevention of injury to plant and animal life and property; the protection of public comfort and convenience and Commonwealth recreational resources; and the development, attraction and expansion of industry, commerce, and agriculture. In sum, protection of air resources is a matter of highest priority in the Commonwealth."[26]

C. The proposed regulation closely tracks the specific authority provided by APCA.

Having established carbon dioxide as a pollutant, the APCA specifically grants EQB the authority to establish and publish a maximum quantity of carbon dioxide emissions that are permitted. The EQB's proposed CO2 Budget Trading Program regulation accomplishes this by establishing a statewide emissions cap.

APCA also directs EQB to establish various conditions under which pollution is permissible and to establish emission fees. The proposed rule accomplishes both these tasks through an allowance mechanism. Covered sources must obtain either emissions allowances or allowable offsets for each ton of emissions. While EQB could set emission fees directly, it has chosen to use an auction system to distribute the bulk of allowances, thus allowing the market to discover the minimum appropriate fee to achieve the targeted emissions limits.

In addition, several different methods are used to further control potential costs for the regulated community. By cooperating with the Regional Greenhouse Gas Initiative in establishing a multi-state allowance trading program, the fees will likely be lower than would result from a state-only auction. The proposal also provides a cost containment reserve feature that will release additional allowances in the market if fees exceed certain metrics. Finally, the regulated community has the option to invest in certain offset projects in lieu of purchasing allowances for a percentage of their compliance obligation.

This use of a cap-and-trade system rather than a command-and-control approach where EQB requires facilities to adopt specific pollution control technology regardless of cost is not a new approach in Pennsylvania. Similar programs have been successfully used to reduce the SO_2 emissions that cause acid rain since the mid 1990s and the NOx emissions that contribute to ozone smog since the late 1990s. Both programs have since been revised with the 2009 Clean

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[25] *Com., Dep't of Envtl. Prot. v. Pennsylvania Power Co.*, 34 Pa. Cmwlth. 546, 568, 384 A.2d 273, 284 (1978)

[26] *Com., Dep't of Envtl. Res. v. Locust Point Quarries, Inc.*, 483 Pa. 350, 358, 396 A.2d 1205, 1209 (1979)

Air Interstate Rule and the 2015 Cross-State Air Pollution Rule, but the fundamental structure of trading allowances remains. At no time has it been determined that APCA's language prohibits such programs.

D. The existing rules of statutory construction demonstrate that EQB has the authority to regulate carbon dioxide pollution.

Pennsylvania law specifies that, when interpreting statutes such as APCA, the object of all interpretation and construction is to ascertain and effectuate the intention of the General Assembly. This begins by, first and foremost, giving effect to any unambiguous words in the statute.[27]

The proposed regulation responds to two unambiguous requirements. First, as discussed above, the APCA specifies that it is the duty of EQB to adopt regulations for the control of air pollution. Second, the Environmental Rights Amendment of Pennsylvania's Constitution requires that the Commonwealth shall conserve and maintain public natural resources, including clean air, for the benefit of all people, including generations yet to come.[28]

Certain members of the legislature have claimed that the APCA does not permit regulation of carbon dioxide emissions because that legislation lacks a specific reference to the RGGI.[29] As discussed above, the language that authorizes the regulation of pollution contains no expressed limitation that would limit the regulation of carbon dioxide. It is also clear that such regulation is not preempted. The PA Supreme Court has held that "the state is not presumed to have preempted a field merely by legislating in it. The General Assembly must clearly show its intent to preempt a field in which it has legislated."[30] Here there is simply no preemption language anywhere in the act. Furthermore, as there is expressed authority to implement the CAA, and the CAA contains provisions regulating greenhouse gasses such as carbon dioxide, interpreting the APCA to exclude the authority to regulate carbon dioxide would create absurd results having provisions that are impossible of execution; such an interpretation is counter to the Statutory Construction Act.[31]

The legislature also revisited the issue of greenhouse gas emissions in passing the Climate Change Act of 2008 which requires the development of a climate change action plan.[32] Had the General Assembly believed that the administration lacked authority to regulate greenhouse gases, the entire plan would need to be submitted for consideration and action by the legislature prior to implementation. Instead, the act only requires that the plan identify those legislative changes necessary for implementation. The plain language used by the General Assembly

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[27] 1 PA.C.S. § 1921 *et seq.*
[28] Pa Const. Art. I § 27.
[29] Letter from the House Environmental Resources and Energy Committee to the Independent Regulatory Review Commission (Jan 12, 2021).
[30] Middletown Twp. v. Benham, 514 Pa. 176, 180 (1987).
[31] 1 PA.C.S. § 1922(1).
[32] *Pennsylvania Climate Change Act*, Act of Jul. 9, 2008, P.L. 935, No. 70.

implies that there are potential aspects of implementation that do not require legislative changes.

This is further evidenced by the fact that a bill to prevent the regulation of carbon dioxide in the manner proposed by this action was vetoed by Governor Wolf in September of 2020.[33] If the existing APCA and the Climate Change Act already preempted such regulation, that later attempt to prohibit such action would be unnecessary.

Finally, because administrative agencies are often in the best position to evaluate their own enabling legislation, both federal and state courts give such agencies significant deference in their interpretations.[34] Absent specific legislation to the contrary, it must be concluded that the proposed regulation is permissible under the APCA.

E. The background and purpose of the proposed rulemaking should highlight the state-specific environmental and health benefits of the proposed rule.

The APCA provides clear authority to regulate air pollution, including CO2, and improve air quality in the interest of the health, welfare, and environment of the Commonwealth. The Joint Commenters believe that this authority clearly extends to regulatory activities that contribute to health, welfare, and environmental protection outside of the Commonwealth, as well. But the authority is at its strongest ebb in relation to the protection of the public health, welfare, and environmental resources of the Commonwealth, and there are multiple statements in the proposed rule that would benefit from highlighting the benefits that the CO2 Budget Trading Program would have for Pennsylvanians' health and welfare, or the quality of the Commonwealth's air quality resources, to clarify the rule's firm footing under APCA legal authority.

Discussion of certain impacts of climate change are arguably beyond the purview of the APCA – i.e. discussions of increases in infectious diseases and weather events. However, the proposed rule's "background and purpose" section describes the connection between reducing GHG pollution to address climate change and associated benefits to air quality, public health, and reduced co-pollutants. Since addressing these issues are more solidly within the APCA's purpose, it would bolster the legal defensibility of the rule to clearly prioritize the health and welfare benefits as the issues the rule is crafted to address and the associated climate change benefits as ancillary.

Ideally, the background and purpose section should lead with its language most aligned with the statutory authority of the APCA: "the statutory authority for this proposed rulemaking, the APCA, is built on a precautionary principle to protect the air resources of this Commonwealth for the protection of public health and welfare and the environment, including plant and animal life and recreational resources, as well as development, attraction and expansion of industry, commerce

[33] *Pennsylvania Cap and Trade Authorization Act,* HB 2025, Session of 2019 (Veto No. 12, Sept. 24, 2020)
[34] *Buffalo Tp. v. Jones, 813 A. 2d 659* n.13 *(2002) (Citing Chevron U.S.A. v NRDC, 535 U.S. 106, (2002)).*

and agriculture," as this clarifies that while addressing climate change is not the driving purpose behind the rule, EQB has the authority to regulate the pollutants contributing to climate change impacts on public health in Pennsylvania. The rule's function to limit climate change impacts should be discussed as a benefit of a regulation targeted at protecting public health, welfare, and environmental resources in the Commonwealth, not the other way around.

F. Under Pennsylvania law the emission allowance auction is a fee, not a tax, and as such is within the EQB's APCA authority to administer and enforce.

The EQB's authority under section 5(a)(1) includes the ability to impose fees for the control of air pollution, so long as they do not constitute an impermissible tax. Courts will examine both the nature and purpose of an exaction in determining its definition as a fee or tax.[35] Under Pennsylvania law, the auction charges operate either as a licensing or user fee, not a tax.

The Pennsylvania Supreme Court set out a four-part test in *National Biscuit Co. v. Philadelphia* to distinguish a license fee from a tax: 1) fees are only applicable to a type of business that is subject to supervision and regulation by the licensing authority under its police power; 2) the supervision and regulation are in fact conducted by the licensing authority; 3) the payment of the fee is a condition upon which the licensee is permitted to transact its business or pursue his occupation; and 4) the legislative purpose in imposing the charge is to reimburse the licensing authority for the expense of the supervision and regulation it conducts.[36]

Even when an exaction does not precisely meet the *National Biscuit* test, the Court in *White v. Commonwealth of Pennsylvania* held an exaction may be found to be a fee rather than a tax when it "more logically" falls into that category.[37] The *White* court found it dispositive that the exacted funds were deposited into a segregated account and disbursed only for a designated purpose related to the exaction, rather than deposited into the state's coffers for general public purposes.[38] The Court in *Phone Recovery Services, LLC v. Verizon Pennsylvania, Inc.* interpreted the *White* holding as recognition of a distinct category of non-tax charges, characterized by the exaction raising funds to be held in trust and deposited in a segregated account for a specific purpose.[39]

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[35] *Nat'l Biscuit Co. v. City of Philadelphia*, 374 Pa. 604, 615, 98 A.2d 182, 187 (1953); *Cooley v. Board of Wardens*, 53 U.S. 299, 314 (1852). *See also Packet Co. v. Keokuk*, 95 U.S. 80 (1877); *Mass. v. United States*, 435 U.S. 444, 453-454 (1978) (even though called a tax and located in the IRC, determined to be a fee); *United States v. United States Shoe Corp.*, 523 U.S. 360 (1998); *Capitol Greyhound Lines v. Brice*, 339 U.S. 542, 545, 70 S. Ct. 806, 808, 94 L. Ed. 1053 (1950).

[36] *National Biscuit Co. v. Philadelphia*, 374 Pa. 604, 615 (1953).

[37] *White v. Com. Med. Prof'l Liab. Catastrophe Loss Fund*, 131 Pa. Cmwlth. 567, 572, 571 A.2d 9, 11 (1990).

