EXECUTIVE SUMMARY
CO_2 Budget Trading Program
25 Pa. Code Chapter 145

Summary and Purpose of the Final-form Rulemaking

The Environmental Quality Board (Board) amends Chapter 145 (relating to interstate pollution transport reduction) to add Subchapter E (relating to CO_2 budget trading program) to establish a program to limit the emissions of carbon dioxide (CO_2) from fossil fuel-fired electric generating units (EGU) located in this Commonwealth, with a nameplate capacity equal to or greater than 25 megawatts (MWe) as set forth in Annex A.

The purpose of this final-form rulemaking is to reduce anthropogenic emissions of CO_2, a greenhouse gas (GHG) and major contributor to climate change impacts, in a manner that is protective of public health, welfare and the environment in this Commonwealth. This final-form rulemaking would reduce CO_2 emissions from sources within this Commonwealth and establish the Commonwealth's participation in the Regional Greenhouse Gas Initiative (RGGI), a regional CO_2 Budget Trading Program. This final-form rulemaking would establish a CO_2 Budget Trading Program for this Commonwealth which is capable of linking with similar regulations in states participating in RGGI (participating states). These independently promulgated and implemented CO_2 Budget Trading Program regulations together make up the regional CO_2 Budget Trading Program or RGGI.

This final-form rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Section 6.3(a) of the APCA (35 P.S. § 4006.3(a)) also authorizes the Board by regulation to establish fees to support the air pollution control program authorized by the APCA and not covered by fees required by section 502(b) of the Clean Air Act (CAA) (42 U.S.C.A. § 7661a(b)).

This final-form rulemaking would effectuate least cost CO_2 emission reductions for the years 2022 through 2030. The declining CO_2 Emissions Budget in this final-form rulemaking directly results in CO_2 emission reductions of around 20 million short tons in this Commonwealth as well as emission reductions across the broader PJM regional electric grid. However, the Department projects that 97—227 million short tons of CO_2 that would have been emitted over the next decade are avoided by this Commonwealth's participation in RGGI. According to data from the United States Energy Information Administration (EIA), this Commonwealth generates the fifth most CO_2 emissions from EGUs in the country. Since CO_2 emissions are a major contributor to regional climate change impacts, the Department developed this final-form rulemaking to establish this Commonwealth's participation in a regional approach that significantly reduces CO_2 emissions and this Commonwealth's contribution to regional climate change.

Considering that this Commonwealth has the fifth leading CO_2 emitting electricity generation sector in the country, this final-form rulemaking is a significant component in achieving the Commonwealth's goals to reduce net GHG emissions from 2005 levels by 26% by 2025 and 80%

by 2050. Although this final-form rulemaking will not solve global climate change, it will aid this Commonwealth in addressing its share of the impact, joining other states and countries that are addressing their own impacts. The statutory authority for this final-form 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 and agriculture. To be proactive, this final-form rulemaking is needed to address this Commonwealth's contributions to climate change, particularly CO_2 emissions. The Board determined to address CO_2 emissions through a regional initiative because regional cap and trade programs have proven to be beneficial and cost-effective at reducing air pollutant emissions. In fact, this Commonwealth has and continues to participate in successful regional cap and trade programs.

On October 3, 2019, Governor Tom Wolf signed Executive Order 2019-07, Commonwealth Leadership in Addressing Climate Change through Electric Sector Emissions Reductions, codified at 4 Pa. Code §§ 7a.181—7a.183, which directed the Department to use its existing authority under the APCA to develop a rulemaking to abate, control or limit CO_2 emissions from fossil fuel-fired electric power generators. As directed by this Executive Order, this final-form rulemaking establishes a CO_2 budget consistent in stringency to that established by the participating states, provides for the annual or more frequent auction of CO_2 emissions allowances through a market-based mechanism, and is sufficiently consistent with the RGGI Model Rule such that CO_2 allowances may be traded with holders of allowances from other states.

RGGI is a cooperative regional market-based cap-and-trade program designed to reduce CO_2 emissions from fossil fuel-fired EGUs. RGGI is currently composed of eleven northeastern and Mid-Atlantic states, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont and Virginia. Since its inception on January 1, 2009, RGGI has utilized a market-based mechanism to cap and cost-effectively reduce CO_2 emissions that cause climate change. Because CO_2 from large fossil fuel-fired EGUs is a major contributor to regional climate change, the participating states developed a regional approach to address CO_2 emissions. This regional approach resulted in a Model Rule applicable to fossil fuel-fired EGUs with a nameplate capacity equal to or greater than 25 MWe.

