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VIA ELECTRONIC FILING

The Honorable Patrick McDonnell, Chairman
Environmental Quality Board
Rachel Carson State Office Building
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Jan. 14, 2021

RE: CO2 Budget Trading Program (50 Pa.B. 6212)

On behalf of the Pennsylvania Chamber of Business and Industry, the largest, broad-based business advocacy organization in the Commonwealth, thank you for the opportunity to comment on this proposed rulemaking, which seeks to limit emissions of carbon dioxide from fossil fuel-fired electric generating units and join the Regional Greenhouse Gas Initiative (RGGI). The PA Chamber's membership draws from more than 9,000 member companies who represent all industrial and commercial categories and sizes; all of them rely on not just a reliable, affordable supply of energy, but a rational, predictable and well-functioning regulatory environment in which to operate.

Executive Summary of Comments

- The PA Chamber recognizes a change climate will present significant challenges, and addressing these challenges will require a private sector that can develop and implement solutions and technologies. The PA Chamber advocates for balanced environmental policy that promotes stewardship and economic growth. Legislatures have embedded in state and federal air quality law statements of policy that resonate with this approach. Market-based programs can be more efficient than command-and-control approaches, but costs must not exceed benefits and flexibility with respect to compliance and implementation is key.

- Pennsylvania exports more electricity, proportionally, than any other state in PJM or RGGI. Preserving this role as a net-exporter should be a key tenet of future energy and environmental policy. Competitive markets have also resulted in significant reductions in PJM energy market prices, point source emissions of criteria pollutants, and ambient concentrations of criteria pollutants.

- Electricity prices in Pennsylvania are lower than those of RGGI states. As cost-effectiveness of low- and zero-carbon resources improves, markets are showing a preference for these resources as well.

- The PA Chamber is very concerned about potential leakage, or shift in generation to PJM states that are not participating in RGGI. DEP's modeling notes a substantial amount of leakage is forecasted to occur to states with higher carbon intensities than Pennsylvania. The rulemaking's cost-benefit analysis does not account for these shifted emissions and may overstate the value of reductions from NAAQS criteria pollutants.

- As an efficient technology that has been used to improve sustainability and the competitiveness of manufacturers, health systems and universities, the final rule should afford greater flexibility to

combined heat and power systems by incorporating federal definitions of non-EGU facilities, as well as greater flexibility with respect to compliance obligations.

- The proposed rule's regulatory analysis documents fall short of various Regulatory Review Act requirements. The documents do not include an estimate of the loss of tax revenues to the Commonwealth nor the electricity cost impacts to commercial or industrial consumers. The documents in part attempt to justify the rule on a proposed spending plan that is not part of the comment docket. The cost-benefit analysis also does not consider the impact to Pennsylvania's environment from emissions that would occur in upwind states due to leakage.

- Given that RGGI states may adjust the program's goals and model rule this year, the PA Chamber encourages EQB to incorporate an off-ramp or safety valve in the state's final rule to hedge against unexpected or undesired outcomes, such as duplication of obligations from federal or regional energy policies, the state losing its status as a net exporter, or significant cost increases. The PA Chamber also notes some RGGI states have taken action to worsen the operating climate in Pennsylvania through various regulatory proceedings.

- The PA Chamber encourages more discussion with PJM and the waste coal industry regarding the proposed set-aside and its potential triggering of certain provisions of the market's Minimum Offer Price Rule.

Pennsylvania Chamber of Business and Industry Statement of Policy on Environmental and Environmental Regulation

For the past several decades, the PA Chamber has been actively involved in issues relating to stewardship of Pennsylvania's environmental resources and development of its energy assets, bringing the perspective of the regulated community to the development and refinement of the state environmental regulations and the implementation of various federal requirements.

As a statement of policy, the PA Chamber believes that environmental stewardship and economic growth are mutually-compatible objectives, and that environmental and natural resources laws and regulatory programs should be framed and implemented to concurrently meet these twin objectives. We seek environmental laws, regulations and policies that:

(1) are based on sound science and a careful assessment of environmental objectives, risks, alternatives, costs, and economic and other impacts;
(2) set environmental protection goals, while allowing and encouraging flexibility and creativity in their achievement;
(3) allow market-based approaches to seek attainment of environmental goals in the most cost-effective manner;
(4) measure success based on environmental health and quality metrics rather than fines and penalties; and
(5) do not impose costs which are unjustified compared to actual benefits achieved;

With regard to greenhouse gas emissions, we support efforts in Pennsylvania which balance societal environmental, energy, and economic objectives, fit rationally within any national or international strategy which may take shape, and capitalize on the availability of Pennsylvania's diverse natural resources to facilitate economic development in the Commonwealth.