[38] *Id.*

[39] *Phone Recovery Services, LLC v Verizon Pennsylvania, Inc.*, No. GD-14-021671, 2016 WL 2638829, at *5 (Pa.Com.Pl.Civil Div. Apr. 21, 2016) ("It appears that the Court in *White* has created another category of charges that are not characterized as "taxes," *this being funds raised to be held in trust and deposited in a segregated account for a specific purpose.* This is the only apparent explanation for White's ruling that the surcharge was not a tax.").

The APCA establishes such a segregated account, the Clean Air Fund (CAF), to be administered by the DEP for use in the elimination of air pollution.[40] That any charges collected would be paid into the CAF supports the interpretation that allowance auction is logically a licensing fee rather than a tax.

The Court in *Phone Recovery* further acknowledged the existence of a third category of government exaction, the user fee, distinct from both taxes and licensing fees. The *Phone Recovery* Court looked to rulings in the highest courts of Alabama and Massachusetts in defining non-tax charges, as both those states make explicit the category of a user fee. The referenced test from Supreme Judicial Court of Massachusetts defines a user fee as a charge: 1) in exchange for a particular government service which benefits the party paying the fee in a manner not shared by other members of society; 2) paid by choice, in that the party paying the fee has the option of not utilizing the governmental service and thereby avoiding the charge; and 3) not collected to raise revenues but to compensate the governmental entity providing the services for its expenses. Alabama defined a user fee as a payment in return for a government provided benefit, tied in some fashion to the payor's use of the service. California offers a user fee framing as well in its examination of whether a emissions allowance auction is a tax or fee.[41]

The U.S. Supreme Court has recognized the interest of a state to exact a user fee from those who avail themselves of government properties and services, so long as the charge is not unreasonable in amount for the privilege granted.[42] An exaction in exchange for the use of property or improvements thereon is a fee or toll, not a tax.[43] As discussed below, Pennsylvania's constitution vests the state as trustee to hold the natural resources within the state in public trust for its citizens.[44] Further, states have a "quasi-sovereign" interest separate and above that of its citizens in maintaining the air quality within its borders.[45] Accordingly, a state possesses authority to charge a fee for the use of air as a repository for polluting emissions within its jurisdiction pursuant to its proprietary and ownership interests.[46] Since the regulatory scheme will be grounded in the APCA, the fact that all fees so collected will be put into the Clean Air Fund and can only be disbursed for the purpose of eliminating air pollution demonstrates that the auction charge is a user fee paid in exchange for the privilege to use a resource managed and improved by the DEP, the state's air.[47]

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[40] 35 P. S. § 4009.2 (a); 25 Pa. Code § 143.1(a).
[41] *California Chamber of Commerce v. State Air Res. Bd.*, 10 Cal. App. 5th 604, 649, 216 Cal. Rptr. 3d 694, 728 (Ct. App. 2017) ("Thus, it is not accurate to liken the auction system to payment for the privilege to stay in business in California. It is a payment for the privilege to pollute the air in California.").
[42] *Massachusetts v. United States*, 435 U.S. 444, 463, 98 S. Ct. 1153, 1165, 55 L. Ed. 2d 403 (1978).
[43] *Sands v. Manistee River Improvement Co.*, 123 U.S. 288 (1887) (Taxes are levied for the support of government, and their amount is regulated by its necessities. Tolls are the compensation for the use of another's property, or of improvements made by him....).
[44] PA CONST Art. 1, § 27; *Robinson Twp., Washington Cty. v. Com.*, 623 Pa. 564, 656, 83 A.3d 901 (2013); *see Ill. Cent. R. Co. v. Illinois*, 146 U.S. 387, 453 (1892); *United States v. Causby*, 328 U.S. 256, 261 (1946).
[45] *Georgia v. Tennessee Copper Co.*, 206 U.S. 230, 237, 27 S. Ct. 618, 619, 51 L. Ed. 1038 (1907) ("[The State] has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air.").
[46] *Case of State Freight Tax*, 82 U.S. 232 (1873).
[47] 35 Pa. Stat. § 4009.2; 25 Pa. Code § 143.1(a); 25 Pa. Code § 143.1(b) .

G. Environmental Rights Amendment

Moreover, in addition to the Department's statutory authority to promulgate this proposed rulemaking under the APCA, this proposal is both consistent with, and in furtherance of, the constitutional requirements of Article I, Section 27. It is clear that, as a trustee with fiduciary duties, the Commonwealth must act toward the corpus of the trust, i.e., Pennsylvania's public natural resources, with prudence, loyalty, and impartiality.[48]

Under Pennsylvania trust law, the duty of prudence requires a trustee to "exercise such care and skill as a man of ordinary prudence would exercise in dealing with his own property."[49] Prudence requires good judgment and caution, particularly when trust resources are being threatened. Participating in a well-established and effective program like RGGI is a prudent approach to protecting the public trust resources in Pennsylvania being adversely affected by greenhouse gas emissions.

The duty of loyalty imposes an obligation to manage the corpus of the trust so as to accomplish the trust's purposes for the benefit of the trust's beneficiaries and not for others.[50] The Commonwealth would further this duty under the proposed rulemaking by reducing greenhouse gas emissions that are threatening the public natural resources that belong to the people of Pennsylvania, including generations yet to come.

The duty of impartiality requires the trustee to manage the trust so as to give all of the beneficiaries due regard for their respective interests in light of the purposes of the trust.[51] The proposed rulemaking benefits all of the trust beneficiaries—present and future generations—by providing economic benefits to the present generation as well as environmental and public health benefits to present and future generations.

Establishing a price on carbon emissions is also consistent with the text of the Environmental Rights Amendment, which directs the Commonwealth, as trustee, to "conserve and maintain" the trust corpus in furtherance of the people's enumerated rights. Having polluters obtain allowances at auction - establishing a limited authorization to pollute the air - is more consistent with the Commonwealth's duties as a trustee for its natural resources than allowing those polluters to appropriate public resources free of charge and, as a result, deplete or damage the corpus of the trust.

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[48] *Pa. Envtl. Def. Found. v. Commonwealth*, 640 Pa. 55, 90 (2017); Payne v. Kassab, 468 Pa. 226, 245, 361 A.2d 263, 272 (1976) ("There can be no question that the Amendment itself declares and creates a public trust of public natural resources for the benefit of all the people (including future generations as yet unborn) and that the Commonwealth is made the trustee of said resources, commanded to conserve and maintain them.").

[49] *In re Mendenhall*, 484 Pa. 77, 398 A.2d 951, 953 (Pa. 1979) (quoting Restatement (Second) of Trusts § 174).

[50] *See Metzger v. Lehigh Valley Trust & Safe Deposit Co.*, 220 Pa. 535, 69 A. 1037, 1038 (Pa. 1908);

[51] 20 Pa.C.S. § 7773; *Estate of Sewell*, 487 Pa. 379, 409 A.2d 401, 402 (Pa. 1979) (citing Restatement (Second) of Trusts § 183).

III. Rule Design Elements [back to outline]

A. Environmental Justice Issues

The EQB's request for comments on the proposed CO2 budget trading program regulation specifically seeks input on potential implementation approaches to assist the EQB in addressing "equity and environmental justice concerns."[52] While the public notice did not identify particular concerns, it is the understanding of the Joint Commenters that the EQB is primarily interested in understanding whether implementation of the proposed CO2 Budget Trading Program could create or perpetuate distributional inequities in pollution burdens, as well as how the Program could be designed and administered to prevent such inequities and redress historical inequities not attributable to the Program.[53]

The Joint Commenters agree that these concerns deserve close examination. Below we offer three recommendations for how they should be addressed, both through revisions to the text of the Proposed Regulation and through forward-looking implementation strategies, including the development of a policy guidance concerning administration of the Clean Air Fund, where proceeds from RGGI auctions will be deposited.

1. *To address concerns that RGGI could disproportionately burden disadvantaged communities in Pennsylvania where natural gas plants are located, the Department should monitor emissions shifts among regulated plants, develop adaptive management strategies to address any emissions increases in environmental justice communities, and dedicate RGGI auction proceeds to increasing environmental monitoring and enforcement and investing in clean energy in those communities.*

Power sector modeling by the Department projects that implementation of the CO2 budget trading program and Pennsylvania participation in RGGI will reduce both coal-fired generation and gas-fired generation in the Commonwealth. Specifically, the Department's modeling projects that coal generation will be 79 percent lower under RGGI in 2025 compared to

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[52] *See* 50 Pa.B. 6212 ("During the comment period, the Department is seeking comment on potential approaches for the implementation of this proposed rulemaking that would address equity and environmental justice concerns in this Commonwealth.").

[53] These issues, together with issues of procedural justice concerning environmental justice communities' opportunity to participate in rulemaking process, are the main subject of the correspondence sent to the Department this fall by theCenter for Coalfield Justice on behalf of the Pennsylvania Climate Equity Table in ("EJ Concerns of the Proposed RGGI Rule," Sept. 15, 2020), and of four draft RGGI equity principles developed by the Department's Environmental Justice Advisory Board in October, 2020. *See* Department of Environmental Protection, Environmental Justice Advisory Board, Draft RGGI Equity Principles (Oct. 15, 2020) *available at* https://www.dep.pa.gov/PublicParticipation/EnvironmentalJustice/Pages/default.aspx.

"business as usual" and 65 percent lower in 2030, while gas generation will be 10 percent lower under RGGI in 2025 and 8 percent lower in 2030.[54]

Similarly, IPM modeling conducted by NRDC in 2020 projects that under RGGI coal generation will be 88 percent lower in 2025 and 2030, while gas-fired generation will be 8 percent lower in 2025 and 12 percent lower in 2030.[55] As far as the Joint Commenters are aware, no stakeholders believe that Pennsylvania's participation in RGGI is likely to increase generation or pollution from any coal plant in the Commonwealth.

However, representatives of environmental justice communities and members of the Joint Commenters' respective organizations have expressed concern that even if gas generation in Pennsylvania declines overall under RGGI, generation and air pollution could increase at particular gas plants in the absence of additional policy measures, especially plants in environmental justice communities. The Joint Commenters agree that such increases are possible, and that they should be prevented where they are preventable and appropriately mitigated where they occur despite efforts to prevent them.

