

Options and Opportunities for Coal Plant Communities Pennsylvania and the Regional Greenhouse Gas Initiative (RGGI)

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# I. Executive Summary—Choices for the Future of Coal Plant Communities

On November 7, 2020, Governor Wolf's proposed *CO2 Budget Trading Program Regulation* was published in the Pennsylvania Bulletin, setting in motion a full comment and rulemaking process for the Commonwealth's entry into the Regional Greenhouse Gas Initiative (RGGI). A final Environmental Quality Board (EQB) vote on joining RGGI is expected in the next few months. If approved by the EQB, Pennsylvania could become part of RGGI by January 2022.

RGGI is the nation's first cap-and-invest program for greenhouse gas emissions and currently includes eleven states. The RGGI system applies to carbon dioxide (CO2) emissions from electric power plants that generate 25 megawatts or more. RGGI began in January 2009, and since then, RGGI states have cut carbon pollution from their electric power plants by more than half, removed tons of dangerous pollutants from the air, invested more than \$3 billion in RGGI generated funding into their state economies, and created tens of thousands of new jobs.

The national trend away from coal to natural gas, wind, solar and other less expensive sources for producing electricity has played out decisively in Pennsylvania. Coal powered electricity's share in Pennsylvania has fallen dramatically from 57% in 2001, to 47% in 2010, to 17% in 2019 and 16% in 2021. Coal-fired electricity is projected to fall to 4% by 2030 (with or without RGGI). This shift from coal is unlikely to change. A recent market study found the current "all-in cost" of generating electricity from coal "is more than double" the cost of solar and wind, and "nearly double" the cost of natural gas.

With Pennsylvania's coal plants facing an uncertain future, one topic that deserves more attention is the potential role that RGGI funds could play in economic development initiatives, particularly in those coal communities most impacted by plant closures and related job losses. Gov. Wolf has proposed that a significant portion of RGGI proceeds (estimated to be \$300 million annually) be placed into a new *Energy Communities Trust Fund* targeting investments toward coal community economic development and assistance strategies.

Case studies of coal power plant closures in New York, Massachusetts, Colorado, and Washington demonstrate that no local community chooses voluntarily to go through the wrenching experience and economic distress caused by changes in the energy marketplace. These case studies make clear there are no quick and easy solutions when coal plants close. Successful long-term strategies require local business and government consensus building and planning, the leveraging of private sector and federal resources, and moving beyond merely plugging short-term funding holes toward long-term investment strategies that create jobs for displaced workers and grow new supply chain markets for small businesses.

While the case studies suggest that RGGI funding would not provide a panacea for Pennsylvania's coal plant communities and workers, they demonstrate how a RGGI-funded *Energy Communities Trust Fund* could provide a uniquely valuable tool for workers and coal plant communities facing common problems associated with power plant closures. Although no one-size-fits-all solution emerges from the case studies, they do reveal some critical issues confronting retired coal plant communities that RGGI funding could help address:

#### Direct Services to Coal Plant Communities for Immediate Needs:

- **Replacing Lost "PILOT" (Payments in Lieu of Taxes) or Local Tax Revenues** New York and Massachusetts both deployed tens of millions in RGGI funds to replace lost revenues. Replacing local tax revenues means saving local first responder jobs.
- Site Retrofits, Demolitions, and Cleanups—New York and Massachusetts have deployed millions in RGGI funds and other state funds to prepare coal plant sites for reuse—for new businesses, energy production or other uses—based on local community strategies. Attracting new businesses to old coal plant sites means new jobs.
- **Project Development and Seed Funding**—Coal community mitigation efforts require time for planning and (ironically) money for new investments. The case studies show instances where RGGI funding played the lead role and others where private sector investments were dominant. Ideally, RGGI and private sector funds can be deployed together through a community and regional investment planning process. The case studies demonstrate the value of seed funding in producing blended state, federal and private sector investment strategies to create new jobs.
- Job Training and Job Placement for Displaced Workers—Existing state and federal workforce development programs can be supplemented and enhanced with RGGI funding designed to create local opportunities for displaced coal plant workers. A critical factor is the ability to invest in and develop new local business opportunities.

#### Funding and Assistance to Develop Long-Term Public/Private Strategies:

- Local Planning Approaches—The case studies vary in the reuse of coal plant sites (from recreational attractions to new gas-powered facilities) and economic development strategies adopted (from private sector funded grant programs to RGGI subsidized site redevelopment). Successful programs adopted locally developed investment strategies with RGGI funding combined with state resources supporting the planning process.
- Local Coal Plant Community Investment Funds—A TransAlta/Centralia, Washington case study demonstrates that dramatically improved economic development growth rates are achievable after a coal plant closure. This model deserves further analysis.

Pennsylvania has been a national leader on energy technology development and economic innovation since the beginning of the industrial era. The Commonwealth has experienced significant disruptions before in the steel and anthracite coal industries. In analyzing a decision to move forward with RGGI, Pennsylvania is facing two fundamental options:

- Adopt RGGI and use a significant portion of new RGGI funding to ease the transition for coal plant workers and local communities to new business opportunities; or
- **Reject RGGI** and allow market forces to determine when and if the last Pennsylvania coal-fired generating units at coal plants will close, with little or no help from existing owners or available local and regional funding sources to cushion the impact

Pennsylvania is not the only state facing a transition away from coal powered electricity. The following eight case studies and descriptions of the experiences of coal plant communities in RGGI states and non-RGGI states can help inform the best option to choose moving forward.



# II. Introduction and Purpose of the White Paper

On October 3, 2019, Governor Wolf signed Executive Order 2019-07 proposing that the Commonwealth join RGGI. On November 7, 2020, Governor Wolf's proposed *CO2 Budget Trading Program Regulation* was published in the Pennsylvania Bulletin, setting the stage for a full comment and rulemaking process under the Pennsylvania Air Pollution Control Act. On May 5, 2021, the Department of Environmental Protection (DEP) released an updated *CO2 Budget Trading Program Regulation* package reflecting over 13,870 comments and suggestions received by January 14, 2021. A final Environmental Quality Board (EQB) regulatory vote on whether the Commonwealth will join RGGI is expected in the next few months. If approved, Pennsylvania could join RGGI by January 2022.

RGGI is the nation's first mandatory cap-and-invest program for greenhouse gas emissions. RGGI currently includes eleven states—Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia. Virginia became a full member on January 1, 2021. The RGGI cap-and-trade system applies only to carbon dioxide (CO2) emissions from electric power plants with capacities to generate 25 megawatts or more. The RGGI emissions cap took effect on January 1, 2009, and after subsequent design reviews and emission cap adjustments, the RGGI states agreed to extend the CO2 emissions reductions through 2030 and beyond.

Since 2009, participating RGGI states have cut carbon pollution from their electric power plants by more than half, improved public health by cutting dangerous air pollutants like soot and smog, invested more than \$3 billion in RGGI generated funding into their energy economies, and created tens of thousands of new jobs.

This White Paper will examine the impact that market trends are already having on Pennsylvania's coal fired power plants. The White Paper will also describe in eight case studies (see Section V on page 17) how other states, including RGGI states, are responding to these same market trends and have developed programs to address the adverse economic impacts that coal plant closures have on local workers, communities, governments, and small businesses.