We recognize that a changing climate will present significant challenges to Pennsylvania and the United States, and that anthropogenic activities are a contributing factor. Addressing this challenge will necessarily involve the private sector to develop innovative solutions, practices and technologies; however, we must be judicious in proceeding in a manner that both maintains Pennsylvania's leadership position as an energy exporter and that leverages Pennsylvania's historic strengths as an energy producer and a leader in manufacturing, allowing businesses and consumers the choice to develop and utilize the energy solution that works best for them, while still pursuing the desired environmental result. As this comment letter will further make clear, competitive markets have delivered considerable environmental benefit while also driving down costs for consumers.

Since Gov. Wolf issued his Oct. 2019 executive order directing DEP to begin drafting a regulation to impose a cap-and-trade program on the state's power generation sector, the PA Chamber has on multiple occasions over the past year and a half emphasized our concerns with respect to leakage and economic impacts, as well as our shared goal to reduce emissions in a prudent manner while preserving the state's leadership as a net exporter of electricity. It is with this background that we file these comments that provide our perspective and concerns with this proposal. We thank the leadership and staff of the Department of Environmental Protection for their consideration of our comments.

Competitive Markets Have Yielded Significant Reductions in Emissions and Electricity Prices, and Pennsylvania's Environmental Policy Must Protect These Gains as well as the State's Role as the Nation's Biggest Exporter of Electricity – Especially as the State's Economy Recovers from the Pandemic

The PA Chamber advocates for cost-effective air laws, regulations and policies based on sound principles that are reasonable and technologically and economically feasible to protect and enhance public health and the environment without placing in-state businesses at a competitive disadvantage. The PA Chamber supports regulatory policies which balance societal environmental, energy, and economic objectives, fit rationally within any finally adopted and applicable national or international strategy, and capitalize on the availability of Pennsylvania's diverse natural resources to facilitate economic development in the Commonwealth.

It should be noted that this approach to economic growth and environmental stewardship is also written into the federal Clean Air Act itself, where Section 101(b) directs EPA to implement the provisions of the Act in a manner "to promote public health and welfare and the productive capacity of [the] population."[1]

The General Assembly struck a similar tone in its statement of policy within the Air Pollution Control Act, which predated the federal Clean Air Act by a decade. Section 2 of the APCA, the Statement of Policy, reads:

> It is hereby declared to be the policy of the Commonwealth of Pennsylvania to protect the air resources of the Commonwealth to the degree necessary for the (i) protection of public health, safety and well-being of its citizens; (ii) prevention of injury to plant and animal life and to property; (iii) protection of the comfort and convenience of the public and the protection of the recreational resources of the Commonwealth; **(iv) development, attraction and expansion of industry, commerce and agriculture**; and (v) implementation of the provisions of the Clean Air Act.[2] [emphasis added]

[1] 42 U.S.C. § 7401(b)

[2] 35 P.S. § 4002. The fifth bullet related to implementation of the Clean Air Act was added as part of Act 95 of 1992, which amended the statute.

The implementing regulations of these state and federal statutes are a baseline for the operating practices of sources of emissions, but many businesses go further.

A few examples of the leadership on stewardship from among our membership include:

- Innovation into microgrids at defense and aviation facilities to improve reliability and lower operational costs
- Adoption by hospitals, educational facilities, financial institutions and manufacturers of combined heat and power to improve resiliency and lower operational costs
- Establishing and meeting zero waste goals
- Purchase and conversion of alternative-fuel vehicles in logistics and delivery fleets, included electric, propane, and natural gas derived from landfill or agricultural sectors
- Committing to significantly reducing fugitive emissions from pipeline systems and
- Establishing sustainability goals for their power generation assets and/or for vendors and suppliers.

Pennsylvania is the biggest net exporter of electricity in terms of megawatt hours, according to a recent analysis by the U.S. Energy Information Administration (EIA). Based on an analysis of EIA data, Pennsylvania exported 36% of total megawatt hours in 2019 – far above any other state in PJM or RGGI. To the extent RGGI states may have lower CO2 emissions, this is a function of their reliance on imports, including from Pennsylvania, to meet demand.

Pennsylvania is also the largest power producer in the 13-state PJM grid, the largest grid in the country and one that delivers power to the homes, schools, and workplaces of more than 61 million Americans. The competitive markets managed by PJM have resulted in significant reductions in NAAQS criteria and greenhouse gas emissions from the power generation sector. Pennsylvania has remained in a leadership position with respect to power generation and net exports even with a substantial decrease in emissions intensity among the portfolio. According to a profile of the state's generation and transmission assets compiled by PJM[3], Pennsylvania's average CO2 intensity declined from approximately 1,150 lbs/MWh in 2005 to approximately 765 lbs/MWh in 2019 (a reduction of 33%), SO2 intensity declined from 10 lbs/MWh in 2005 to less than 1 lb/MWh in 2019 (a reduction of more than 90%). These reductions reflect overall significant declines in emissions of federally regulated pollutants over the past several decades. According to data available on PA DEP and US EPA's websites, these reductions include decline in annual emissions of NOx on the order of 65%, SO2 by 90%, CO by 69%, VOCs by 36% and PM 10 by 37%. Further, these reductions are yielding a demonstrable improvement in air quality. Every monitoring point in the state is measuring attainment for the 2008 ozone standards of 75 ppb, and in just one year the number of monitoring points measuring non-attainment for the 2015 ozone standard of 70 ppb fell from eight to just four. The state is also measuring attainment at all points for both the annual and 24-hour standards from PM 2.5.