In 2016, PSE Healthy Energy examined the demographics of communities within 3 miles of Pennsylvania power plants subject to the EPA's proposed Clean Power Plan and found that half of the plants were located within three miles of a region designated as an Environmental Justice Area by the Department.[56]

Since the PSE Healthy Energy Study is now over four years old and a number of new gas plants have since come into operation in the Commonwealth, the Joint Commenters conducted a preliminary analysis to better understand the current relationship between power plant locations, community demographics, attainment of national ambient air quality standards ("NAAQS"), and other factors. That analysis, attached to these comments at Attachment 1, identified 13 gas-fired power plants with capacity of 25 MW or larger located within a designated nonattainment area *and* within 3 kilometers of an environmental justice area, along with 11 gas

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[54] *See* Department of Environmental Protection, IPM power sector modeling at https://www.dep.pa.gov/Citizens/climate/Pages/RGGI.aspx (comparing Reference Case Results and RGGI Case Results). The gas figures cited reflect total gas generation, including new and existing combined cycle plants and new and existing combustion turbines.

[55] Natural Resources Defense Council, "Modeling Pennsylvania's Power Future: 2020 Carbon & Clean Energy Policy Scenarios" (April 23, 2020, unpublished).

[56] PSE Healthy Energy, *The Clean Power Plan in Pennsylvania: Analyzing Power Generation for Health and Equity* at p. iv (July 2016) available at https://www.psehealthyenergy.org/wp-content/uploads/2016/07/CPP.PA_-1.pdf ("PSE Healthy Energy") (power plants 25 MW or greater are subject to RGGI and was the size threshold for the Clean Power Plan). *See also* Pennsylvania Department of Environmental Protection, PA Environmental Justice Areas, available at https://www.dep.pa.gov/PublicParticipation/OfficeofEnvironmentalJustice/Pages/PA-Environmental-Justice-Areas.aspx (defining an "Environmental Justice Area as any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority, based on data from the U.S. Census Bureau and the federal guidelines for poverty").

and oil plants less than 25 MW located within a designated nonattainment area and within 3 kilometers of an environmental justice area.[57]

The PSE Healthy Energy Study also assessed the frequency of power plant inspections and violations in Pennsylvania using data available from 2011-2015 for multiple statutes, including the Clean Air Act, Clean Water Act, Safe Drinking Water Act and Resource Conservation and Recovery Act.[58] As illustrated in Table 1 below, the study found that coal plants were inspected 193 times and were cited for 58 violations while natural gas plants (both combined cycle and steam) were inspected 76 times and were cited for 48 violations. A closer examination of the very high rate of violations at natural gas plants reveals concerning results for Pennsylvanians residing in environmental justice communities. The results show that while natural gas plants located within three miles of environmental justice communities were inspected at twice the rate of gas plants outside the three mile radius, gas plants within the three mile radius were cited for violations more than four times as often as gas plants outside that radius.

Table 1. Total and average number of inspections and violations by power plant class, 2011-2015 [59]

	Total 2011-2015	Avg per plant in EJ Area	Average per plant in non-EJ area
Violations			
Coal	58	2.80	2.14
NGCC	43	4.22	0.71
Gas Steam	5	4.00	1.00
Inspections			
Coal	193	7.60	8.36
NGCC	62	5.11	2.29
Gas Steam	14	9.00	5.00

Although most of Pennsylvania's gas-fired generation is not within 3 kilometers of an environmental justice community,[60] the PSE Healthy Energy Study findings, coupled with the

[57] See Attachment 1, Pennsylvania Environmental Justice Proximity Analysis (when power plants less than 25 MW are also included, the analysis identified 21 fossil gas plants out of a total 46 power plants located within 3 miles of an environmental justice area and also in a designated nonattainment areas).
[58] PSE Health Energy Study at p. 37 (the study used the EPA Enforcement and Compliance History Online platform available at https://echo.epa.gov/).
[59] See PSE Healthy Energy Study at p. 41, Table 4.3 (the table presented herein is a partial reproduction of the table presented in the study).
[60] The analysis shows that there are 17,710 MW of operating gas capacity and 2,875 MW of planned capacity located farther than 3 km from environmental justice communities, and 8,411 MW of operating

Joint Commenters' preliminary analyses, compel ongoing scrutiny by the Department to determine whether emissions increase at any plants that are within such communities, and the pro-active development of strategies to address potential increases, now. The Joint Commenters offer three specific recommendations for such strategies.

First, the Joint Commenters recommend the EQB include provisions in the Proposed Regulation for mechanisms to understand the impact of RGGI implementation on the distribution of pollution burdens and benefits across the Commonwealth. Specifically, this should include data collection mechanisms that quantify emissions from all power plants and publication of periodic assessments of emissions levels at the individual power plants level.[61] As part of this, Joint Commenters recommend review of the potential for power plants located in close proximity to environmental justice communities that are also in nonattainment areas to (a) increase capacity factors; and (b) clear PJM market clearing price thresholds for dispatch will provide important insights into potential for these plants to operate more frequently in response to RGGI.[62]

Moreover, periodic assessments should include determinations of whether the pollution burden in environmental justice communities increased or declined over the assessment period and examine economic and environmental impacts of RGGI implementation on environmental justice communities. The Joint Commenters recommend that these efforts include opportunities for public input and employ adaptive management strategies that allow the Department to efficiently translate feedback on program implementation into program improvements.

Second, the Joint Commenters recommend the Department dedicate RGGI auction proceeds to increase enforcement funding and commit the resources necessary to inspect and hold power plants operators accountable for environmental violations. Proceeds from RGGI auctions deposited in the Clean Air Fund must be used "to eliminate air pollution"[63] and the enforcement of air pollution standards squarely falls within the scope of activities that would constitute such action. The Department should prioritize inspection and enforcement activities in environmental justice areas, with special attention to those communities that are also in nonattainment areas.

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capacity and 2,346 of planned capacity within the boundaries of environmental justice communities or within 3 km of those communities.

[61] The report should include emissions from power plants subject to RGGI (i.e. 25 MW and above) and those not subject to RGGI (*i.e.*, less than 25 MW).

[62] Pennsylvania power plants are dispatched in the PJM interconnection in accordance with competitive wholesale market clearing price dispatch principles. When power plants purchase CO_2 emission allowances this cost is included in the plants bid to provide electricity (e.g. the plant agrees to generate for a specified time period at a specified price per MWh). . The more allowances a plant must purchase to cover its emissions, the more expensive the bid, the less likely a plant's bid will be below the market clearing price, and therefore the less likely the plant will be dispatched. In this sense the PJM market-based dispatch protocol is a market-based corrective measure for plants that rely on emission purchases in lieu of emission reductions at the plant level.

[63] 35 P.S. § 4009.2(a) ("Except as provided under subsection (a.1), all fines, civil penalties and fees collected under this act shall be paid into the Treasury of the Commonwealth in a special fund known as the Clean Air Fund, hereby established, which, along with interest earned, shall be administered by the department for use in the elimination of air pollution. The department may establish such separate accounts as may be necessary or appropriate to implement the requirements of this act and the Clean Air Act. The board shall adopt rules and regulations for the management and use of the money in the fund.").

This focus will help identify violations and initiate appropriate remedial actions to reduce pollution from facilities in close proximity to already overburdened and vulnerable communities.

Third, the Joint Commenters recommend that the Department allocate RGGI auction proceeds to expand energy efficiency and renewable energy programs in the Commonwealth. Communities near both coal and natural gas power plants are in many cases burdened with a disproportionate share of socioeconomic and health vulnerabilities, which, when combined with other environmental stressors, increase susceptibility to impacts from exposure to environmental hazards from power plants. While exposure to primary and secondary air pollutants from power generation affects populations over hundreds of miles, the scientific literature suggests that populations that live near all types of fossil generation sites are at higher risk of experiencing adverse health outcomes.[64]

The presence of vulnerable communities near existing coal and natural gas generation coupled with the health implications of residing in close proximity to power plants make prioritizing zero emission resources a critical part of a comprehensive CO2 reduction strategy in the Commonwealth. Specifically, the Joint Commenters recommend the Department develop guidelines for prioritizing RGGI auction proceeds to improve access to renewable energy and energy efficiency, and energy conservation assistance in low-income communities.[65]

Expanding the scope of – and access to – renewable energy, energy efficiency, and energy conservation programs will provide customers the tools to better manage their energy use and reduce their energy bills. Indeed, a 2019 report published by the Pennsylvania Public Utility Commission determined that customers making below 50 percent of the federal poverty line ($6,245 for one person or $12,875 for a family of four) see a higher percentage of their income spent on energy bills than any other income bracket. The report found that low-income customers combined heating and non-heating energy burden[66] ranged between 12 percent and

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[64] See PSE Healthy Energy at iv (citing N. Middleton, O. Kolokotroni, D. Lamnisos, P. Koutrakis, and P. Yiallouros, "Prevalence of asthma and respiratory symptoms in 15-17 year-old Greek-Cypriots by proximity of their community of residence to power plants: Cyprus 2006-07" Public Health, vol. 128, no. 3, pp. 288-296, 2014; X. Liu, L. Lessner, and D. O. Carpenter, "Association between residential proximity to fuel-fired power plants and hospitalization rate for respiratory diseases," Environmental Health Perspectives, vol. 120, no. 6, p. 807, 2012; S. Ha, H. Hu, J. Roth, H. Kan, and X. Xu, "Associations between residential proximity to power plants and adverse birth outcomes," American Journal of Epidemiology, vol. 182, no. 3, pp. 215-224, 2015; S.-W. Hu, Y.-J. Chan, H.-T. Hsu, K.-Y. Wu, G.-P. ChangChien, R.-H. Shie, and C.-C. Chan, "Urinary levels of 1-hydroxypyrene in children residing near a coal-_red power plant," Environmental Research, vol. 111, no. 8, pp. 1185-1191, 2011; A. Di Ciaula, "Emergency visits and hospital admissions in aged people living close to a gas-fired power plant," European Journal of Internal Medicine, vol. 23, no. 2, pp. e53-e58, 2012.