One topic in the policy debate in Pennsylvania that deserves more attention is the positive role that RGGI funds could play in economic development initiatives, particularly in coal plant communities most impacted by closures and related job losses. Gov. Wolf has proposed that a significant portion of RGGI proceeds be placed into a new *Energy Communities Trust Fund*. RGGI funds could be targeted towards coal community economic

development and assistance strategies. Successful community investment models from other states are described in the case studies below.

This White Paper will summarize how RGGI states have already invested RGGI proceeds in economic redevelopment initiatives and tax revenue replacement programs in coal plant communities. Other non-RGGI states have also targeted investment strategies towards coal plant communities. The case studies demonstrate that some approaches for assisting communities and workers near coal plants have already been proven effective in addressing the harshest impacts from coal plant closures. These case studies make clear there are no quick and easy solutions when coal plants close, but funding for new investment strategies and economic development planning plays a critical role in successful local recovery initiatives.

With the adoption of RGGI, Pennsylvania could take a proactive approach to assisting workers and local communities suffering from coal plant closures and related job losses. RGGI funding offers a new opportunity to local coal plant communities. The experiences of other state coal plant communities that have successfully invested in new economic development and recovery projects can provide a potential roadmap for future RGGIfunded investments in Pennsylvania.



# III. National and Pennsylvania Coal Power Trends

According to an April 2020 <u>Rhodium Group Report</u>, coal-fired electricity demand has suffered record drops nationwide due to the higher cost of coal generation relative to natural gas and renewable energy sources. In April 2020, coal fell to 15% of total U.S. power generation (down from 23.5% in 2019) "with wind and solar generation surpassing coal during a three-day period for the first time in recorded history." According to the <u>Energy Information Administration</u> (EIA), coal powered electricity generation nationwide which stood at 123 million megawatt hours (MWh) in 2007, had by 2019, fallen to 38 million MWh.



### Coal-fired Power - Share of All Electric Power Production in Pennsylvania

The national trend away from coal to natural gas, wind, solar and other less expensive sources for producing electricity can also be seen in Pennsylvania. The chart above displays how coal powered electricity in Pennsylvania fell from 57% in 2001, 47% in 2010, to 17% in 2019 and coal is projected to fall to 4% in 2030 with or without RGGI.

Note that even with changes in federal policies supporting coal power production from 2019 to 2021, electricity from coal plants in Pennsylvania continued to decline. In January 2021, the Energy Information Administration reported that coal accounted for 16% of electricity generation in Pennsylvania with natural gas rising from **42% in 2019 to 49% in 2021** and nuclear power holding at 31.6%. (See data below from https://www.eia.gov/state/?sid=PA#tabs-4).

Pennsylvania Net Electricity Generation by Source – Jan. 2021	Source: EIA - PA Net Electricity Generation MWh	Percentage
Petroleum-Fired	8	<1%
Natural Gas-Fired	10989	49%
Coal-Fired	3584	16%
Nuclear	7069	31.40%
Hydroelectric	307	1.30%
Non-hydro Renewables	494	2.20%
Totals	22,451	100%

The declining percentage of electricity produced by coal in Pennsylvania is expected to continue independent of RGGI. Two coal plants – the Brunner Island Steam Electric Station in York County and the Montour Power Plant in Montour County have announced they will cease burning coal before 2028. On May 4, 2021 a <u>PA DEP Modeling Report</u> projected that with or without RGGI, coal will make up less than 4% of the state's electricity generation by 2030.

A May 2020 Research Study <u>Coal-Fired Power Plant Retirements in the U.S.</u> published by Professors Rebecca Davis, Scott Holladay and Charles Sims in the National Bureau of Economic Research highlights why this trend in declining coal plant electricity is likely to continue. The authors reviewed EIA's Energy Outlook data from 2019 and found that "the levelized cost of energy (Levelized Cost), the all-in cost of generating from a particular fuel type, as \$73 per MW of coal-fired capacity." The authors compared the Levelized Cost of alternatives to coal and found that the cost of producing electricity from coal "is more than double the Levelized Cost of solar and wind capacity and nearly double the Levelized Cost of combined-cycle natural gas." The authors found that because of these high costs, virtually no new capacity for coal plants is currently being proposed in the U.S. ("as of 2019, EIA reports 135,000 MWs of proposed capacity additions across all fuel types. Of those additions, only 17 MWs are coal-fired"). These higher costs of production and resulting decreases in coal generated electricity in Pennsylvania are reflected by the number of coal plant closures as 17 different coal plants (representing approximately 42 coal-fired generating units) have been retired since 2009. A list of 13 different coal plants (representing 33 coal generation units) in Pennsylvania that closed between 2010 and 2016 compiled by Global Energy Monitor is attached as Appendix A. Four additional coal plants (representing 6 coal generation units) that have closed in Pennsylvania since 2016 are listed on Appendix B. The Brunner Island and Montour coal plants that have announced plans to transition to natural gas are also listed in Appendix B. The most recent addition to Appendix B is GenOn's Cheswick coal plant, which announced on June 9, 2021 that it will be closing on September 15, 2021.

### **Coal Mining Employment Trends in Pennsylvania**

Declines in coal generated electricity in Pennsylvania that preceded the discussion of RGGI, reflect national trends in energy production and have corresponded with decreases in coal mining employment across the country and in the region. The declines in coal production and coal employment both nationally and in the region preceded the proposed RGGI CO2 emissions trading caps in Pennsylvania which are not scheduled to go into effect until January 2022.

According to the recent BW Research Partnership's <u>2020 Pennsylvania Energy and</u> <u>Employment Report</u>, coal mining jobs in Pennsylvania also declined by 3.3 percent since 2017. BW Research relied on U.S. Department of Labor and U.S. Energy Information data and is consistent with data found in surrounding states. A graphic presenting employment data from the Energy Information Administration for a five-state region (OH, PA, WV, VA & MD) appears on the following page. Coal Mine Employment Trends-2002 to 2018



Aggregate coal mine average employees : : total : annual

Coal mining employment has continued to decline since this BW Research Partnership Report was released. According to <u>USA Today</u>, coal mining employment fell by 7,000 jobs across the U.S. in 2020. <u>USA Today</u> reported that U.S. Department of Labor listed 44,100 coal mining jobs in December 2020, down from 51,100 coal mining jobs in December 2019.



# IV. Citizen and Business Comments Supporting RGGI-Proposed Uses of RGGI Funds for Local Coal Community Investments

Through January 14, 2021, Pennsylvania citizens and businesses filed approximately 14,000 sets of comments on the proposed RGGI rulemaking with the EQB. The Pennsylvania Department of Environmental Protection (DEP) has analyzed these RGGI comments and reported that many of the themes raised in the submitted materials (many of which were letters and longer memos) were supportive of RGGI: Success of Cap & Trade (9,200 references), Health Benefits of Regulation (8,000 references) and the Economic Benefits of Regulation (7,300 references). Positive comments on RGGI outnumbered negative comments by more than a 7 to 1 ratio. The most common negative comments received by DEP on RGGI were the: Impacts to Fossil Fuel Communities (1,300 references) and Impact to Small Business (1,000 references).