These significant declines in air quality emissions have also been paired with decreases in the commodity costs within PJM's energy markets. During the first nine months of 2020, prices in the energy markets were

[3] 2019 Pennsylvania State Infrastructure Report. PJM Interconnection, July 2020. https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2019/2019-pennsylvania-state-infrastructure-report.ashx?la=en

the lowest in the 21-year history of the RTO's organized markets. Energy markets provide approximately two-thirds of the weight of wholesale power prices in PJM. Wholesale prices across PJM for 2019 were the lowest in 15 years, according to the Independent Market Monitor's recent annual report[4].

As demonstrated by the following table (modified from a report from the EIA[5]), Pennsylvania's average retail prices in 2010 were demonstrably lower than those of RGGI states. We recognize the price differentials may not be wholly attributable to the impacts from RGGI, as these states have made a number of other energy and environmental policy decisions that have a price impact, such as providing out-of-market subsidies to offshore wind, nuclear or other renewable assets, impeding the construction of new gas or electric transmission assets, and providing for expansive RPS mandates. Nonetheless, the data are compelling for the case that Pennsylvania's approach to energy and environmental policy has yielded lower costs to business and consumers than the approach taken by states in RGGI – while also positioning Pennsylvania as a hub for investment into energy production.

Name	Average retail price (cents/kWh)	Net summer capacity (MW)	Net generation (MWh)	Total retail sales (MWh)
Connecticut	18.66	10,454	40,050,038	27,899,996
Delaware	10.52	3,372	5,258,538	11,469,422
Maine	14.04	4,756	10,490,562	11,732,040
Maryland	11.24	14,609	39,328,689	60,720,658
Massachusetts	18.4	12,912	21,515,636	51,336,598
New Hampshire	17.15	4,497	18,026,595	10,711,657
New Jersey	13.42	17,267	71,018,774	73,916,704
New York	14.34	41,079	131,603,289	145,600,345
Pennsylvania	9.81	47,812	228,995,331	145,580,383
Rhode Island	18.49	2,027	7,624,403	7,349,915
Vermont	15.36	841	2,289,798	5,427,664
Virginia	9.52	28,045	96,827,639	118,435,380

Recent PJM reports note there is a significant amount of gas and solar in the queue for construction and potential interconnection to the grid. Specifically, according to PJM's most recent state report for Pennsylvania[6], of the 12,530 MW of queued generation (that is, generation which is in the process of being permitted, constructed and approved for interconnection to the grid), 11,510 MW (or 91% of queued new generation) is either natural gas (7,067 MW) or solar (4,443 MW). While acknowledging the potential that not

[4] 2019 State of the Market Report for PJM. Independent Market Monitor, March 2020. https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2019.shtml

[5] State Electricity Profiles. US Energy Information Administration, November 2020. State Electricity Profiles - Energy Information Administration (eia.gov)

[6] 2019 Pennsylvania State Infrastructure Report. PJM Interconnection, July 2020. https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2019/2019-pennsylvania-state-infrastructure-report.ashx?la=en

all queued generation will ultimately be constructed and operate economically, it is very clear market trends are supporting greater market share for low-cost and low-carbon resources.

The Proposed Rulemaking Does Not Protect Against Leakage, Counter to the Interests of Pennsylvania's Economy and the Text of Executive Orders

Pennsylvania is in no way served if the state joins RGGI only to see generation (and the associated investment and jobs) shift to neighboring states, with any decrease in emissions from Pennsylvania sources offset by the shift to fossil fuel generation in non-RGGI PJM states. Gov. Wolf's Oct. 2019 executive order directed DEP to work with PUC and PJM to integrate this rule to implement RGGI "in a manner that preserves orderly and competitive economic dispatch within PJM and minimizes emissions leakage." Governor Tom Ridge's executive order 1996-1 remains in effect as well, which in part directs DEP to ensure any new regulations "not hamper Pennsylvania's ability to compete effectively with other states."

Unfortunately, the proposed rule contains no mechanism to reasonably address leakage. Modeling conducted by DEP and its vendor make clear leakage will occur to a significant degree should the rulemaking be finalized as proposed. The associated regulatory documents contain scarce mention of the issue. To wit, the proposed rulemaking merely acknowledges that "[h]istorically, the RGGI program has experienced some emissions leakage" and states that DEP is "active" with PJM's Carbon Pricing Task Force.