[65] In developing these guidelines we recommend the Department solicit comments on Pennsylvania's existing renewable energy, energy efficiency and energy conservation programs for how the Department could build on or enhance the benefits of existing programs or otherwise deliver benefits to better serve low-income families and reduce reliance on fossil fuel fired power generation.

[66] Household "energy burden" refers to the percentage of household income dedicated to paying jurisdictional energy costs (i.e., utility electric and gas bills).

14 percent, while non-low-income customers experienced an average energy burden of 4 percent.[67]

The Public Utility Commission adopted policy changes directing utilities to ensure that low-income customers' energy burdens do not exceed 10 percent and, for the poorest consumers, 6%, but noted that Pennsylvania's neighboring states had "significantly lower" maximum energy burdens for low-income residents.[68] Further reducing the energy burden for low-income residents would provide tangible and substantial improvements.The economic downturn wrought by the COVID-19 pandemic further underscores the challenges facing low-income families to meet essential needs.[69]

The Joint Commenters urge further examination for how RGGI auction proceeds can be administered to help low-income and other customers reduce their energy costs and empower customers to implement emission reduction solutions in their communities.

2. *To address concerns that RGGI will allow regulated entities to "purchase" compliance without achieving local emissions reductions, the Department should restrict the ability of covered sources to use emissions offsets; limit or eliminate the proposed set-aside to waste coal plants and CHP facilities; and leverage the Clean Air Act and APCA to reduce risk that regulated entities' purchase of CO2 emission allowances results in increased utilization of plants in non-attainment areas.*

As discussed, market-based emission reduction systems raise the possibility that regulated entities may choose to purchase emission allowances rather than institute emission reduction measures at the plant level, when it is more economic to do so. This concern is heightened when plants located in environmental justice communities purchase compliance credits instead of taking measures to reduce plant level emissions and thereby lessen the pollution burden on the surrounding community, particularly when a program distributes allowances to some or all regulated entities at no cost or allows entities to utilize "offset" allowances in lieu of achieving plant specific reductions.

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[67] Pennsylvania Public Utility Commission, Docket No. M-2017-2587711, Home Energy Affordability for Low-Income Customers in Pennsylvania at p. 6 (Jan. 2019) available at https://www.puc.pa.gov/pcdocs/1602386.pdf.

[68] See Docket No. M-2017-2587711, Final Policy Statement and Order at p. 4, 17-18 (Sept. 19, 2019) (noting that Ohio limits energy burdens to 10% for electric heating program participants, and New York and New Jersey have maximum energy burdens of 6% for electric and natural gas service).

[69] *See e.g.*, Parker, Kim, et al., *Economic Fallout From COVID-19 Continues To Hit Lower-Income Americans the Hardest*, Pew Research Center (Sept. 24, 2020) (finding that 46% of lower-income adults, 46% have had trouble paying bills since the start of the pandemic and roughly one third (32%) have experienced difficulty in making rent or mortgage payments; while about one-in-five or fewer middle-income adults have faced these challenges; and substantially smaller shares of upper-income adults report facing similar challenges); Maykuth, Andrew, *Broke in Philly: Nearly a million Pa. utility customers are past due on their bills because of COVID-19. Who will pick up the cost?*, Philadelphia Inquirer (Jan. 11, 2021) (reporting "[n]early a million Pennsylvania customers were late on their utility bills going into the winter after more than eight months of pandemic-induced economic recession").

The Proposed Regulation includes provisions to allow CO_2 offset allowances as a partial compliance strategy.[70] Eligible offset projects must fall within one of three categories: (i) landfill methane capture and destruction, (ii) sequestration of carbon due to reforestation, improved forest management or avoided conversion; and (iii) avoided methane emissions from agricultural manure management operations;[71] must be located in the Commonwealth or partly in the Commonwealth and partly in another RGGI state; and the majority of the CO_2 emission reduction must occur within the Commonwealth.[72] In addition, as is discussed in section III-C of these Comments, the Proposed Regulation includes a waste coal set-aside that would provide free allowances for "legacy emissions" of waste coal plants.

The Joint Commenters respectfully offer three recommendations concerning these offset and free allocation provisions.

First, the Joint Commenters recommend revising the offset allowance eligibility to require the offset project be located solely within Pennsylvania and within 3 miles of the subject plant.[73] If offset allowances are adopted as a permitted compliance mechanism, the use of offsets should be conditioned on ensuring that the emission benefit accrues within the communities that otherwise would have benefited if emission reductions were achieved at the subject facility itself.

Second, as further discussed in section III-C of these comments, the Joint Commenters recommend removing the Proposed Regulation's allocation of free allowances to waste coal plants.[74] As that section notes, whether the potential benefits from the operation of waste coal plants cited in the Proposed Regulation accrue at all depends on multiple factors that strongly indicate that a blanket rule providing free allocation of RGGI allowances to these facilities is not justified. The Joint Commenters recommend the Proposed Regulation require these facilities purchase emission allowances at their fair market value without exemption or discount. The Joint Commenters recommend similar revisions to remove the allocation of free emission allowances for CHP facilities. This will ensure that emission allowance prices are not artificially depressed through the allocation of free allowances, and that these facilities' do not receive windfall profits and environmental subsidies that would increase their competitiveness in wholesale energy markets.

Third, Joint Commenters recommend the Department conduct a close review of air pollution standards adopted under the Clean Air Act and Air Pollution Control Act ("APCA") and take steps to reduce the potential for power plants located in environmental justice communities to avoid or even increase co-pollutant emissions as a result of RGGI CO_2 emission trading provisions. Joint Commenters note that while APCA limits the Department's ability to adopt

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[70] Proposed Regulation § 145.355(a)(3) (providing that the number of CO_2 offset allowances available to be deducted for compliance purposes may not exceed 3.3% of the CO_2 budget source's CO_2 emissions for a control period or interim control period).
[71] Proposed Regulation § 145.393(a)(1).
[72] Proposed Regulation § 145.393(a)(2).
[73] Three miles was the proximity threshold used in the NAACP's analysis of power plant pollution impacts on Environmental Justice Communities in "Coal Blooded: Putting Profits Before People" available at: https://www.naacp.org/wp-content/uploads/2016/04/CoalBlooded.pdf
[74] *See* Proposed Regulation § 145.342 (i); (k)

criteria pollutant standards more stringent than the minimum standard established pursuant the Clean Air Act, this limitation does not apply "if the Board determines that it is reasonably necessary for a control measure or other requirement to exceed minimum Clean Air Act requirements in order for the Commonwealth to achieve or maintain ambient air quality standards."[75] This exception appears to provide the Board and the Department flexibility to adopt ambient air quality standards more stringent than the minimum standards established pursuant to the Clean Air Act for "nonattainment" and "maintenance" areas.[76]

The Clean Air Act provides that upon the designation of a "nonattainment area" for a national ambient air quality standard, states must develop implementation plans ("Nonattainment Plans") to reach "attainment" within 5 years of the designation date.[77] Among other requirements, Nonattainment Plans must provide for the implementation of "all reasonably available control measures as expeditiously as practicable" and provide for the attainment of national primary ambient air quality standards.[78]

As noted above, Joint Commenters preliminary analysis of the demographics of those communities in close proximity to power plants indicates there are 46 power plants (inclusive of plants above and below the 25 MW threshold for RGGI) located within 3 miles of environmental justice communities that are also in nonattainment areas.[79] The Joint Commenters anticipate that the utilization of some plants (particularly coal) in these areas will decline in response to RGGI requirements and produce measurable co-pollutant emission reduction benefits. However, as noted above, there is also potential that certain individual power plants – potentially natural gas plants – could increase utilization under RGGI and thereby increase CO2 and co-pollutant emissions, which would increase the pollution burden in these areas.

Joint Commenters recommend the Department review national ambient air quality standards in nonattainment areas and determine what additional "available control measures" can be implemented "as expeditiously as practicable" to provide for the attainment of national primary ambient air quality standards. The Department should explore the options to revise and update Nonattainment Plans to incorporate those "available control measures" (including further

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[75] 35 P.S. § 4004.2(b) (providing [c]ontrol measures or other requirements adopted under subsection (a) of this section shall be no more stringent than those required by the Clean Air Act unless authorized or required by this act or specifically required by the Clean Air Act. This requirement shall not apply if the board determines that it is reasonably necessary for a control measure or other requirement to exceed minimum Clean Air Act requirements in order for the Commonwealth: (1) To achieve or maintain ambient air quality standards; (2) To satisfy related Clean Air Act requirements as they specifically relate to the Commonwealth; (3) To prevent an assessment or imposition of Clean Air Act sanctions; or (4) To comply with a final decree of a Federal court.

[76] *See* 42 U.S.C. § 7502 (providing for the establishment of nonattainment plans); 42 U.S.C. §7505a(a) (providing for the establishment of maintenance plans).

[77] 42 U.S.C. § 7502(a)(2)(A);(C) (also providing that EPA may extend the attainment date for a period of no greater than 10 years after the initial designation upon consideration of the severity of nonattainment and the availability and feasibility of pollution control measures and up to two additional one-year extensions under certain limited circumstances; *see also* 42 U.S.C. § 7502(a)(2)(D) (noting that the provisions of section (a)(2) do not apply with respect to nonattainment areas for which attainment dates are specifically provided under other provisions of the Clean Air Act).

[78] 42 U.S.C. § 7502(c)(1).

[79] Attachment 1.

rulemakings and other measures to meet more stringent ambient air quality standards than the minimum standard under the Clean Air Act) and such "other requirements" that will accelerate timelines for achieving attainment and mitigate against the potential for increased utilization of certain power plants in communities that already bear a disproportionate pollution burden.[80]

Joint Commenters also emphasize that renewable energy and energy efficiency resources should be a cornerstone of Pennsylvania's CO_2 reduction strategy. Empowering customers to better control their energy bills and providing communities the tools to implement local solutions to local pollution hazards should be a priority implementation strategy to ensure that nonattainment areas are brought into attainment. Revisions to Nonattainment Plans should identify zero emission resources as a "reasonably available control measure" and the Department should move as expeditiously as practicable to deploy these resources in nonattainment areas. Adopting these recommendations will reduce reliance on fossil fuel power plants in communities that bear heavy pollution burdens and help reduce the risk that certain power plants increase local emissions in response to the RGGI program.