On February 2, 2021, Governor Wolf introduced the Commonwealth's 2021-2022 Executive Budget. Gov. Wolf's 2021-2022 Budget in Brief responded to some of these concerns about RGGI by proposing "several hundred million dollars" in annual RGGI revenues "to support communities and employees impacted by the energy transition by providing crucial resources." The Budget in Brief also describes "other targeted investments in a diversified energy portfolio, environmental justice communities, and support for large manufacturers and other energy intensive industries."

The Governor's 2021-2022 Budget in Brief specifically proposed a new RGGI funded Energy Communities Trust Fund "to provide direct support to dislocated workers and communities experiencing impacts from the closure of existing power plants and the loss of jobs and economic activities." Many of the details on the operations and budget of the Energy Communities Trust Fund remain to be determined by the General Assembly, the Governor's Office, local governments, and key stakeholders representing union members, small businesses, and local communities. Currently, RGGI funding could be directly deposited and distributed through the Pennsylvania Clean Air Fund operating under the authority of the Pennsylvania Air Pollution Control Act. However, the Wolf administration has emphasized that a significant portion of new RGGI funding should be devoted to coal plant workers and communities through the proposed Energy Communities Trust Fund.

# Specific Comments on Potential RGGI-Funded Relief for Coal Plant Communities

Although it is difficult to adequately summarize approximately 14,000 specific and detailed comments submitted on RGGI, several large & small businesses, local communities and non-profit organizations described a positive role that RGGI funding can play in impacted coal plant communities. For example, one business alliance representing more than 68,000 Pennsylvania employees, <u>RGGI for PA</u> has been an enthusiastic supporter of RGGI. Representing several Pennsylvania universities, energy industry leaders such as Exelon and British Petroleum (BP), and Fortune 500 companies such as Westinghouse, <u>RGGI for PA</u>'s joint comments emphasized the job and business creation track record that RGGI has established in other states. Many RGGI for PA members also submitted individual comments supporting RGGI's job creation potential.

A January 21, 2021, Pittsburgh Post-Gazette <u>analysis</u> of the comments on RGGI found that large fossil fuel companies that have already diversified into new efficient natural gas plants and/or renewable energy technologies filed comments in support of RGGI. Oil giants Royal Dutch Shell and BP both support RGGI. The Post-Gazette reported that Shell which is building a world-scale petrochemical plant in Beaver County observed in its comments that RGGI "is an effective way to transition Pennsylvania's power sector to a low carbon future and generate funding for programs to reduce carbon across the broader economy." BP, which owns a Northeast PA wind farm and helped build a utility-scale solar project for Penn State University, called RGGI "an efficient and cost-effective way to tackle one of the most pressing issues of our time."

Several energy business leaders that are active in managing Pennsylvania energy facilities emphasized the economic development role that RGGI proceeds can play in those communities that will need it the most—areas that are home to current coal fueled power plants. One example of these forward-looking comments is particularly noteworthy. Talen Energy of Allentown, Pennsylvania "owns a fuel-diverse portfolio which is comprised of coal, gas and oil-fired generation facilities" and "the Susquehanna nuclear plant in Luzerne County." Talen Energy has more than 2,000 employees in Pennsylvania. In fairness to Talen Energy, its support for moving forward now with the RGGI rulemaking recognizes that there are no "perfect solutions" in a rapidly changing energy marketplace:

While there are no perfect solutions for how to transition the Commonwealth's energy production portfolio, best meet the growing demand for clean energy, and manage the impact of the shift away from sources of carbon emissions, Talen believes that the Commonwealth's entry into RGGI, an established market-based approach to lowering carbon emissions, provides a mechanism that allows Pennsylvania to maintain its position as an energy exporter while meeting its carbon reduction goals, and without providing direct subsidies to any particular fuel source. (January 14, 2021 Talen Energy Comments at page 1)

However, the Talen Energy letter provided a good summary of the reasons that many business leaders and citizen commenters indicated was the basis for their overall support for RGGI:

Through RGGI, Pennsylvania could help ease the hardship caused by the market-driven transition away from existing coal plants and support adversely impacted workers and communities at these facilities as they move away from coal-fired generation, while positioning Pennsylvania to remain an energy leader well into the future. Funds collected by the state from the auction of RGGI credits can provide a source of new and much needed funding, some of which during the early years of RGGI, could be allocated to support affected coal plant workers and communities with worker transition, gaps in tax base and incentivizing local economic development to replace the loss or conversion of these generation units. (January 14, 2021 Talen Energy Comments at page 2, emphasis added).

The immediate loss of a tax base, often from a coal plant source that has operated locally for decades, is an urgent concern for the local governments that serve as the host for Pennsylvania's currently operating coal plants. Although there are some existing federal and state sources for workforce development and retraining, Talen Energy also highlights that RGGI funding could provide additional and targeted funding sources to help local governments ease the loss of tax revenues and help with repurposing of the coal plant site. Talen Energy and other businesses suggested using RGGI funding for targeted incentives and economic development funding in those specific communities that have lost coal plants and related supply chain jobs.

Talen Energy's comments also included an analysis of whether coal plant communities would be better off with RGGI. This analysis comes from the unique perspective of a power producer that has operated in the energy markets of Pennsylvania (without RGGI CO2 regulations) and in the energy markets of other states operating under RGGI CO2 regulations:

Pennsylvania has been blessed with abundant energy resources, from coal to natural gas to nuclear. Likewise, there are communities and workers throughout the Commonwealth that have benefitted from these resources for decades. Unfortunately, the energy markets continue to create challenging economics for many generators, including those with coalfired facilities. This has been happening over the course of the last several years independent of RGGI. For example, Talen's Maryland coal plants, which have been operating under RGGI since its inception over a decade ago, only recently announced the intent to stop burning coal (at the same time Talen announced stopping coal burn at its Montour plant in Pennsylvania). The existence of RGGI in Maryland did not impact that decision. It hasn't been until recently that the plants in Maryland became more of a capacity resource, running only when market conditions dictated due to continuously low energy prices, primarily driven by the abundance of low-cost natural gas and declining energy demand. With or without RGGI, Pennsylvania coal plants will be challenged and face an uncertain future. With RGGI, however, funds are available to ease this transition and provide opportunities for the future without having to impact the taxpayer. (January 14, 2021 Talen Energy Comments at page 3 – emphasis added).

Talen Energy's track record of operating coal plant facilities in Maryland under RGGI and in Pennsylvania (which has not yet joined RGGI) offers a unique perspective and database of competitive energy market experience. Talen Energy's Maryland coal plant operated for 10 years under RGGI and will be closed due to new developments in the energy marketplace (primarily, low-cost natural gas), not due to RGGI regulations. Similarly, Talen Energy decision on its Montour Plant in Pennsylvania to switch fuels was driven by market conditions, not new RGGI regulations. With RGGI funds, the transition in Maryland may be eased by the availability of RGGI funding. In Pennsylvania, facing an uncertain future, coal plant communities would be able to rely on RGGI funding to deal with the uncertainties associated with evolving market forces and a reliance on a base fuel that is losing or has lost its competitive advantage.