The proposed rulemaking appears to attempt to argue that while leakage will occur, emissions will nonetheless decrease to the satisfaction of DEP. DEP projects, as acknowledged in the proposed rulemaking documents, that the "Commonwealth's participation in RGGI would result in a net emissions reduction of 86.9 million tons of CO2 across PJM for the period between 2020 and 2030." We believe this is a reference to projections based on modeling contracted with energy analysis vendor ICF, which is available on DEP's website and whose results have been used in various advisory committee meeting and stakeholder presentations. The 86.9 million ton figure cited elides another important number – the denominator of a business-as-usual comparison scenario – which would establish the significance of an 86.9 million ton reduction over the course of a decade. The ICF modeling compares a policy case of Pennsylvania joining RGGI case versus a reference case of not doing so. The reference case forecasts total CO2 emissions PJM-wide, through 2030, to be 3,885 million tons; the policy case forecasts 3,798 million tons through 2030. A net reduction of 86.9 million tons is a mere 2% difference of the cumulative emissions in PJM projected to occur over the next decade. Given that the policy case forecasts Pennsylvania's cumulative emissions through 2030 to reach a total of 691 million short tons of CO2 versus 871 million short tons in the reference case (a difference of 180 million tons, or 21%), while all other RGGI states cumulative emissions are roughly the same between the reference and policy cases, it is quite apparent that DEP is projecting significant leakage from Pennsylvania to occur to non-RGGI PJM states. We also understand that 10 new natural gas combined cycle facilities, representing a total combined capacity of over 10,000 MW, are operating or recently permitted for construction in eastern Ohio, near the Pennsylvania border.

Moreover, because electricity generation in these non-RGGI PJM states has significantly higher carbon intensity, leakage out of Pennsylvania could actually contribute to *increased* emissions intensity. For example, Department of Energy data show that, in 2019, Pennsylvania emitted 0.34 metric tons of CO2 for every megawatt-hour of generation. This compares very favorably to other non-RGGI PJM states such as Kentucky (0.82), Ohio (0.57), and West Virginia (0.89). In other words, DEP's modeling forecast that PA's RGGI participation will shift generation to non-RGGI PJM states will undermine the state's emissions goals. Should that be the case, Pennsylvania will not only have lost significant generation, investment and economic activity, it will have done so for a negligible improvement in regional air quality and emissions.

It is also important to keep in mind that, while the goals of RGGI are laudable, its tradeoffs and impacts to Pennsylvania's economic future must be considered through the lens of the broader global challenge. While countless examples can provide such perspective, consider the following recent one: in early December, China submitted its revised Nationally Determined Contribution commitment under the Paris Climate Agreement. In doing so, China committed to reduce the carbon intensity of its economy (emissions per unit of GDP) by at least 65% below 2005 levels by 2030. However, because China's economy has grown rapidly since 2005 and is expected to continue doing so, these intensity reductions are likely to translate to increased emissions. According to climate commitment tracking site CarbonBrief, China's economy could increase emissions by 1,452 million tons between 2020 and 2030 and still meet this target.[7] These increased Chinese emissions in just one year (2030) would be nearly 17 times larger than the emissions reductions occurring over *ten years* by Pennsylvania's participation in RGGI.

The lack of a leakage control mechanism within the proposed rule, the data regarding new gas plants in Ohio, the emissions intensity of Pennsylvania and neighboring states, the minimal difference in regional greenhouse gas emissions across PJM through 2030 in the reference and policy cases in modeling, and global emissions trends are all "reasonable data" that must be considered when forming the "basis of the regulation," as required by the Regulatory Review Act.[8] Failure to do so undermines the rule's feasibility or its reasonableness as required by the same act.[9]

With this in mind, DEP should not move forward with joining RGGI until it has established a mechanism to control for leakage. One option includes PJM's proposed two-way carbon mitigation concept, which has been the topic of several discussions of the aforementioned PJM Carbon Pricing Task Force. Initial modeling of the concept demonstrates that without a border adjustment, it is expected that fossil fuel generation shifts to non-RGGI states should Pennsylvania and Virginia join. This is consistent with DEP's own modeling. With, however, a two-way mitigation control, adjusting electric prices at the border of the RGGI states within PJM states, more generation and investment would occur in Pennsylvania. A second option would be for Pennsylvania to work with stakeholders through the PJM process to enact a carbon price across the entire PJM territory. While the PA Chamber has not taken a formal position on such a policy, to do so would at the very least normalize the footing for fossil fuel generators in PJM as it relates to CO2 prices. But to do nothing to minimize leakage - as DEP's proposed rulemaking would - would be to unilaterally hamstring Pennsylvania's economy for no material environmental gain (as demonstrated by the delta of 2% in cumulative CO2 emissions across PJM comparing Pennsylvania joining RGGI versus not).