RGGI is implemented in the participating states through each state's independent CO_2 Budget Trading Program regulations, based on the Model Rule, which link together. It is also important to note that states do not execute a multistate agreement or compact to participate in RGGI, and states may withdraw from participation at any time. There is also no central RGGI authority as states jointly oversee the program. The key piece to become a "participating state," as the term is defined under § 145.302 (relating to definitions), is the establishment of a corresponding regulation as part of the CO_2 Budget Trading Program. As defined under § 145.302, the "CO_2 Budget Trading Program" is a multi-state CO_2 air pollution control and emissions reduction program established under this final-form rulemaking and corresponding regulations in other participating states as a means of reducing emissions of CO_2 from CO_2 budget sources. For this Commonwealth to participate in RGGI, the Board is promulgating this final-form rulemaking which is consistent with the Model Rule.

RGGI is a "cap and trade" program that sets a regulatory limit on CO_2 emissions from fossil fuel-fired EGUs and permits trading of CO_2 allowances to effect cost efficient compliance with the regulatory limit. RGGI is also referred to as a "cap and invest" program, because unlike traditional cap and trade programs, RGGI provides a "two-prong" approach to reducing CO_2 emissions from fossil fuel-fired EGUs. The first prong is a declining CO_2 emissions budget and the second prong involves investment of the proceeds resulting from the auction of CO_2 allowances to further reduce CO_2 emissions.

Each participating state establishes its own annual CO_2 emissions budget which sets the total amount of CO_2 emitted from fossil fuel-fired EGUs in a year. What is commonly referred to as the "RGGI cap" on emissions is a reference to the total of all the state CO_2 emissions budgets. This final-form rulemaking includes a declining annual CO_2 emissions budget, which starts at 78,000,000 tons in 2022 and ends at 58,085,040 tons in 2030. This is anticipated to reduce CO_2 emissions in this Commonwealth by 31% compared to 2019. The declining annual CO_2 emissions budget is equivalent to the CO_2 allowance budget, which is the number of CO_2 allowances available each year. A CO_2 allowance represents a limited authorization by the Department or a participating state under the CO_2 Budget Trading Program to emit up to one ton of CO_2. The number of CO_2 allowances available each year decreases along with the CO_2 emissions budget.

One of the benefits of participating in a regional market-based program is that CO_2 allowances are fungible across the participating states. This means that regulated sources within this Commonwealth may, at their option, purchase or sell CO_2 allowances with other regulated sources inside or outside of this Commonwealth. Although this Commonwealth has an established CO_2 allowance budget for each year, this Commonwealth's CO_2 allowances are available to meet the compliance obligations in any other participating state and vice versa at the option of those regulated sources. Therefore, CO_2 emissions from this Commonwealth's power sector are not "capped" by the CO_2 emissions budget, meaning they are not limited to strictly the amount of this Commonwealth's CO_2 allowances. This provides additional compliance flexibility and the regional market assists in achieving least cost compliance for all participating states.

In addition to decreasing CO_2 emissions and addressing this Commonwealth's contribution to regional climate change impacts, this final-form rulemaking would provide numerous co-benefits to public health and welfare and the environment. The co-benefits include job creation and worker training, decreased incidences of asthma, respiratory illness and hospital visits, avoidance of premature deaths, avoidance of lost work and school days due to illness and future electric bill savings. This Commonwealth will also see a decrease in harmful NO_x, SO_2 and particulate matter emissions, as well as ground level ozone pollution. This will particularly benefit those most often impacted by marginal air quality, such as low income and environmental justice communities. Emerging evidence links chronic exposure to air pollution with higher rates of morbidity and mortality from the novel coronavirus (COVID-19). As such, reductions in CO_2 emissions are even more significant now more than ever before. The COVID-19 pandemic has resulted in a renewed focus on climate change, local air quality impacts, and opportunities for economic development, all areas where RGGI participation can provide value.

Affected Parties

Under this final-form rulemaking, the owner or operator of a fossil-fuel-fired EGU with a nameplate capacity equal to or greater than 25 MWe that sends more than 10% of its annual gross generation to the electric grid will have a compliance obligation. These regulated EGUs are referred to as "CO_2 budget units" and a facility that includes one or more CO_2 budget units is a "CO_2 budget source," as defined under § 145.302. Under § 145.306, the owner or operator of each CO_2 budget source will be required to have a permit under Chapter 127 (relating to construction, modification, reactivation and operation of sources) which incorporates the requirements of the CO_2 Budget Trading Program. The owner or operator will be required to operate the CO_2 budget source and each CO_2 budget unit at the source in compliance with the permit.