# V. Case Studies of Coal Plant Community and Workforce Mitigation Programs

As the national data (discussed above in Section III) on the declines in coal power plant electricity production suggests, there are many examples of communities across the country that have been required to adapt to the closure of a local coal plant. Many of these coal plant communities face common challenges: the loss of longstanding sources of local tax revenues, the need to decommission, retrofit and clean up a closed coal plant site, providing retraining and reemployment opportunities for coal plant workers, the loss of coal plant supply chain small businesses, and the expertise and time required for the development and implementation of a longer term regional and local economic development strategy. Each of these challenges demands significant financial resources and all require phased in, long-term investment and training solutions.

Although no one-size-fits-all solution exists for a closed coal plant site, the following review of approaches at coal plants in New York, Massachusetts, Colorado, and Washington State display some common themes and emphasize the need for flexible and significant financial supports from state, regional or federal sources. As will be discussed below, RGGI funding can play a critical role in the revitalization of local communities and the development of economic opportunities for displaced workers.

### New York (RGGI State)

Beginning in July 2015, New York launched an <u>Electric Generation Facility Cessation</u> <u>Mitigation Program</u> (Mitigation Program) administered by the Empire State Development Authority ("ESD"), the New York State Energy Research and Development Authority ("NYSERDA") and the Department of Public Service ("DPS"). The Mitigation Program is designed to provide direct financial support to local governments facing the closure of a local power plant (usually coal plants). Financial support is targeted on the most pressing issue facing local governments when coal plant shuts down-drastic reductions in the tax payments and/or payments in lieu of taxes ("PILOT") owed by an electric generation facility.

Under the NY Mitigation Program, awards for tax replacement payments for local governments are available over a seven-year time frame to allow for economic redevelopment efforts to take hold and grow. The potential maximum award of 80% of lost

revenues in the first year decreases by 10% of lost revenues each year to ultimately end in the seventh year in a potential maximum award of 20% of lost revenues. Since its inception in 2015 through February 2021, funding for the Mitigation Program was provided to Empire State Development by NYSERDA using RGGI auction proceeds.

The NY Mitigation Program has proven so successful that on February 11, 2021, the New York Public Service Commission (NY PSC) issued an Order in <u>CASE 20-E-0473</u> creating a new dedicated funding stream "taken from uncommitted funds from legacy clean energy portfolios" be used to support the Mitigation Program going forward. The NY PSC emphasized "the need to support the transition from existing generation to a more modern, cleaner grid of the future through a comprehensive approach that ranges from support for the building of new generation to easing the financial implications for impacted communities."

Although at each of the coal plants discussed below New York state government authorities took an "all hands-on deck" approach to addressing the economic impacts of closing coal plant facilities, the availability of the Mitigation Program funding and other RGGI sources has served as a critical tool. Lost tax payments or PILOT payments from closed coal plants can be devastating to local school districts, police and fire departments and other local government services. Between 2015 and 2021, this critical funding has been provided directly from RGGI proceeds. Moving forward, the NY PSC will direct other NY clean energy funds to support the program. The Mitigation Program provides local governments with a seven-year funding stream to help ease one of the most immediate community impacts when a coal plant shuts down.

#### 1. Dunkirk Power (NRG Energy) – Dunkirk, NY

The Dunkirk Electric Generating Station (Dunkirk) is a former four-unit coal-fired power plant located in Chautauqua County, NY near Buffalo. Dunkirk is owned by NRG Energy, Inc. (NRG). For over 50 years, the facility provided substantial economic activity to Chautauqua County, the City of Dunkirk, and the Dunkirk City School District, including jobs and annual tax payments accounting for a significant part of the city and school district's budgets.

Dunkirk closed its generating units in September 2012. Despite announced agreements in 2014, and again in 2016 to repower the plant with natural gas, NRG announced in July 2018 that the Dunkirk plant would remain closed. Between 2014 and 2018, NRG entered into a series of agreements with local government authorities to continue tax payments or PILOT payments as it sought to maintain the coal plant site and retrofit Dunkirk for a natural gas generating facility.

Since 2018, after NRG's final attempt at reopening a gas-powered generating unit failed, the NY Mitigation Program has provided payments to local government authorities as they have developed plans for the reuse of the Dunkirk site. RGGI funding was the sole source of

these Mitigation Program payments and have helped stabilize local budgets in the City of Dunkirk.

A <u>City of Dunkirk Comprehensive Plan</u> – adopted in December 2019 concluded that based on public comments, Dunkirk was not seeking to maintain the facility for power generation or future industrial/manufacturing uses. Recreation, both public and private were popular recommendations, including maintaining the area as open space. The Plan concluded "continuation of the walking/biking trail along the shoreline to connect Wright Park to Pt. Gratiot Park was recommended and demonstrates the importance of preserving public access to the shoreline for future recreational uses."

The Comprehensive Plan and related economic redevelopment efforts are ongoing works in progress in the City of Dunkirk, but RGGI funding has played and will continue to play a positive role in easing the transition of the Dunkirk site to new and alternative uses in a process guided by local elected officials and citizens.

#### 2. Huntley Generating Station (NRG Energy) - Tonawanda, NY

The Huntley Generating Station (Huntley) in Tonawanda, New York began commercial operations 1942 and consisted of six coal-fired units when NRG purchased Huntley in 1999. In 2005, two generating units retired and another two units closed in 2007. NRG retired the final two units in 2016. In between those closings, between 2008 and 2012, Huntley's payments to local government declined by \$6.2 million to the town, county, and local school district. Those cuts came when NY state education funds were also shrinking. As a result, 140 teachers lost their jobs while three elementary schools and one middle school closed their doors.

In response to these closures and loss of local tax revenues and, after negotiations and planning over several years, a local coalition of residents, community groups, organized labor, and local businesses released a <u>Tonawanda Tomorrow</u> Plan in 2016 – 2017. The Plan sets out a vision for re-growing the local Tonawanda economy. The partnership included the <u>Buffalo Center for Arts and Technology</u>, <u>Clean Air Coalition of WNY</u>, the <u>Ken-Ton</u> <u>Chamber of Commerce</u>, the <u>Kenmore Teachers' Association</u>, the <u>WNY Area Labor</u> <u>Federation (AFL-CIO)</u>, <u>Erie County</u>, the <u>University at Buffalo Regional Institute</u>, and others. At the same time, they developed the Plan, coalition members worked to acquire temporary funding to support municipal services, assistance for dislocated Huntley workers, and remediation of the coal plant site.

A critical component of <u>Tonawanda Tomorrow</u> was the acquisition of New York state funding to provide Tonawanda with a temporary cash infusion to sustain the town as it reinvented its tax base. Participants in <u>Tonawanda Tomorrow</u> claimed that this was one of the first times that a state had offered a financial cushion to a community that was financially reliant on a coal-fired power plant. Although funding for Tonawanda came from a variety of state sources, one of those was the RGGI funded NY Mitigation Program. By March 2017, the Tonawanda coalition had a framework in place for \$30 million in resources to implement its revitalization Plan.