Further, the aforementioned Ridge executive order 1996-1 remains in effect, which directs agencies to not exceed federal requirements "unless justified by a compelling and articulable Pennsylvania interest or required by state law." As the prior paragraphs note, the proposed rulemaking does not demonstrate why increasing compliance burdens on the state's power generation sector without controlling for leakage advances a compelling and articulable state interest. DEP's regulatory analysis form notes "this proposed rulemaking is not mandated by any federal or state law or court order."

We would nonetheless be remiss to note that however DEP may amend this proposal to account for leakage, such amendment would require additional notice and comment, pursuant to the Commonwealth Documents Law, which prohibits final rulemakings that "enlarge the original purpose of the proposal as published."[10]

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[7] Analysis: China's new 2030 target promise more low-carbon power than meets the eye. Carbon Brief, Dec. 15, 2020. https://www.carbonbrief.org/analysis-chinas-new-2030-targets-promise-more-low-carbon-power-than-meets-the-eye
[8] 71 P.S. § 745.5b(b)(3)(v)
[9] 71 P.S. § 745.5b(b)(3)
[10] 45 P.S. § 1202

DEP Overstates the Effectiveness of RGGI Achieving CO2 Reductions in Participating States

The proposed rulemaking claims that from 2005 to 2016 Pennsylvania "reduced its net emissions by 33.5% while the [RGGI] participating states reduced CO_2 pollution from covered sources by over 45% over the same period." The first compliance year for states participating in RGGI was 2009. Emissions data from the year 2005 (or 2006, 2007, or 2008) are not relevant to the discussion of the efficacy of RGGI, nor are such data "acceptable" under the terms of the Regulatory Review Act.[11] Instead, the appropriate comparison would be 2009 through the most recently available year of data, which for the U.S. Energy Information Agency's State energy-related carbon dioxide emissions by year is 2017. From 2009 to 2017, the RGGI states' energy related emissions decreased from 490.1 million short tons to 459.9 million short tons, or -16%. Over the same period of time, Pennsylvania's energy-related emissions decreased from 242.4 million short tons to 216.7 million short tons, or -10%, while RGGI states within PJM increased their reliance on imports.

The Impacts of Greenhouse Gas Emissions Challenge Traditional Cost-Benefit Accounting Approaches Required under Pennsylvania Law; Nonetheless, RGGI's Benefits Are Ill-Defined and Overstated in the Proposed Rulemaking

The PA Chamber recognizes there are warming effects occurring on a global level due to anthropogenic contributions. Much of the proposed rulemaking discusses various impacts that may occur in Pennsylvania as a result of climate change, citing various reports from state and federal agencies as well as analyses from NGOs and academia. As troubling as these impacts may be, the rulemaking documents do not make clear why Pennsylvania joining RGGI is justified, given (as discussed in the prior section) cumulative emissions through 2030 in PJM will be only 2% less should the state join RGGI. The rulemaking document cites the potential for co-benefits arising from reduction in federally regulated criteria pollutants, such as NOx, SO2 and particulate matter. However, as DEP is well aware, the state is attaining the most stringent 24-hour particulate matter standards in all but one monitoring point and is out of attainment for just four monitoring points for ozone standards, according to recent preliminary design values presented by the Department to its Air Quality Technical Advisory Committee. The NAAQS are established by EPA at a level sufficient to protect public health plus an adequate margin – therefore it is questionable that reductions of NAAQS concentrations below these thresholds will produce a meaningful health benefit. Further, it is not apparent why RGGI is needed to secure attainment with these standards. Not only is DEP obligated to implement federal air quality rules, the state's placement into the Ozone Transport Region obligates any new or expanded major source to be permitted and regulated under LAER standards – the most stringent air quality controls available. The Regulatory Review Act requires agencies to consider whether a proposed rulemaking results in a "duplication of statutes or existing regulation."[12] Where existing law already provides direct authorization for DEP to regulate certain pollutants, the "potential for co-benefits" cannot be touted as a benefit. Duplicating existing regulation is not an appropriate basis for a proposed rulemaking.

Beyond all of that, DEP is claiming the public health and climate-related benefits from emissions reductions that occur in Pennsylvania, but this cost-benefit analysis does not account for the emissions impacts of the shifting of generation to upwind states that will occur as a result of the leakage that DEP's modeling is projecting to occur.

The PA Chamber disputes that "RGGI provides regulatory certainty" as claimed in the proposed rulemaking; as point of fact it adds to uncertainty, particularly given the proposed rulemaking is silent with respect to how

[11] 71 P.S. § 745.5b(b)(3)(v)
[12] 71 P.S. § 745.5b(b)(3)(i)

the program would interplay with the EPA's Affordable Clean Energy rule (greenhouse gas emission standards for existing fossil fuel electric generation unites, promulgated under Section 111(d) of the federal Clean Air Act) or new source performance standards for EGUs (promulgated under Section 111(b) of the same statute), or how it might interplay should the incoming Biden administration impose more stringent greenhouse gas emission rules on the energy sector through EPA environmental rules. The Biden administration's nominees to the Federal Energy Regulatory Commission may also advance or welcome carbon pricing at PJM, and Congress may establish further national goals or mandates with respect to reduction of greenhouse gas emissions.