3. *The Department should take steps to ensure that implementation of the Proposed Rule does not result in the leakage of generation and emissions from covered sources to smaller uncovered generators, particularly when these units are located in environmental justice areas.*

Pennsylvania is home to roughly 70 fossil-fired generators below the 25-megawatt threshold in the Proposed Rule, and while these facilities represent less than 1% of the sector's CO2 emissions, they are nonetheless significant emitters of co-pollutants such as NOx and particulate matter. These small units generally lack the more effective air pollutant controls more commonly present at larger power generators, and have shorter stacks through which their pollution is vented; as a result, they can have large local impacts on the air quality—and hence the health and well-being—of the frontline communities they pollute. Many of these small generators are also located in areas already heavily impacted by industrial polluters, meaning that their emissions are afflicting already heavily burdened communities.

Moreover, even though these sources may be individually small, the source category as a whole is relatively large. For example, in Pennsylvania there are thirteen oil-fired generators that collectively total 130 megawatts in capacity despite being individually below the 25-megawatt regulatory threshold. Similarly, Pennsylvania hosts 21 gas-fired generators collectively totaling 234 megawatts of capacity, 30 biomass-fired generators collectively totaling 190 megawatts of capacity, and an additional 5 small units burning other fuels that total 52 megawatts of capacity. All in all, Pennsylvania has over 600 megawatts of combustion-based generating capacity that would not be covered by the Proposed Regulation.

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[80] The New York Department of Environmental Conservation provided an example of such an additional control mechanism with its 2020 revision of its CO2 budget trading program (6 NYCRR Part 242). In response to concerns similar to those raised in these comments, that costs of RGGI compliance may result in increased operation at units not subject to the CO2 budget trading program in environmental justice communities, NYDEC lowered the MW application threshold of its CO2 budget program to include units with a nameplate capacity of 15 MW or greater.

As such, it is critical that DEP take steps to ensure that implementation of the Proposed Rule does not result in shifting generation from covered sources to these smaller uncovered generators such that there is an increase in pollutants like NOx and particulate matter from these smaller-but-dirtier units, particularly when these units are located in environmental justice areas.

As discussed above, periodic assessments of emissions from Pennsylvania power plants coupled with determinations as to whether the pollution burden in environmental justice communities increased or declined over the assessment period should include these small power plants that are not currently subject to RGGI. The periodic assessment process should include data collection mechanisms to quantify emissions from these small power plants, publication of emissions levels at the individual power plant level, and publication of periodic assessments of whether the pollution burden in environmental justice communities increased or declined over the assessment period.

Further, the Joint Commenters recommend that data collection and periodic assessments be used to inform adaptive management strategies that facilitate public input and a process to evaluate concerns and develop and implement solutions, such as promulgating additional rulemakings to bring these sources within the RGGI program or otherwise more tightly control pollution from these sources.

The Joint Commenters commend the Department and the Board for soliciting comments on this important issue. We encourage the agencies to adopt the recommendations provided herein to advance the important CO_2 and co-pollutant reduction benefits that RGGI offers and ensure clean air and healthy communities for all Pennsylvanians.

B. Pennsylvania Needs an Ambitious Carbon Dioxide Budget. [back to outline]

Among the most critical program design elements in the proposed rulemaking is the initial emissions cap, or CO2 allowance budget. The rule currently establishes an initial base budget of 78 million short tons in 2022, with up to 68.7 million allowances made available for sale at auctions (after deducting allowances allocated to the waste coal set-aside account).[81] We appreciate the detailed modeling analysis - including projected retirements and additions of electricity generators by 2022 - undertaken by the Department to inform this initial CO2 budget.

However, because it is critical to have an ambitious cap that drives significant reductions in carbon pollution in the final-form rulemaking, we urge the Department to provide for a mechanism to adjust the starting allowance budget downward if actual emissions prove to be lower than currently projected. Specifically, the base budget in the final-form rule must be no

[81] Under § 145.382(a)(6), the Emissions Containment Reserve (ECR) trigger price in calendar year 2022 is set at $6.42. If an auction clearing price falls below this level, the Department will withhold up to 10% of allowances from the base budget. For reference, the RGGI auction clearing price on September 2, 2020, was $6.82 and, on December 2, 2020, it was $7.41.

higher than the final emissions inventory for covered sources from the most recent year for which a complete dataset is available in January 2022. The Department can look to its NOx budget trading program for fossil-fired combustion boilers and electric utility generators as a model, as that program used the EPA inventory to establish Pennsylvania's initial base budget.[82]

The 78 million ton base budget was first announced by the Department in April 2020 based on independent modeling analysis. Unfortunately, there is a long history of emissions trading systems that have established initial budgets based on modeled projections that frequently prove to be too high in practice, resulting in emissions caps that are non-constraining. Indeed, this occurred in the RGGI participating states after the initial budget took effect in 2009; the emissions cap exceeded actual emissions by a wide margin, thereby limiting the program's ability to compel regulated entities to make internal emission reductions.

The delta between the cap and actual emissions was driven by a variety of factors, including the economic downturn resulting from the Great Recession and market forces driving a shift to less carbon-intensive fuels. Regardless, the regional budget needed to be readjusted during two different program review processes completed in 2013 and 2017, respectively, which necessitated additional statutory or regulatory action in the RGGI participating states. Given Pennsylvania's unique regulatory review process, where rulemakings routinely take multiple years to promulgate, it is critical that the Department finalize a sufficiently constraining cap at the outset.

It is clear that much of Pennsylvania's coal fleet is extremely marginal and, consistent with trends over the past decade, will likely retire in the near term for economic reasons. The ongoing COVID-19 pandemic and corresponding economic crisis are having additional negative impacts on the financial outlook for fossil-fired power plants generally, and particularly for coal generators. These impacts simply could not have been reflected in the modeling commissioned by the Department prior to April 2020 that informed the 78 million ton base budget. Overall, these circumstances could result in significant changes to Pennsylvania's power sector between now and 2022, including earlier retirements of coal plants. Any resulting drop in emissions by 2022 must be taken into account by the Department as new data becomes available when setting its initial budget to maintain the integrity of the program.

The Department presented "RGGI + Investment" modeling results to the Air Quality Technical Advisory Committee on May 7, 2020, which projected actual emissions from Pennsylvania covered sources to be just 57 million short tons in the first year of the program. That reflects a gap of 21 million tons between the initial base budget and projected actual emissions, a gap that will largely persist throughout this decade despite the annually declining CO2 budget. This will limit the effectiveness of the program at driving additional emission reductions, the ultimate objective of a cap-and-invest program, approaching 2030.

[82] 25 Pa. Code Chapter 145, Subchapter A §§ 145.1-145.100.

We should also note the scale of Pennsylvania's power sector emissions relative to those of the other eleven participating states. With the fifth-dirtiest power sector in the country, Pennsylvania would become the highest-emitting state to participate in RGGI, with more than double the power sector carbon emissions of the current highest-emitting state, Virginia. Before Virginia linked with RGGI on January 1, 2021, Pennsylvania's power sector emissions exceeded those in all ten other RGGI participating states combined. There is a risk that offering 68.7 million additional allowances for sale at regional auctions in 2022 could flood the regional market, resulting in suppressed prices and distorted market signals across the region.

One option to mitigate this risk is for the final-form rule to provide for a mechanism to adjust the starting allowance budget downward if actual emissions prove to be lower than were projected in the April 2020 analysis. **The starting budget in 2022 should be the lower of 78 million tons, or the actual final emissions inventory for covered sources from the most recent complete annual dataset available in January 2022.**

C. The waste coal set aside should be eliminated or qualifications should be added. [back to outline]

The DEP noted in the Regulatory Analysis Form submitted to the Independent Regulatory Review Commission (IRRC) that "the purpose of this proposed rulemaking is to reduce anthropogenic emissions of CO2, a GHG and major contributor to climate change impacts in a manner that is protective public health, welfare and the environment."[83] Based on data from the U.S. Energy Information Agency, waste coal combustion in Pennsylvania pollutes in excess of 3,000 pounds of CO2 per megawatt hour of generation. This is a significantly higher rate than the vast majority of the state's generation sources.[84] Further subsidizing Pennsylvania's most polluting sources is clearly against the stated purpose of the regulation.

We recognize the claims that burning waste coal as a power source removes the refuse as a source of pollution for land and water. We note, however, that the proposed regulation does not require any demonstration that using any particular source of waste coal provides a net benefit or is the most effective method of achieving the stated environmental goal. Without such a determination, there is no guarantee this part of the proposal is reasonable.

Waste coal already receives significant subsidies. In 2016 Pennsylvania passed a Coal Refuse Energy and Reclamation Tax Credit[85] that provides $4 in tax credits per ton of coal refuse processed up to a total of $10 million in tax credits in each fiscal year. Then, in 2019, the legislature revisited the program and expanded it to $20 million in available tax credits.[86] (A

[83] RAF No. 7-559 (October 21, 2020).
[84] U.S. EIA, Emissions by plant for CO2, SO2, and NOx, (2019). *(available at: https://www.eia.gov/electricity/data/emissions/).*
[85] Act of July 13, 2016, P.L. 526, No. 84
[86] Act of Jun. 28, 2019, P.L. 50, No. 13

separate bill was introduced that would further raise the credit to $45 million.[87]) If the facility doesn't use that credit, it can be carried forward for fifteen tax years, or in some cases, transferred to another entity that wouldn't qualify for the credit in its own right.

Waste coal was provided a separate subsidy through the Alternative Energy Portfolio Standards Act in 2004 when it was included as a Tier II resource.[88] As of 2019, waste coal appears to have been paid nearly $2.6 million for Tier II credits under this program. In late 2020, the legislature revised this program to limit the amount of Tier II credits from out of state generation that can be used for compliance purposes.[89] As a result, future subsidies for waste coal are expected to be greater than they were at the time the proposal was developed. At a minimum the proposed subsidy should be suspended until the magnitude of existing subsidies is fully quantified and an analysis demonstrates that it is necessary to achieve environmental goals and consistent with state constitutional requirements.