The Tonawanda coalition also received a federal planning grant of \$160,000 to help communities distressed by the demise of coal. County and town planners view the continued reinvention of the Huntley site as a vital part of transforming 2,300-plus acre brownfield site into more productive uses. As a result of recent site redevelopment and clean-up efforts, Sumitomo Rubber Industries announced that it will invest \$122 million into its adjacent Tonawanda manufacturing plant where it employs 1,300 workers. Tonawanda hopes to attract new industries, such as solar technology and warehousing operations to the Huntley site.

#### 3. Cayuga Power Plant (former AES) - Lansing, NY

The Cayuga coal-fired power plant was a two-unit facility with a net capacity of 306 Megawatts that initiated operations in 1955 and 1956. Located in Lansing, New York, near Ithaca, the plant is now owned by Riesling Power, LLC which purchased the facility after AES Corporation filed for bankruptcy protection on December 30, 2011, and operated by its subsidiary Beowulf Energy LLC. After a series of proposals to retrofit the plant into a natural gas generating facility, the Cayuga plant stopped generating power on August 29, 2019, and officially retired in October 2019. Prior to its closure, the Cayuga coal plant employed approximately 63 people with payroll and benefits totaling \$47 million annually.

Cayuga's combined PILOT payments of over \$3 million in 2012 to the Town of Lansing, the County of Tomkins, and the Lansing Central School District contributed 10% to the town tax base, 14% to the school tax base, and 2% to the county tax base. PILOT payments had peaked in 2011 and fell dramatically after the coal plants closure in 2019. In July 2019, plant operator Beowulf Energy LLC filed plans for a <u>250MW data center on the site</u>. The plans were called the Empire State Data Hub initiative, and would be <u>partly powered</u> by hydroelectricity and partly by 70MW and 20MW solar farms in Somerset and Cayuga, respectively.

The Lansing Town Council passed a resolution on Dec. 18, 2019, to establish an advisory committee to oversee the future of the Cayuga Power Plant. The Cayuga Operating Company (COC) and Beowulf Energy have proposed converting the site it into either a data center or an energy storage facility. According to the resolution, the committee will be tasked to "promote transparency" between COC, the advisory committee and the public.

The availability of NY Mitigation Program funding and RGGI proceeds will certainly not solve all the redevelopment and remarketing challenges at the Cayuga site. State and federal funding has already been deployed to supplement private sector investments to redevelop the Cayuga site. For example, by 2020, the NY Department of Labor had begun providing job fairs and placement services which are provided online and have helped find new jobs for 10 former employees from the Cayuga coal plant. However, NY Mitigation

Fund programs and RGGI funded planning grants will help decrease the impact of the loss of local taxes and will certainly buy more time for local officials to plan for and identify long term solutions. Negotiations and planning at the Cayuga site are ongoing.

#### 4. Somerset Operating Company (former AES) - Barker, NY

The Somerset coal plant was a 668-Megawatt facility located in Barker, New York on the southern shore of Lake Ontario which began commercial operations in 1984. The plant is a wholly owned subsidiary of Riesling Power, LLC, which purchased the facility after AES Corporation filed for bankruptcy protection on December 30, 2011. Beowulf Energy LLC, a subsidiary of Riesling Power operates the Somerset facility.

Somerset was the last coal-fired power plant in New York state. Since 2008, Somerset experienced increases in the delivered price for coal and often operated at a loss, where the cost of generation exceeded the market price of energy for significant portions of the year. The \$13.7 million PILOT payment in Somerset made in 2012 contributed 80% to the Town of Somerset tax base, 70% to the Barker Central School District tax base, and 5% to the Niagara County tax base.

In March 2020, the 44 remaining workers at Somerset powered the coal plant down for the final time. The PILOT payments which have declined steadily since 2012, have been reduced from less than \$1 million in 2019 to no fixed payment schedule moving forward. Beowulf Energy is seeking state approvals to open a data hub – a facility that rents servers to companies that store vast amounts of data – on the site. It expects 30 to 40 jobs on site, but these jobs will likely be nonunion and primarily for data technicians. The plans were called the Empire State Data Hub initiative, and would be <u>partly powered</u> by hydroelectricity and partly by 70MW and 20MW solar farms that will be located at the Somerset facility and the former Cayuga coal plant site.

The New York Power Authority has allocated 100MW of electricity for a data center on the site, and the development appeared to be moving forward in January 2021. The <u>Buffalo</u> <u>News</u> reported in April 2021 that a proposed 140-175MW solar project would cover about 900 acres on both sides of the Somerset Lake Road facility. The data center would have a 30-year lease on the property, now owned by Beowulf Energy according to Michael Farrell, senior development manager for AES Clean Energy. "The data center is moving forward," an NYPA spokesman told Buffalo News.

Beowulf Energy is currently negotiating a power supply agreement with the New York Power Authority that may include a fixed Renewable Energy Credit price. Negotiations, planning and site redevelopment activities are currently ongoing at the Somerset site. As noted above, the NY Public Service Commission has ordered new funding sources for the New York Mitigation Program, so state clean energy funding will help replace lost tax revenues in Barker, New York. However, RGGI funding will likely continue to play a critical role in site cleanup, site preparation, workforce development training and other efforts to meet local economic development needs. Negotiations at the Somerset site are ongoing.

### Massachusetts (RGGI State)

#### 1. Salem Harbor Power Station (former Dominion Energy) - Salem, MA

The first coal-fired generation unit at the Salem Harbor Power Station became operational in 1951. The coal plant was located on an area of land in Salem Harbor that was reclaimed during the 1800s and served in various roles as a wharf, an oil burning power plant and a coal depository. The shifts in fuel sources for the Salem Harbor Power Station switched from coal to oil and then back to coal after the oil embargo and associated energy crisis in the 1970s. Ownership of the Salem Harbor Power Station changed after a Chapter 11 bankruptcy filing in June 2003. Dominion Energy purchased the site and between 2005 and 2011 operated four coal fired units at Salem Harbor until December 31, 2011. In February 2012, Dominion Energy announced it would be retiring the other two coal units in mid-2014.

On August 3, 2012, Governor Deval Patrick signed legislation that created a Plant Revitalization Task Force to adopt a plan to ensure the demolition, remediation, and redevelopment or repowering of the Salem Harbor Power Station. Chaired by Richard K. Sullivan, Secretary of Energy and Environmental Affairs and representing a cross section of elected officials, state agencies, utilities and IBEW Local 326, the Task Force assembled and released a Report on July 1, 2013. One critical concern of the Task Force was the cleanup of the 65-acre waterfront site and the Report concluded that redeveloping the site with a new natural gas power plant is "the best means to ensure the full demolition and remediation of the site."

At the same time, Dominion Energy transferred ownership to Footprint Power which immediately began planning and implementing the remediation and redevelopment of the Salem Harbor Power Station. In 2018, Footprint Power began operation of a natural gas power plant on 20 acres of the site, while planning and development of the remaining (now remediated and cleaned up) 45 acres is ongoing.