Further, we recognize there are challenges with respect to addressing global climate change as it relates to traditional cost-benefit accounting. For example, a recent paper by climate researchers Brown, Moreno-Cruz and Caldeira note, given the upfront costs to reducing emissions and the lifetime of greenhouse gasses, that the "break-even" year for mitigation policy enacted today will not manifest until 2080, using the DICE climate-economy model.

In addition, there remains considerable uncertainty with respect to what the monetized damages to the public health and environment from climate changes will be. This in part relies on what discount rate one may apply and how sensitive the environment may be should greenhouse gas concentrations increase. Nonetheless, as EPA noted in a 2016 technical support document[13], the social cost of carbon (in 2007 dollars) ranges from $12 per ton in 2020 to $212 per ton in 2050.

DEP's modeling projects RGGI credit prices, should PA join, will fluctuate between $5 and $7 per ton. Regardless of which value on the very broad range laid out in EPA's TSD one believes is most appropriate, it is apparent that if DEP's modeling is accurate RGGI credit prices will not be greater than even the lowest social cost of a ton of carbon. Given that much of DEP's rationale in justifying this regulation is to avoid impacts from greenhouse gas emissions, it is not apparent how establishing a tax that is less than the assumed economic damages is rational. As point of fact, to do so may veer into the territory of being arbitrary and capricious. Further, the PA Chamber is not aware that DEP or the administration has, as a matter of policy established through a process that involved public comment, a preferred value for the social cost of carbon to inform air quality rulemaking.

Should PA Join RGGI, DEP Must Take Advantage of the Flexibility Afforded to States Under the Model Rule with Respect to Combined Heat and Power and Co-generation

Federal air quality rules, such as those related to greenhouse gas rules[14] or state implementation plans for NOx[15], are careful to separate emissions requirements for electric generating units (EGUs) from that of non-electric generating unites, such as combined heat and power facilities, which combust natural gas and use the produced heat and electricity to power industrial operations. Whereas an EGU sells electricity to the grid, a CHP unit in large part uses its produced energy for on-site purposes, whether that is for pulp and paper production, food manufacturing or powering and heating a medical or college campus. DEP's proposed rulemaking in part recognizes the difference between these categories of sources, and notes the benefits of CHP sources.

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[13] Technical Update to the Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866. US EPA, August 2016. https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon-technical-documentation_.html

[14] See 40 CFR § 60.5509.

[15] See 40 CFR § 51.123.

However, the proposed rule should be amended to align with the federal non-EGU definition found in various federal air quality rules – specifically, should DEP move forward with RGGI, the final rulemaking should exempt for purposes of compliance or establishing the state's budget any unit subject to a federally enforceable permit condition limiting annual net-electric sales to no more than one-third of its potential electric output or 219,000 MWh, whichever is greater. The final rulemaking should also expressly state that the exemption criteria in terms of determining applicability of RGGI compliance obligations are determined by the capacity and sales of an individual unit, not the entire facility. Further, DEP should also expressly state in terms of compliance obligations that should a non-EGU CHP or cogeneration facility that is supporting manufacturing exceed the sales threshold, the unit shall only be required to retire emissions offset credits equivalent to the emissions associated with the sales or output above the threshold, not all emissions for one given year. There may be certain circumstances, such as an extreme weather event or a pandemic, in which circumstances beyond management's control may dictate that a manufacturing facility be required to shut down a line or sell additional power to the grid.

The RGGI model rule is very clear to note that states may be flexible with respect to definitions and compliance applicability for CHP and combined cycle units, and Pennsylvania should take advantage of that.

Further, should DEP not align the RGGI rulemaking with the federal non-EGU definition, DEP should recognize the annual net-electric sales limit of ten percent, as proposed, presents substantial compliance risk for CHP units. It is our understanding that should a CHP unit in any given year sell more than ten percent of net-electricity production, the unit will be liable for all CO2 emissions produced in that given year, not just the emissions associated with the production in excess of ten percent. The final rulemaking should clarify that only the increases associated with sales above ten percent should trigger compliance obligations.

The Proposed Rulemaking and its Regulatory Analysis Form Are Deficient as It Relates to Regulatory Review Act Requirements

The state's Regulatory Review Act is one of the cornerstone statutes that guide agencies through the development and promulgation of regulations. Section 5 of the Act obligates agencies to complete a regulatory analysis form (RAF) for proposed rulemakings that analyzes or addresses various costs, benefits and impacts of the rule. The RAF for this rulemaking is deficient and lacking in several respects. Section 5(a)(1) requires agencies to provide "[e]stimates of the direct and indirect costs to the Commonwealth, its political subdivisions and to the private sector." The RAF notes DEP may keep 5% of proceeds for administrative costs, but the document does not include an analysis of potential loss of revenue to the Commonwealth as a result of the expected loss in investment and jobs due to leakage or higher electricity costs. The RAF includes a discussion of an increase to residential customers but does not include an estimate on the costs to commercial and industrial customers. The RAF attempts to justify the increases in costs to residential customers (and the regulation writ large) based on modeling that shows macroeconomic outputs resulting from implementation of a separately proposed plan to spend RGGI proceeds, but this investment plan is not part of the public comment document for this rulemaking.