Based on the most recent data from the U.S. Environmental Protection Agency's Clean Air Market Division, the EIA and the Department's emission inventory, the Department estimates that as of the end of 2020, 63 CO_2 budget sources (facilities) with 150 CO_2 budget units would have a compliance obligation under this final-form rulemaking. However, due to the dynamic nature of the electricity generation sector, the number of covered facilities will likely change by the time this final-form rulemaking is implemented. The Department projects based on announced closures and future firm capacity builds that in 2022, there will be 66 CO_2 budget sources with 158 CO_2 budget units with a compliance obligation under this final-form rulemaking. The Department conducted an analysis of power sector emissions and the facilities that meet the applicability criteria in this final-form rulemaking and determined that around 99% of this Commonwealth's power sector CO_2 emissions would be covered under this final-form rulemaking.

Advisory Groups

The Department consulted with the Air Quality Technical Advisory Committee (AQTAC), the Citizens Advisory Council (CAC), the Small Business Compliance Advisory Committee (SBCAC), and the Environmental Justice Advisory Board (EJAB) throughout the development of this final-form rulemaking.

On April 8, 2021, the Department presented an update on this final-form rulemaking to AQTAC. The update included information on the regulatory process, a summary of the comments received, the Department's key proposed regulatory changes from proposed to final, and the Department's public outreach efforts. On May 17, 2021, at a special AQTAC meeting, the Department presented this final-form rulemaking and updated power sector modeling results. After the Department answered the members remaining questions on this final-form rulemaking, the members voted in support of recommending that the Department move this final-form rulemaking forward to the Board. The supportive vote is particularly notable considering that the same committee had been divided on whether to concur with the draft proposed rulemaking.

On April 20, 2021, the Department presented an update on this final-form rulemaking to CAC. The update included information on the regulatory process, a summary of the comments received, the Department's key proposed regulatory changes from proposed to final, and the Department's public outreach efforts. On May 19, 2021, the Department presented this final-form rulemaking and updated power sector modeling results to CAC. After the Department answered the members remaining questions on this final-form rulemaking, the members voted in support of recommending that the Department move this final-form rulemaking forward to the Board. Again, the supportive vote is particularly notable considering that the same committee had been divided on whether to concur with the draft proposed rulemaking.

On May 19, 2021, the Department presented this final-form rulemaking and updated power sector modeling results to SBCAC. During the presentation, the Department mentioned that it had estimated that now twelve small business stationary sources, as defined under section 3 of the APCA (35 P.S. § 4003), may need to comply with this final-form rulemaking. Of those twelve sources, eight were estimated to be waste coal-fired power plants. The Department also mentioned that, in the final-form rulemaking, it had retained the CO_2 allowance set-aside provision to assist all waste coal-fired power plants located in this Commonwealth with their compliance obligation. After the Department answered the members' remaining questions on this final-form rulemaking, the members voted in support of recommending that the Department move this final-form rulemaking forward to the Board. In light of the SBCAC vote in opposition to the draft proposed rulemaking, the members' support of this final-form rulemaking is particularly significant.

On May 20, 2021, the Department provided a presentation on this final-form rulemaking and updated power sector modeling, specifically highlighting environmental justice and equity concerns and how these were addressed in the rulemaking and would be addressed in an investment plan. The Delta Institute, with whom the Department collaborated to conduct outreach and research in communities impacted by this final-form rulemaking, also presented their findings and recommendations for the Department's efforts in affected communities. While EJAB did not vote on the draft proposed rulemaking in 2020, the EJAB members decided to vote unanimously in support of the Department moving this final-form rulemaking forward to the Board.

Additionally, the Department provided updates to the Climate Change Advisory Committee and the Oil and Gas Technical Advisory Board on this final-form rulemaking.

Public Comments and Board Hearings

The Board adopted the proposed rulemaking at its meeting on September 15, 2020. On November 7, 2020, the proposed rulemaking was published in the *Pennsylvania Bulletin* for a 69-day comment period at 50 Pa.B. 6212 (November 7, 2020). Ten public hearings were held virtually with two each day on December 8, 9, 10, 11 and 14, 2020. The Board received verbal testimony from 449 persons, including several in Spanish translation. The comment period closed on January 14, 2021. The Board received 14,038 comments from 11,803 commentators including the House and Senate Environmental Resources and Energy Committees, members of the Pennsylvania Legislature and the Independent Regulatory Review Commission. The majority of the commentators expressed their support of the CO_2 Budget Trading Program, noting the success of cap and trade programs in reducing emissions and the health, environmental and economic benefits that can be achieved through this final-form rulemaking.