A January 11, 2021 presentation by the Massachusetts Clean Energy Center described potential uses of Salem Harbor Power Station related to wind energy such as a staging area for off-shore wind construction. 2021 planning efforts will focus on more than 40 acres of undeveloped land owned by Footprint Power adjacent to Salem Harbor Station, the natural gas-firing power plant. During the Task Force deliberations and in the follow up work to execute the site cleanup, state funding and RGGI funding served as a source to move the process forward at Salem Harbor Power Station. Site remediation and reuse has been a priority focus of Massachusetts and its deployment of RGGI funding for local government projects. The Annual RGGI Proceeds Report highlights some of these 2018 – Power Plant Decommissioning Investments on the following page.



#### 2018–RGGI Investments in Power Plant Decommissioning

#### 2. Brayton Point Power Plant (former Dominion Energy) - Somerset, MA

The last operational coal-fired generating plant in Massachusetts, the 1,488-megawatt Brayton Point generating plant located on the coast at Somerset, was permanently shut down at the end of May 2017. Dominion Energy purchased Brayton Point in 2005 and operated the four-unit site until 2013. Energy Capital Partners purchased the plant in 2013 and after its closure in 2017, the Commercial Development Co. (CDC) purchased the Brayton Point site in 2018 for an undisclosed sum and announced plans to turn the retired coal plant property into an industrial port and staging area for the offshore wind power industry.

CDC has invested significant resources to redevelop the site. The new Brayton Point Commerce Center at the former power plant site markets its 300 acres of industrial waterfront property and 34-ft deep water port facilities. CDC has worked closely with state agencies on the cleanup and remediation of the 300-acre site. RGGI funding and other state appropriations have supplemented these CDC investments to clean up and prepare the site for reuse.

From the time that the ramp down and eventual closure of the Brayton Point generating plant was announced in 2013, state elected officials and local Somerset government representatives tapped RGGI resources to replace declining and lost tax revenues from the site. Somerset is continuing to receive RGGI money to help transition the school district and city budgets from losing a significant amount of tax revenue from shuttered power plant units. Use of RGGI funding for the Brayton Point power plant received a boost in 2013 when Rep. Patricia A. Haddad (D- Somerset) was able to secure passage of "An Act Relative to Distribution of Regional Greenhouse Gas Initiative Auction Proceeds" under Massachusetts General Law - Chapter 64. The Act allows the state "to reimburse a municipality in which the property tax receipts from an electric generating station, including payments in lieu of taxes and other compensation...are reduced due to full or partial decommissioning of the facility."

Rep. Haddad explained in press interviews that "my whole intent in securing funds for the town was to stabilize the property taxes to prevent steep increases," and "I knew so many elderly and young families would be devastated by the tax hikes that would take place without that aid." Rep. Haddad also worked with local officials, the Fall River Career Center and Bristol Community College to afford plant employees training and retraining opportunities in advance of the announced decommissioning date. Haddad understood the need for direct aid for employees as "we wanted it to be as seamless as possible with little interruption to their lives." At the time of closing, there were 140 employees at the Brayton Point plant.

By 2017, Somerset Finance Director Joseph Bolton reported that the "the well-known silver lining has been Regional Greenhouse Gas Initiative grants to a handful of communities suffering from loss of tax revenue as fossil fuel plants drew back and closed have helped Somerset enormously." As of January 2017, "the town received and used \$3.5 million, and over the past three years has received nearly \$11 million in RGGI funds" according to Bolton.

### SouthCoast TODAY

### Town up to almost \$10 million in RGGI money

By George Austin Posted Jan 4, 2017 at 2:01 AM

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SOMERSET — The town is continuing to receive money from the Regional Greenhouse Gas Initiative fund to help transition Somerset from losing a significant amount of tax revenue from two power plants. Although other state funding was available for site redevelopment and cleanup, and while CDC and the private sector invested heavily in the Brayton Point site for future use and marketing of its waterfront property, RGGI funding has played a critical role in moving the redevelopment process forward. Most important, the RGGI funding has continued to flow into Somerset as the Brayton Point site continues to be redeveloped. *As of July 2019, Somerset had received nearly \$18 million in RGGI proceeds* from Rep. Haddad's budget legislation.

### Colorado (Non-RGGI State)

As discussed above, coal powered electricity is on the decline across the nation, even in states with a long tradition of coal mining and coal production. Sharp declines in demand for coal generated electricity have occurred in many states that are not members of RGGI or any similar regional greenhouse gas trading compact. Because it is confronting market changes in energy production (even in areas with historic coal mining operations), Colorado has become a leader on planning for economic development projects and strategies in local communities impacted by the closure of coal fired power stations and coal mining operations.

On May 28, 2019, Gov. Jared Polis signed House Bill 1314 - The Just Transition from Coal Based Electrical Energy Economy Act. In December 2020, the Colorado Just Transition Advisory Committee (JTAC) representing a wide range of stakeholders, issue experts, labor leaders, state agencies, and members of local communities issued its first Action Plan. The JTAC Action Plan starts by recognizing "the loss of stable, high-paying jobs and economic opportunities in communities where coal is mined and burned to fuel the economy." The Plan also notes that the Colorado General Assembly made a "moral commitment to assist the workers and communities that have powered Colorado for generations" by "helping coal communities and workers transition to prosperous futures."

The Advisory Committee's Action Plan sets forth six "Community Strategies" and four "Worker Strategies" that provide an excellent overview of the best practices that have worked in Colorado and other states to move local coal impacted communities into more diversified economic development approaches. The broad approach for economic transition includes:

- Align state and federal programs to assist local strategies;
- Target early successes in business start-ups, expansions, retention, and attraction;
- Empower communities with resources to drive their own economic transitions;
- Coordinate infrastructure investments to support local and regional transition strategies;
- Identify and support state, regional, and local institutions to facilitate needed investments; and
- Attract grants and investments to power local economic growth.

In calling for infrastructure investments, the Action Plan relies significantly on the prospect of new infusions of federal support and the Advisory Committee specifically highlights the critical importance of potential new federal investments in broadband access and construction employment opportunities. The Action Plan calls for the prioritization of coal communities for the new federal investments—but also admits that financing its recommendations will be a challenge. The Action Plan states, "...together, these recommendations would likely cost the state over \$100 million to implement, but we do not yet know where that money might come from."

The Colorado legislature has so far budgeted \$15 million towards implementation of the Action Plan. The Governor's Office has budgeted dedicated staff to update and revise the Plan as needed to address local needs as well as search for other funding opportunities to execute the "Community" and "Worker" strategies outlined in the Plan.

Pennsylvania could learn a lot from the Colorado Action Plan which is laser focused on coal power plant and coal mining communities. The interagency, stakeholder, labor and private sector representation on the Advisory Committee could be emulated in the design of any RGGI affiliated Board convened to determine the best way to invest potential RGGI revenues. Gov. Polis' commitment of dedicating full-time staff to pursue the implementation of the Action Plan is also worthy of emulation. Most importantly, Colorado's biggest self-described challenge, the absence of the needed \$100 million to pursue coal community investments could be solved in the Pennsylvania context with a new infusion of RGGI proceeds. Pennsylvania could develop a Colorado style coal plant and coal community Action Plan dedicated specifically to the needs of local coal impacted communities and fund related implementation efforts with RGGI proceeds.