The EQB suggests, without statutory support, that auction proceeds could be used to mitigate impacts to communities and employees impacted by power plant closures.[16] However, the proposed rulemaking fails to adequately consider the loss of the tax base associated with power plant closure in addition to other indirect costs, such as reductions in PIT, CNI and sales and use tax revenues to the Commonwealth.[17] For example,

[16] *See* Regulatory Analysis Form, pp. 19-20

[17] 71 P.S. § 745.5(a)(10) (requiring agencies to identify "the financial, economic and social impact of the regulation on individuals, small businesses, business and labor communities and other public and private organizations").

if a community loses the tax revenue provided by a power plant, how does that impact the property taxes of residents in that community? And how does the EQB justify its cost-benefit analysis if the emissions associated with a closed power plant are simply shifted across Pennsylvania's border to a state like Ohio or West Virginia that does not participate in RGGI?

Moving forward without the investment plan as part of this comment docket raises several important questions with respect to good government and the requirements of the RRA and the Commonwealth Documents Law. First, as the proposed rulemaking hints at, much of the investment plan in terms of adjustments to customer bill rebates would require legislative action. Therefore, it is improper for a proposed rulemaking to attempt to claim such rebates as a benefit to the proposed rule. The investment plan envisioned by DEP is an integral component to the proposed rulemaking. However, the Department has not yet published it for comment and has announced it intends to do so outside of this comment docket. The proposed rulemaking should not move forward until the investment plan is prepared and subject to simultaneous comment. Second, the CDL prohibits a final rulemaking from expanding upon the purpose of a proposed rulemaking.

Additionally, we dispute the contention on p. 47 of the RAF that "[t]here are no less intrusive or less costly alternative regulatory provisions available." Section 5(a)(12) of the RRA requires more than just stating the agency's belief there are no alternatives available – it requires a description of alternatives that have been considered and evaluated. DEP does not show it has evaluated the merits of a Pennsylvania-only program, or joining with other jurisdictions, such as Appalachian states like Ohio and West Virginia (whose energy sectors and economies more closely reflect that of Pennsylvania than many of the New England states who are a part of RGGI) on an emissions trading program. Nor does the RAF evaluate the impacts of simply not joining RGGI. As DEP's own modeling makes clear and as discussed elsewhere in these comments, there is a very slight difference in cumulative greenhouse gas emissions across PJM through 2030 when comparing Pennsylvania joining or not joining RGGI, and DEP is overstating the environmental and health benefits from emissions reductions achieved directly or as a co-benefit from imposing additional RGGI compliance obligations on the state's energy sector, given that much of the emissions decreases in Pennsylvania will be offset elsewhere in upwind PJM states.

RRA Section 5(a)(10) directs agencies to identify administrative costs for compliance, including reporting, recordkeeping and retaining professionals for preparing reports. The RAF states that "[t]he Department estimates that the costs related to monitoring, recordkeeping and reporting will be minimal . . . and, in most instances, will require no additional emissions reporting." We disagree. This rulemaking will require additional administrative expenses for facilities, particularly for CHP and cogeneration facilities who, at least as written in the proposed rulemaking, need to be in constant vigilance of stumbling over the sales threshold for compliance. Management of power plants and cogeneration facilities may also need to report compliance obligations and associated risks on public SEC filings.

DEP's Final Rule Should Include a Safety Valve to Provide an Offramp for Pennsylvania Should RGGI Result in Negative Impacts for the State's Economy and Energy Industry, or if RGGI States' Review of the Model Rule This Year Requires Additional Substantial Reductions and Changes to Pennsylvania's Implementing Regulation

Given widespread concern over potential impacts from leakage, job loss and electricity bill impacts, DEP should include a safety valve in the final rule that at minimum provides that the Secretary of DEP may at his or her discretion direct the agency to repeal the regulation and not enforce compliance should the Secretary determine continuing to participate in RGGI runs counter to Pennsylvania's interests. Codifying such an option in a final regulation, along with several criteria which would inform the Secretary's review and

decision-making under such an option, would protect against litigation by third-parties who may allege Pennsylvania no longer participating in RGGI would be arbitrary and capricious. Criteria for exiting RGGI may include a diminishment in Pennsylvania's energy exports, continued legal challenges by other RGGI states against Pennsylvania's industries over energy and environmental policy or against gas and electric infrastructure that would deliver energy produced in Pennsylvania to other jurisdictions, increases in electricity costs, or the adoption at the federal level of more sweeping environmental requirements.