For these reasons, we think the EQB should eliminate the proposed waste coal set-aside. If the EQB decides to retain the waste coal set-aside, we propose the following improvements to the proposal.

1. *Recipients should be required to reduce their emissions.*

Receipt of allowances under any waste coal set-aside should be contingent on the recipient having submitted to DEP a plan and making an enforceable commitment to reduce emissions—both carbon dioxide and other pollution—at the waste coal facility, including by implementing all reasonably available efficiency improvements and control technology for conventional air pollutants.

2. *The definition of "waste coal" should be limited.*

The definition of what qualifies as waste coal should include only refuse that was abandoned prior to 1982, and should not include refuse that was part of a permitted disposal after that date or in the future. Any benefits of waste coal plant operation stem from their cleanup of abandoned coal piles, for which no existing entity has a financial obligation or legal liability, that are creating water pollution and other environmental issues for surrounding communities. If these problems are present at permitted refuse disposal sites, then that is a problem with the permit or its enforcement that needs to be addressed independently. Waste coal power plants should not be viewed as a substitute for current and future mining companies' environmental restoration responsibilities.

3. *Set-aside allowances should not go to entities violating other environmental laws.*

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[87] SB 618 of 2019 (Argall).
[88] Act of Nov. 30, 2004, P.L. 1672, No. 213.
[89] Act of Nov. 23, 2020, P.L. __, No. 114.

In no event should an individual waste coal power plant receive allowances from a set aside if the plant (a) is polluting in excess of any federal air or water pollution standard that applies to conventional coal-fired power plants, including and especially the requirements of the Mercury and Air Toxics Standards, or has been shown to be contributing to an exceedance of the National Ambient Air Quality Standards; or (b) the plant receives waste coal from a site or operation that has been issued a citation or enforcement action for violations related to coal refuse extraction or site restoration in the previous 12 months.

D. Emissions Leakage Mitigation [back to outline]

Analysis by the Department, NRDC, and others shows that in the absence of complementary policies to mitigate emissions leakage, some leakage may occur from sources covered by the CO_2 Budget Trading Program to electric generation units in other PJM states and, to a lesser degree, to non-covered sources in Pennsylvania.

Even if leakage occurs in the highest amounts that have been projected,[90] the Program is projected to drive significant net reductions of carbon pollution across PJM. However, to whatever extent leakage does occur, the total effectiveness of the Program would be reduced. The Department and the Pennsylvania General Assembly should therefore adopt complementary policies to minimize leakage and maximize the benefits of the Program.

The Department can mitigate leakage to some degree through the regulation by adding a voluntary renewables (VRE) set-aside in section 145.342. Such a set-aside would incentivize additional in-state renewable generation, which in turn would reduce demand for fossil generation from non-covered sources and thereby reduce leakage. The Department can also mitigate leakage by investing RGGI auction proceeds in efficiency and renewable energy projects.

The most effective actions that Pennsylvania could take to mitigate leakage are actions that must be taken by the General Assembly, namely to strengthen Act 129 of 2008—the state's energy efficiency and conservation standard—and to significantly raise the renewable energy goals in the Alternative Energy Portfolio Standards Act of 2004. Pending legislative action on these statutes, the Wolf administration should, through the Department and the Public Utility Commission, continue to engage in the PJM Interconnection's Carbon Pricing Senior Task Force with the goal of securing an effective carbon border adjustment. The Department should also work with PJM, other PJM states, and RGGI, Inc. to accurately measure whatever emissions leakage may occur after Pennsylvania starts to participate in RGGI.

1. *Background on Emissions Leakage*

[90] The highest leakage projections that the Joint Commenters are aware of are from a recent Penn State Center for Law and Policy study, *Prospects for Pennsylvania in the Regional Greenhouse Gas Initiative* (December, 2020), available at https://sites.psu.edu/celp/files/2021/01/CELP_RGGI.pdf. As we explain in detail below, these projections are based on outdated data, and we believe that they grossly overstate the amount of leakage that may occur.

Emissions leakage refers to "activity of investment that directly or indirectly causes emissions to shift from a jurisdiction with carbon reduction regulations to jurisdictions with less or no regulation, or from a source within a jurisdiction that is subject to emissions regulation to a source within that jurisdiction that is not subject to regulation.[91] Or, as the Department states in its Regulatory Analysis Form for the Program, leakage is "the shifting of emissions from states with carbon pricing to states without carbon pricing."[92]

In a 2017 report on the current and potential future state of emissions leakage in RGGI, the Pace University Energy and Climate Center summarized the environmental, economic, social, political, and health consequences of leakage as follows:

> Leakage reduces the environmental effectiveness of emissions regulation to the extent that it causes a net increase in emissions. Leakage results in negative economic impacts if it leads to the avoidance of investment, relocation of investments, and shifting of production from within the regulated jurisdiction to outside the jurisdiction. This shift in activity and/or investment reduces the regulated jurisdiction's economic output, employment, and taxable profits, and can lead to job losses, and negative impacts on livelihoods and communities. Further, if imported electricity is not subjected to the same or similar regulation as electricity generated within the jurisdiction, the in-jurisdiction generation will be at a competitive disadvantage. Imported electricity can also displace or adversely impact the value of energy efficiency and incremental increases in clean energy generation from within the regulated jurisdiction. Finally, to the extent it results in an increase in fossil-fuel generation from generators located near residential areas, the emissions associated with leakage can result in negative health impacts in communities surrounding these generators. Those communities are most likely to be low-income communities or communities of color.[93]

Recognizing early that emissions leakage was a potential issue in RGGI, the RGGI states addressed the issue directly in the RGGI Memorandum of Understanding (MOU).[94] Among other things, the MOU established a multi-state working group to consider potential options for addressing leakage and provided that, if the RGGI program were determined to have led to a significant increase in emissions from power plants outside of the RGGI region, the RGGI states would "implement appropriate measures to mitigate such emissions."[95]

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[91] Pace Energy and Climate Center (Musgrove, Taylor, Valova, and Rabago), *Emissions Leakage in RGGI: an Analysis of the Current State and Recommendations for a Path Forward* (December, 2017), available at https://peccpubs.pace.edu/viewresource/5319719d12c3c3e/Emissions+Leakage+In+RGGI%3A+An+Analysis+of+the+Current+State+and+Recommendations+for+a+Path+Forward.

[92] Department of Environmental Protection, Regulatory Analysis Form for CO2 Budget Trading Program, available at http://files.dep.state.pa.us/PublicParticipation/Public%20Participation%20Center/PubPartCenterPortalFiles/Environmental%20Quality%20Board/2020/September%2015/04-7-559-CO2%20Budget%20Trading-Proposed_RAF%20.pdf, at 34.

[93] Pace Energy and Climate Center, *id.*, at 1.

[94] *See* Regional Greenhouse Gas Initiative, Memorandum of Understanding (December 20, 2005) at 9-10, available at https://www.rggi.org/sites/default/files/Uploads/Design-Archive/MOU/MOU_12_20_05.pdf.

[95] *Id.*

In 2007 and 2008, the working group produced two reports that included a proposal to monitor emissions leakage, an analysis of potential leakage mitigation options, and recommendations concerning those options.[96] The working group recommended "aggressively increasing energy efficiency market transformation investments, and implementing complementary measures that would accelerate deployment of technologies and measures for end-use efficiency, such as updated building energy codes and standards, and energy efficiency standards for appliances and equipment."[97]

Since publication of the working group's reports, the RGGI states have also sought to monitor leakage by tracking electricity generation from both RGGI-covered and non-RGGI sources (including sources outside of the RGGI region that export electricity to RGGI states) and emissions associated with that generation.[98] These data are published in the annual monitoring reports produced by RGGI, Inc. with the caveat that while generation figures may be indicators of leakage, the reports do not analyze "the causes of observed trends among different categories of electric generation serving load in the nine-state RGGI region."[99] The 2017 Pace report notes that RGGI, Inc.'s monitoring report generally suggest relatively low leakage levels in RGGI, but cautions that as RGGI's cap becomes more stringent (and allowance prices therefore become higher), the risk of leakage will increase, especially from RGGI states in the PJM Interconnection region to non-RGGI PJM states.[100]

In 2017, PJM considered this leakage concern in a white paper.[101] Then, in 2019, PJM convened a Carbon Pricing Senior Task Force to explore, among other things, how leakage between PJM states that participate in RGGI and non-PJM RGGI states might be addressed.[102]

Governor Wolf's October 3, 2019, Executive Order directing the Department to draft a CO_2 budget trading program regulation stated that the Department should "engage with PJM

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[96] *See* Pace Energy and Climate Center at 6-8.
[97] *Id.*
[98] *Id.* The Electricity Monitoring Reports are available at https://www.rggi.org/allowance-tracking/emissions.
[99] RGGI, Inc., *CO2 Emissions from Electricity Generation and Imports in the Regional Greenhouse Gas Initiative:2017 Monitoring Report* (November 8, 2019), available at https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2017_Elec_Monitoring_Report.pdf
[100] Pace Energy and Climate Center, *id.*, at 18.
[101] PJM Interconnection, *Advancing Zero Emissions Objectives through PJM's Energy Markets: A Review of Carbon-Pricing Frameworks* (August 23, 2017), available at https://www.pjm.com/~/media/library/reports-notices/special-reports/20170502-advancing-zero-emission-objectives-through-pjms-energy-markets.ashx.
https://www.pjm.com/~/media/library/reports-notices/special-reports/20170502-advancing-zero-emission-objectives-through-pjms-energy-markets.ashx
[102] PJM Interconnection, *Opportunity Statement: Carbon Pricing in the PJM Energy Market* (June 12, 2019), available at https://www.pjm.com/-/media/committees-groups/task-forces/cpstf/postings/problem-statement.ashx. The Senior Task Force's materials and meeting agendas are available at https://www.pjm.com/committees-and-groups/task-forces/cpstf.