### Washington (Non-RGGI State)

Hydroelectric power accounts for more than two-thirds of Washington's electricity generation. Natural gas, nuclear energy, non-hydroelectric renewable resources, and coal fuels almost all the rest. In 2019, natural gas was the second-largest source of in-state net generation with about 15% of state generation, nuclear power supplied about 8%, non-hydro renewable resources accounted for almost 8% and most of the rest of the electricity generated in Washington is fueled by coal. All of it comes from one plant. The TransAlta Centralia coal-fired power plant produced approximately 7% of Washington's net generation in 2019.

Although Washington has nearly 700 million tons of recoverable coal reserves, there are no longer any active coal mines in the state. The last coal mine closed in 2006. Market forces in Washington state drove demand for local coal down to the point where in state coal production became unprofitable. Coal from the Powder River Basin (Montana and Wyoming) supplies the TransAlta Centralia power plant. Washington State, with its heavy reliance on hydroelectric power, has less of a transition away from coal power to make than other states, but the local economy where the TransAlta Centralia power plant is located was almost entirely dependent on the coal plant's revenues. As recently as 2011, then-Mayor of Centralia Harlan Thompson called the power plant "our Boeing and Microsoft put together."

However, the TransAlta Centralia plant is an example of an unusually well-funded, longplanned transition away a coal fired power plant. The area's coal industry had been in decline for years as 600 people were laid off when the local coal mine shuttered in 2006. The power plant's workforce had dropped from 270 to 188 people since 2011, and its property tax contributions had fallen from \$7 million to an estimated \$3 million over that period. Demand for the coal powered electricity produced by TransAlta Centralia was declining because less expensive sources were being added to the Washington state energy markets.

In 2011, several state lawmakers proposed shuttering the plant by 2015, a suggestion that was met with fierce opposition from TransAlta and community leaders. Then Washington state Gov. Christine Gregoire resisted the closure as "the worst thing you can do is to precipitously just close down a plant." In a <u>press interview Gregoire</u> said "that is not an outcome that's good for anybody. It may stop the emissions, but we need to be mindful of the human cost as well."

Gov. Gregoire brought state officials and environmentalists to the table with TransAlta and told negotiators to bring her a deal that worked for the community. After days of closeddoor negotiations, the <u>parties emerged with a plan</u>. TransAlta would be given until 2025 and allowed to operate two generating units. In exchange, the company agreed to invest \$25 million into energy technology projects, \$20 million into economic and community development, with another \$10 million for weatherization work to improve energy efficiency. The community development money included \$8 million for payouts to displaced workers, and another \$1 million set aside to pay for education and retraining opportunities.

The deal, which replaced the contentious shutdown plan, has since been praised by pretty much everyone involved—and helped forge a political consensus that Centralia needed to move on from coal. Unlike the sudden mine closure, Centralia has had money and time to prepare. For example, the transition plan allowed 40% of TransAlta's workers to reach retirement age before the closure.

While no one claimed that the TransAlta transition agreement was easy to negotiate, the company's \$55 million contribution has been distributed in grants and tax subsidies and have prepared many of the workers for the close out of the plant in 2025. In announcing the settlement, Gregoire recognized that the deal's backers knew the process would be difficult. However, the TransAlta Centralia settlement demonstrated the ability to focus solutions—funded by the private sector—on the needs of local communities and workers.

One unique innovation built into the TransAlta coal plant settlement was the deployment of a Centralia Transition economic development grant fund. The impacts from this fund have been reviewed by the <u>Ohio River Valley Institute</u>, which found that job growth, economic production and population all grew significantly (if not dramatically) in Centralia. As part of the 2011 agreement, the Centralia Coal Transition Grants took the \$55 million settlement to establish:

- A "<u>Weatherization Fund</u>" that supports energy efficiency upgrades for low and moderate-income residents;
- An "<u>Economic & Community Development Fund</u>" that supports workers, families, businesses, and organizations to expand education, retraining, and general economic development; and
- An "<u>Energy Technology Fund</u>" that supports clean energy generation, energy efficiency, storage, and transportation electrification.

The Ohio River Valley Institute's analysis of the economic impacts that the Centralia Coal Transition Grants had on the Centralia marketplace demonstrates the potential opportunity that clean energy transition investment funds can create in a local marketplace. Because many of the Transition Grants focused specifically on energy efficiency market development, these investments created compound economic benefits in the local Centralia economy. The Ohio River Valley Institute's analysis explained why:

- Energy efficiency is a highly labor-intensive endeavor, which means more jobs are created for each dollar invested as compared to mining and energy generation;
- Energy efficiency services are mostly provided by local suppliers, which means more of the money and jobs stay in local communities -- a critical benefit for smaller, more rural communities. The labor-intensive work on energy efficiency in local businesses and homes could not be exported to foreign labor markets to lower costs. Business activity, like the retrofitted homes and offices, remained in the same location – Centralia.
- Energy efficiency upgrades produced ongoing utility bill savings in Centralia, which meant that more disposable income was available to residents and business overhead was reduced. Both factors created more commerce and jobs in the local economy.
- By reducing energy consumption and mitigating peak events, energy efficiency reduced the need for the construction of more power plants. This will help keep electricity bills lower (with lower capital costs) for all electricity customers in the long term.
- Energy efficiency made homes and workspaces safer, healthier, and more comfortable, improving health outcomes, reducing absenteeism, reducing health care costs and increasing worker productivity.



All of these compounding factors appear to be among the reasons that Centralia is experiencing very positive results from the Centralia Coal Transition Grants. Positive (if not dramatic) impacts from the deployment of the grant program can be seen above in the Ohio River Valley Institute's analysis – with employment increases each year from 2016 – 2019.

RGGI funding combined with private sector settlement funds could be used in a similar grant or economic development investment strategy in Pennsylvania. The Centralia program's singular focus on replacing local jobs in the local construction and retrofit markets was one of the critical factors in its success.

# VI. Pennsylvania Coal Plants— Current Ownership and Plans for the Future

In a January 21, 2021 <u>analysis</u> of RGGI comments filed with the EQB, the Pittsburgh Post-Gazette cited Pennsylvania Coal Alliance (PCA) materials and reported that "only four conventional coal-fired power plants remain online in Pennsylvania that don't have plans to retire or phase out the fuel, down from 20 in 1996." The Pittsburgh Post-Gazette <u>analysis</u> stated that "those four plants, Cheswick in Springdale, Conemaugh, Homer City and Keystone in Indiana and Armstrong Counties – together employ over 600 people." This analysis of the number of remaining operational large coal plants is consistent with the materials attached in Appendix A and B to this White Paper. A follow up May 18, 2021 Post-Gazette <u>article</u> on RGGI and coal plants pointed out that many of Pennsylvania's smaller waste coal plants listed in Appendix B will likely continue operating whether or not RGGI is approved. Please note that one of the four remaining coal plants described in the PCA analysis has since announced that it will be closing. On June 9, 2021, GenOn announced that it would be closing the Cheswick Generating Station (as well as a coal plant in West Virginia) on September 15, 2021, eliminating approximately 60 of the 600 jobs cited in the PCA analysis.