Further, this proposal seeks to have Pennsylvania link to RGGI markets by finalizing a regulation that is consistent with the scope and ambition of RGGI's model rule. However, as DEP is aware, RGGI states will convene this summer to review the model rule and consider more stringent goals and other program obligations. We caution DEP from jumping blindly into this program without such an offramp. Substantial revisions to the model rule, should they be finalized before the end of DEP promulgating a final regulation to join RGGI, would require a substantial revision to Pennsylvania's implementing regulations – so much so that it may require a second round of public comment.

Finally, as it relates to the need for an offramp, several states that operate in the PJM grid, including New Jersey, Maryland and Illinois have publicly stated they are exploring exiting the PJM markets or enact other policies related to electricity markets to accommodate these states' expansive RPS mandates and energy subsidies. What these states ultimately do, and what effect these actions will have on the electricity markets and interstate transactions remains to be seen – but should the states bordering Pennsylvania who have historically relied on importing power from Pennsylvania decide they no longer wish to participate in the PJM markets (and accept delivery of Pennsylvania power), Pennsylvania ought to decide if it no longer needs to participate in a cap-and-trade program with these same states.

Some RGGI States Have Taken Regulatory Action to Worsen the Operating Climate of Pennsylvania Businesses and Industry, and Have Different Energy and Environmental Goals

Any discussion of Pennsylvania possibly joining interstate efforts with respect to energy and environmental policy would be deficient without noting that several states involved in RGGI have taken actions through the federal Clean Air Act to request more onerous regulatory obligations on Pennsylvania businesses. These states, including New York, New Jersey, Connecticut, Delaware, and Maryland, have petitioned EPA to establish more stringent emissions rules on our member companies' manufacturing and energy infrastructure facilities, alleging that it is the fault of Pennsylvania businesses that these states cannot meet their federal air quality obligations under the National Ambient Air Quality Standards. These petitions have repeatedly, and properly, been rejected by the EPA, but we must note that our state must expend considerable time and resources in responding to these petitions.

Some of these same states have also attempted to unilaterally veto the construction of natural gas infrastructure that federal regulators have certified under the standard of public convenience and necessity. Commissioners representing New York, New Jersey and Delaware have voted on multiple occasions at the Delaware River Basin Commissions meetings to advance policies that inhibit the construction of gas pipelines and that prohibit the production of natural gas within the northeast corner of Pennsylvania.

Further, many of these states have by legislation or executive action established significant renewable portfolio standards, and their public utility commissions have authorized or contracted significant amounts of offshore wind, which is in terms of levelized cost of energy the most expensive resource. It is apparent that these states are eager for Pennsylvania to join RGGI so as to facilitate more buyers for the RGGI credits to support the development of these states' wind and solar resources. To the extent Pennsylvania wishes to

pursue reducing greenhouse gas emissions, it must not do so in a way that disadvantages our state's energy sector to advance that of our neighbors.

The Proposed Rulemaking's Waste Coal Set-Aside as Written May Need Revision Pending FERC and PJM Market Rules, As Well as to Protect Against Concerns over Being Arbitrary and Capricious

In October 2020, the Federal Energy Regulatory Commission approved a compliance filing by PJM Interconnection to implement a Minimum Offer Price Rule (MOPR) in the grid's capacity auctions. The capacity auctions are generally held three years in advance, with resources offering a price by which they will need to be paid to be available to run throughout the auction year. The MOPR requires bidding resources to adjust their bids to account for state subsidies that, if not accounted for, would allow resources to bid in at artificially low prices and distort market results. As written, DEP's proposed rulemaking contemplates a set-aside for the waste coal generation resources, wherein the state will "allocate the CO2 allowances [of a proposed 9.3 million allowances that will be set aside] directly to the compliance accounts of the waste coal-fired units equal to the unit's actual emissions." We encourage DEP to engage in discussions with PJM and the waste coal industry to ensure that such direct allocation (whereupon the units may either retire the credits or sell them on the secondary market) would not trigger an adjustment into such units' capacity markets bids, as required by the MOPR. Such an adjustment would be counter to the DEP's stated goal of supporting the environmental remediation benefits associated with these units.

We must also raise why DEP directly allocating CO2 emissions credits to waste coal resources, but also retiring compliance credits on behalf of CHP or cogeneration units, would not be considered to be arbitrary and capricious, particularly if DEP does not adopt the federal non-EGU threshold criteria for CHP and cogeneration units this comment letter advocates for. As proposed, DEP would, for some types of power generation resources, require the purchase and retirement of emissions allowances and for some other types of resources award those allowances *gratis*, and for yet some other types of resources retire the allowances on behalf of the resources.

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In closing, the PA Chamber thanks DEP and EQB for its consideration of these comments and looks forward to continuing to work with regulators and policymakers on laws and regulations that continue to allow for economic growth and environmental stewardship.

Sincerely,

Kevin Sunday
Director, Government Affairs