Interconnection to promote the integration of this program in a manner that preserves orderly and competitive economic dispatch within PJM and minimizes emissions leakage."[103]

According to the Department's Regulatory Analysis Form, the Department, working with the Public Utility Commission, did engage with PJM "to promote the integration of [the proposed CO2 budget trading program] in a manner that preserves orderly and competitive economic dispatch within PJM and minimizes emissions leakage. The Department has also been an active participant in PJM's Carbon Pricing Senior Task Force...."[104]

In 2020, as the Department developed and shared regulatory text and modeling results with the public and the Department's advisory boards, the potential for emissions leakage in connection with Pennsylvania participation in RGGI repeatedly emerged as a concern for stakeholders. Some, including the Joint Commenters, wish to see effective leakage mitigation for the purposes of program integrity. Others, opposing RGGI and other climate actions, have attempted to use the potential for leakage to undermine support for the CO_2 Budget Trading Program, arguing that leakage will render the Program ineffective. The Joint Commenters appreciate the opportunity to comment on potential leakage and how to mitigate it.

2. *Emissions leakage is likely if the CO2 Budget Trading Program is promulgated without complementary policies; however, even if a relatively high amount of the leakage occurs, the Program will result in lower emissions across the PJM region and significant net benefits in Pennsylvania.*

Modeling analyses by the Department, NRDC, and other stakeholders have generated a range of projections for emissions leakage from Pennsylvania, following implementation of the CO_2 Budget Trading Program.

At the highest level, all of these analyses show two things: first, that in the absence of complementary policies, Pennsylvania's participation in RGGI is likely to result in some amount of emissions leakage from covered sources in the Commonwealth, especially to sources in non-RGGI PJM states; and second, that even if leakage occurs at the highest levels that have been projected, implementation of the Program will still result in a net decrease in carbon dioxide emissions across the PJM region, and will deliver significant health and economic benefits to the Commonwealth.

In its Regulatory Analysis Form the Department summarized the results of its own modeling, conducted with ICF International's IPM power sector model, as follows:

> The Department's modeling indicates that there may be some future emissions leakage in terms of additional fossil fuel emissions outside of this Commonwealth's borders. Despite the leakage, this Commonwealth's participation in RGGI would result in a net

[103] Governor Tom Wolf, Executive Order – 2019-07- Commonwealth Leadership in Addressing Climate Change through Electric Sector Emissions Reductions, available at https://www.governor.pa.gov/newsroom/executive-order-2019-07-commonwealth-leadership-in-addressing-climate-change-through-electric-sector-emissions-reductions/

[104] Department of Environmental Protection, *id.*, at 28.

emissions reduction of 86.9 million tons of CO2 across PJM for the period between 2020 and 2030.[105]

Separate IPM modeling performed for NRDC found that despite a certain amount of leakage to other PJM states, Pennsylvania's participation in RGGI would reduce cumulative emissions across the PJM region by more than 145 million tons between 2019 and 2030, even in the absence of complementary policies.[106] Modeling by the Environmental Defense Fund using a tool developed by MJ Bradley & Associates reached a similar conclusion, also finding significantly less leakage than the Department projected[107]

Most recently, the Penn State Center for Law and Policy modeled Pennsylvania's participation in RGGI with a proprietary tool called "RGGI+PJM Policy Analysis Model," or RPAM, and projected that 86% of the CO_2 reductions from Pennsylvania's joining RGGI would be offset by emissions increases in PJM and/or other RGGI states – a significantly higher amount of leakage than the Department, NRDC, or EDF found.[108]

The Joint Commenters have reviewed Penn State's methodology and believe that it suffers from several serious flaws, including reliance on outdated assumptions concerning renewables prices, failure to account for recent state policy developments in PJM and RGGI states, and disregard of the availability of battery storage and offshore wind technologies. The overall effect of these flaws is an overreliance of the model on gas-fired generation in the PJM region, leading to higher leakage projections than are warranted[109]

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[105] Department of Environmental Protection, *id.*, at 34. Specifically, the Department's modeling projected that carbon dioxide emissions across the PJM region would total 3,823 million tons from 2019 to 2030 without Pennsylvania participation in RGGI and 3,736 million tons with RGGI. When the Department factored in the effect of RGGI auction proceeds investments, in the investment of RGGI proceeds, the DEP projected total emissions of 3,726 million tons. *See* Department of Environmental Protection, "RGGI Modeling Results," available at https://www.dep.pa.gov/Citizens/climate/Pages/RGGI.aspx.

[106] Natural Resources Defense Council, "Modeling Pennsylvania's Power Future: 2020 Carbon & Clean Energy Policy Scenarios" (April 23, 2020, unpublished).

[107] *See* Rama Zakaia and Drew Stilson, "Updated analysis strengthens the case for Pennsylvania's cap on power sector emissions" (EDF blog, August 13, 2020), available at http://blogs.edf.org/climate411/2020/08/13/updated-analysis-strengthens-the-case-for-pennsylvanias-cap-on-power-sector-emissions/.

[108] Penn State Center for Law and Policy, *Prospects for Pennsylvania in the Regional Greenhouse Gas Initiative* (December, 2020), available at https://sites.psu.edu/celp/files/2021/01/CELP_RGGI.pdf.

[109] For example, regarding renewables prices, Penn State's model assumes new wind capacity costs will decline by 24% between 2014 and 2030 while new solar capacity costs will decline by 25% between 2017 and 2030. These cost decline assumptions date from 2016 and are sharply at odds with the best available government forecasts – those released by the national laboratories in the fall of 2020 – which show that wind and solar costs are falling at much faster rates. The 2020 Annual Technology Baseline (NREL 2020 ATB), available at https://atb.nrel.gov/electricity/2020/data.php, finds that for best in class wind (Class 1), levelized costs of onshore wind will fall by 59.7% (mid-case projection) between 2014 and 2030. In the conservative (i.e., high cost) case, the cost decline is still well beyond the 24% in the 2016 source relied upon in the Penn State analysis, with a 52.9% projected decline in costs. In the aggressive (or low-cost case), wind prices fall by 69.9% between 2014 and 2030. For less desirable wind locations that are more similar to many areas of PJM (Class 6), the analysis shows similar declines, with the mid-case projecting a 54.3% decline in costs between 2014 and 2030. (Conservative case: 47.3% decline; Aggressive case: 69.1% decline). For utility scale solar (reflective of Chicago solar conditions), the national lab projects that levelized solar costs will fall by 59.1% between 2017 and 2030 – or more than double the assumed cost

Crucially, though, even the Penn State analysis projects that Pennsylvania's participation in RGGI will reduce carbon dioxide emissions across the PJM region, despite the higher leakage estimates, and deliver significant net benefits: "Even though the emissions leakage rate is high, we find that CO2 emissions in the multistate PJM region decline following Pennsylvania joining RGGI and that the climate benefits exceed the monetary costs of participating in RGGI.[110]

These conclusions – that Pennsylvania joining RGGI will reduce cumulative emissions across the PJM region, notwithstanding some amount of leakage – are the common denominator of all the modeling exercises discussed above. Likewise, the projection that Pennsylvania's participation in RGGI will generate health, economic, and climate benefits that outweigh the program's costs is consistent with the actual experience in the RGGI states since RGGI began operation in 2009,[111] as well as with the Department's power sector and economic modeling.[112]

3. *Potential leakage can be partially mitigated by the inclusion of a voluntary renewables set-aside in the CO2 budget trading program regulation.*

The RGGI Model Rule includes an optional voluntary renewables, or VRE, set-aside provision that has, to date, been adopted by all the RGGI states except Delaware, New Jersey, and Virginia.[113] The provision entails the establishment of a set-aside account (in the proposed regulation, it would be in section 145.342) to which a state's regulatory agency is required to allocate allowances equal in number to the number of tons of emissions avoided through the voluntary purchase of renewable generation generated in the state.

The purpose of the VRE set-aside is to incentivize private investment in new renewables projects. It enables businesses, municipalities, or individuals that voluntarily purchase local renewable energy to ensure that they do not, through their purchases, create space in their state's RGGI budget that is filled with emissions by RGGI sources. The Center for Resource

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declines of only 25% in the Penn State modeling. (For range, the conservative trajectory achieves a 35.3% decline and the aggressive trajectory a 69.2% decline.)

[110] Penn State Center for Law and Policy, *id.*, at 4.

[111] *See, e.g.*, Bruce Ho, "Key Takeaways from the Latest RGGI Investment Report," (NRDC blog, October 9, 2019, available at https://www.nrdc.org/experts/bruce-ho/key-takeaways-latest-rggi-investment-report, and Mark Szybist, "RGGI's Record of Success, and What PA Stands to Gain" (NRDC blog, September 15, 2020), available at https://www.nrdc.org/experts/mark-szybist/rggis-record-and-what-expect-pennsylvania.

[112] The Department concluded that the "combination of reduced CO2, SO2, and NOx emissions, along with investments in energy efficiency, renewable energy and GHG abatement will ensure this Commonwealth gains environmental benefits while mitigating environmental impacts and growing the economy." Moreover, "[t]he results of the modeling show that overall, this proposed rulemaking will be an economic benefit to this Commonwealth. The modeling estimates that from 2022 to 2030, this proposed rulemaking would lead to an increase in Gross State Product of $1.9 billion and a net increase of 27,752 jobs. The results also show that overall Pennsylvanians could see an increase in Disposable Personal Income of approximately $6.9 billion by 2050." Department of Environmental Protection, Regulatory Analysis Form at 42.

[113] *See* RGGI, Inc., Model Rule (revised December 14, 2018) at section XX-5.3(l), available at https://www.rggi.org/sites/default/files/Uploads/Design-Archive/Model-Rule/2017-Program-Review-Update/2017_Model_Rule_revised.pdf

Solutions (CRS) has submitted comments in support of establishing a VRE as part of this regulation, and we endorse those comments.

A VRE set-aside also serves as a leakage mitigation mechanism, however:

> By ensuring that voluntary purchasers of renewable energy have the opportunity to realize their goal of creating regulatory surplus, the set-aside programs encourage the demand for, and drive the development of, additional in-region renewable energy generation. As in-region renewable energy generation and in-region voluntary purchases of renewable generation increase, the in-region demand for fossil-fuel generation should decrease. Decreased in-region demand for fossil-fuel generation should, in turn, reduce the amount of electricity produced by in-region fossil-fuel generators and reduce emissions from these generators, thereby reducing the number of allowances these generators need to comply with RGGI. The resulting decrease in the cost of compliance should reduce the wholesale cost of in-region generated electricity and thus reduce the risk of emissions leakage.[114]

In other words, leakage mitigation would be a further benefit of establishing a VRE set-aside in the final regulation, complementing the mechanism's benefits of incentivizing new renewables projects in Pennsylvania. The Joint Commenters therefore urge the EQB to include a VRE set-aside in the final regulation in addition to the strategic use set-aside the EQB has proposed for any unused portion of the waste coal set-aside.

4. *Potential leakage can be further mitigated, if not avoided completely, through additional complementary policies, including stronger statutory energy efficiency and renewable energy goals and a carbon border adjustment implemented by PJM or by the Commonwealth.*

Beyond a voluntary renewables set-aside, the tools available to the Department to mitigate leakage through the CO_2 Budget Trading Program regulation itself are limited. But outside of the regulation the Department can pursue further mitigation strategies in partnership with PJM and the other RGGI states; and the General Assembly can – and should – make statutory changes that would likely eliminate any leakage.

First, the Department should continue its engagement with the Public Utility Commission in PJM's Carbon Pricing Senior Task Force, with the goal of securing an effective PJM carbon border adjustment that ensures that all electricity imports to Pennsylvania are subject to a carbon fee, just as RGGI-covered sources within Pennsylvania are. The implementation of a border adjustment mechanism, likely based on the mechanism used by CAISO, has been discussed at the Task Force's two most recent meetings in the fall of 2020.[115]The Task Force's next scheduled meeting is in February; we urge the Department to engage actively in this and

[114] Pace Center for Energy and Climate, *id.*, at 31-32.
[115] *See* PJM Interconnection Carbon Pricing Senior Task Force, CPSTF Stage 1 Work Plan: Education and Analysis, revised December 8, 2020, available at https://www.pjm.com/-/media/committees-groups/task-forces/cpstf/2020/20201208/20201208-item-02-work-plan.ashx.

further meetings as the Task Force moves toward developing a final report. The Department should also work with PJM and the other PJM states to ensure that any leakage that may occur from Pennsylvania to other PJM states can be accurately measured.

Second, and more important, the General Assembly should immediately act to strengthen Pennsylvania's energy efficiency and renewable energy goals. Power sector modeling confirms that, as the Pace Center has noted, efficiency is an "essential complementary measure for reducing emissions as well as a tool for mitigating leakage," and "[a]n aggressive RPS/CES program can act to reduce leakage by increasing the availability of renewable energy generation in the electricity supply, and by setting a minimum percentage of the state's energy supply that must come from renewable or clean sources."[116]

NRDC modeled implementation of RGGI in Pennsylvania together with energy efficiency savings of two percent of utility electricity per year, as well as implementation with two percent annual savings and an expansion of the AEPS to require 30 percent of electric utility sales to come from renewable sources by 2030. The results showed that expanding efficiency goals in tandem with RGGI would achieve modest leakage reductions, while expanding efficiency and also expanding renewables would eliminate leakage entirely.[117]

Again, updating Act 129 and the AEPS requires legislative action, and such action appears highly unlikely before 2022. But the Department should use its best efforts to help legislators understand that in addition to reducing carbon pollution, saving customers money on their electricity bills, and creating good-paying jobs, efficiency will mitigate emissions leakage. Meanwhile, the Department should invest RGGI proceeds from the Clean Air Fund to drive increased efficiency and renewables, especially in environmental justice communities and communities directly affected by the closure of coal-fired power plants and other fossil fuel facilities.

IV. Investment of Allowance Proceeds [back to outline]

Aside from the direct limits on carbon dioxide pollution from the largest-emitting sector of this pollution in Pennsylvania, the most important public benefit of the RGGI program is the reinvestment of allowance proceeds in ways that can further reduce pollution, generate economic stimulus, and jumpstart Pennsylvania's transition to the clean energy economy that is necessary to address the climate crisis. Under the Air Pollution Control Act, fees generated from the sale of CO2 allowances will be deposited into the Clean Air Fund, which is administered by the DEP for use in the "elimination of air pollution."[118]

On 9/15/2020, all the signatories of these comments also co-signed (along with ten other groups) a letter to Secretary McDonnell with recommendations as to how the allowance

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[116] Pace Energy and Climate Center, *id.*, at 27-28.
[117] Natural Resources Defense Council, "Modeling Pennsylvania's Power Future: 2020 Carbon & Clean Energy Policy Scenarios" (April 23, 2020, unpublished).
[118] 35 P. S. § 4009.2 (a); 25 Pa. Code § 143.1(a).

proceeds should be reinvested in the community. We incorporate those recommendations into these comments as Attachment 2. To summarize, we recommend that the investment of RGGI proceeds be broken down roughly as follows:

- 50% to programs providing energy efficiency services and retrofits to households, businesses, and institutions;
- 35% to programs expanding the deployment of renewable energy (especially solar) and electricity storage; and
- 15% to transportation electrification programs.

Even though the APCA requires the allowance proceeds to be used to eliminate air pollution, the DEP still has significant flexibility in how it prioritizes those investments. We urge the agency to use the following principles in prioritizing investments.

A. Low-income ratepayers and the businesses and institutions in their communities should be prioritized, particularly for energy efficiency investments.

Because power plants that emit CO2 must purchase allowances under RGGI and incorporate the price of those allowances into their bids into the regional electricity market, we would expect RGGI to increase wholesale electricity prices to the extent that fossil-fuel burning plants are the marginal suppliers. However, the observed impact of RGGI implementation on electric rates over the past decade of the program has been quite small. In fact, electricity prices have actually fallen by 5.7% overall in RGGI-participating states, while at the same time they have increased in non-RGGI states by 8.6%.[119] This suggests that 1) there are other factors unrelated to RGGI that have much bigger impacts on electricity prices, and 2) RGGI may accelerate the replacement of inefficient higher-emitting plants with more efficient, less costly low- and non-emitting sources.

Nevertheless, it is possible that RGGI implementation could result in small rate increases, especially in the short term. Even small increases are problematic for low-income customers, especially at a time when a large and increasing number of electric customers are already falling behind on their bills. Targeted investments in energy efficiency for low-income ratepayers, as well as the small businesses and institutions that serve their communities, can counteract this effect. Even a modest investment in efficiency at the household level would be enough to decrease consumption sufficient to cancel out any likely rate increase,[120] but

[119] Acadia Center, 9/17/19, The Regional Greenhouse Gas Initiative: Ten Years in Review. https://acadiacenter.org/document/the-regional-greenhouse-gas-initiative-ten-years-in-review/

[120] Burtraw, D, M Domeshek, Anthony Paul, and Paul Picciano. 2019. Options for Issuing Emissions Allowances in a Pennsylvania Carbon Pricing Policy. Resources for the Future: Issue Brief 19-08. (Available at: https://www.rff.org/publications/issue-briefs/options-issuing-emissions-allowances-pennsylvania-carbon-pricing-policy/). This study found that increases in electricity expenditures resulting from Pennsylvania's participation in RGGI would be small enough to be "unobservable" by customers in the worst case scenario (in which allowance proceeds are diverted to the general fund). When a significant percentage of proceeds are dedicated to efficiency and conservation measures, electricity expenditures decrease.

low-income households need to be able to access the programs easily, which is not always the case currently.

B. Environmental Justice communities and other communities experiencing disproportionate air pollution burdens or declining air quality should be prioritized.

As noted in section III-A, we expect participation in the RGGI program to improve air quality overall and in most locations. However, as the proposed rule does not contain plant-specific limits, does not cover all electric generators, and does not prohibit the construction of new generators, it is possible that the air quality benefits may not be evenly or equitably distributed. To identify possible disparities, we recommend that additional monitoring of air quality be undertaken in designated Environmental Justice communities. If air quality is found to be deteriorating or improving more slowly than the Commonwealth as a whole, that community should be prioritized for investment of allowance proceeds in programs that will improve air quality, such as transportation and building electrification, energy efficiency, and renewable energy projects.

C. Host communities of power plants that retire or large mines that close should be prioritized.

The modeling analysis commissioned by DEP and presented to the Advisory Committees concludes what most in the generation business already know: by the end of this decade we will get virtually none of our electricity from coal, regardless of whether we join RGGI.[121] Joining RGGI does accelerate this phase-out, which is important because early CO2 emissions reductions have more value in stabilizing the climate than later reductions. However, it means host communities of coal-fired power plants, and of the mines that supply those plants, will have less time to diversify their economies in response.

Fortunately, RGGI also creates a revenue stream of hundreds of millions of dollars per year, a significant portion of which can and should be invested in ways that help diversify local economies, grow a local clean energy and efficiency economy, and employ workers in areas where power plants retire. Without such an investment program, these workers and communities would be left to fend for themselves when their plants inevitably close, as we have seen with the dozens of plants that have already retired in the past decade.

Ideally, a special fund would be created to help communities and workers transition as we move away from fossil fuels. This fund could be used for a wide range of programs, such as local property tax replacement, early retirement packages, enhanced unemployment and retraining assistance, and other programs that the communities themselves may deem helpful. We support allocating a portion of the RGGI allowance proceeds to this fund, but recognize that it

[121] DEP presentation to Air Quality Technical Advisory Committee 5/7/20, slide 29, available at: https://www.dep.pa.gov/Business/Air/BAQ/AdvisoryGroups/Air-Quality-Technical-Advisory-Committee/Pages/default.aspx

would require new legislation. In the meantime, we strongly support prioritizing power plant host communities for expenditures from the Clean Air Fund.

V. Conclusion [back to outline]

The Joint Commenters wish to thank the Department and the Environmental Quality Board for consideration of this critical and timely regulation. We urge you to finalize the rule as quickly as possible so that Pennsylvania may accelerate reduction of its carbon dioxide pollution and usher in a healthy, prosperous clean energy future.

Respectfully,

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