As noted in Section IV above, several energy industry comments on RGGI, including Talen Energy's submission to the EQB noted that "with or without RGGI, Pennsylvania coal plants will be challenged and face an uncertain future." Two other currently operating coal plants, the Brunner Island Electric Station in York County and the Montour Power Plant in Montour County have already announced that they plan to stop burning coal. Montour intends to switch to natural gas in 2025 and Brunner Island plans to transition from coal to natural gas in 2028.

### **Coal Plant Ownership in Pennsylvania**

Consistent with the coal plant case studies from New York and Massachusetts summarized in Section V above, the corporate ownership of individual coal plant sites can change significantly over time. News reports indicate that ownership of the four remaining Pennsylvania coal plants has changed several times over the past seven to ten years. In some instances, these ownership changes have occurred under the supervision of bankruptcy court proceedings. As reported by <u>S&P Global Market Intelligence</u>, the most recent transaction appears to have occurred on December 30, 2020 when Arclight Capital Partners transferred its ownership interests in two of the remaining large Pennsylvania coal plants to Chief Power Transfer Parent LLC. Based upon public records and news articles, the current majority owners of the four remaining Pennsylvania coal plants appear to be:

- Conemaugh Generating Station (Indiana Co.) (Arclight Capital Partners and Chief Power Transfer Parent LLC)
- Homer City Generating Station (Indiana Co.) (NRG and bondholders)
- Keystone Generating Station (Armstrong Co.) (Arclight Capital Partners and Chief Power Transfer Parent LLC)

### **Current Ownership Plans for Pennsylvania's Coal Plants**

NRG was the owner of the Dunkirk Power plant in Dunkirk, New York and the Huntley Energy Station in Tonawanda, New York described in Section V above. NRG and its subsidiaries were active participants in the development of community transition plans in Dunkirk and Tonawanda. Research for this White Paper has not identified publicly disclosed plans for the Homer City Coal Plant.

On January 14, 2021, Keystone-Conemaugh Projects, LLC (describing itself as the "licensee" of the two named coal plants) filed comments on the RGGI rulemaking. A January 21, 2021 Pittsburgh Post-Gazette <u>article</u> reported that comments from Keystone-Conemaugh Projects "asked regulators to exempt coal-fired power plants from the rule until 2030." The Keystone-Conemaugh Projects' comments request "a revised RGGI Rule that includes a glide path to retirement" but the comments do not outline what the glide path might include. The Keystone-Conemaugh comments do not include an offer to fund local economic development projects like the TransAlta funded Centralia Coal Transition Grants in Washington state described above or identify a transition plan for the two coal plants.

Research for this white paper has not identified examples of instances where Keystone-Conemaugh Projects LLC, Arclight Capital Partners, or Chief Power Transfer Parent, LLC. have participated in local coal plant community efforts to develop economic development plans when closing down one of their coal plants.

### Local Tax Payments by Pennsylvania's Remaining Coal Plants

The Keystone-Conemaugh comments to the EQB included a February 2020 Report by Econsult Solutions, Inc. (ESI) on "the economic impact of the annual operating activity of four coal-fired plants in Pennsylvania: Cheswick, Conemaugh, Homer City, and Keystone." According to ESI, the local tax and service payments paid by all four coal plants to their local governments amounted to less than \$4 million in 2019 (See ESI Table 4 below). Please note that the amounts of local taxes paid from the ESI analysis will likely decrease following the September 15, 2021 closure of the Cheswick Generating Station. As described above in Section V, RGGI payments to replace lost local tax revenues at the Brayton Point coal plant in Somerset, Massachusetts totaled more than \$18 million by 2019. RGGI funds have also replaced several millions of dollars in local tax payments from each of the five other New York and Massachusetts coal plants described in the case studies above. Estimated RGGI proceeds in Pennsylvania could be targeted to address lost local tax revenues for these four coal plants.

Table 4: Local	<b>Payments</b>	for Property	Taxes and	Utility/Ser	vice Fees
				•••••	

	Annual Total
Assessed Property Value (\$M)	\$88.3
Property Tax Revenue (\$M)	\$2.5
Municipal Utility and Service Fees (\$M)	1.2
Local Total	3.7 million

#### Source: Plant operational data Note: Columns may not sum due to rounding.

This White Paper does not propose specific paths forward for any of the four Pennsylvania coal plants for developing market strategies for competing in the rapidly evolving energy markets. As noted in Section III above, national and state economic trends in the energy markets have placed coal plants at economic risk. This was true long before the RGGI rulemaking proposal was published in November 2020. The plans for the current owners of all four plants are not currently known. Sections VII and VIII below will describe Governor Wolf's proposed plans for spending RGGI proceeds and how those spending plans might be informed by the best practices and lessons learned by the case studies of other coal plant communities.



# VII. Overview of Pennsylvania RGGI Investment Plan

As briefly described above, on February 2, 2021, Gov. Wolf's 2021-2022 *Budget in Brief* set forth the administration's broad view of: *Protecting our Environment by Investing in Workers, Communities, and a Clean Future.* Pennsylvania exports nearly a third of the electricity it produces. Gov. Wolf's administration has emphasized that under RGGI, the cost of compliance for exported electricity will be paid by electric customers in the states where that electricity is ultimately used. Many of the details will need to be added on the day-today operations of a RGGI funded investment strategy but excerpts from the Governor's *Budget in Brief* include:

Regional Greenhouse Gas Initiative (RGGI) revenues present an opportunity ("several hundred million dollars") to support communities and employees impacted by the energy transition by providing crucial resources, while making other targeted investments in a diversified energy portfolio, environmental justice communities, and support for large manufacturers and other energy intensive industries.

- A newly created **Energy Communities Trust Fund** to provide direct support to dislocated workers and communities experiencing impacts from the closure of existing power plants and the loss of jobs and economic activities. A trust fund board would be established to determine specifically how the fund would be invested to benefit these energy communities.
- Funds would also be dedicated to make immediate and targeted investments in **environmental justice** communities to minimize and correct disproportionate environmental impacts and foster economic opportunity.
- New investment in greenhouse gas abatement, **energy efficiency and clean and renewable energy programs** that help to reduce air pollution in Pennsylvania. Investments in clean and renewable energy, including but not limited to biomass, geothermal, hydropower, solar and wind will help to drive in-state investment and job creation while generating electricity.
- Vital funding for key advancements like new research and projects to develop Carbon Capture Utilization and Storage, or much needed abandoned oil and gas well plugging would become available.
- Finally, proceeds will aid the vital contributors to Pennsylvania's economy in the **industrial and commercial sectors** to reduce their greenhouse gas emissions through investments such as process electrification, fuel switching, combined heat and power, and energy efficiency projects.

Gov. Wolf's Budget in Brief outline of "several hundred million dollars" of potential RGGI spending is appropriately focused on the highest Pennsylvania priorities: environmental justice, energy efficiency, renewable energy, carbon capture and storage technologies, abandoned oil and gas well capping and targeted investments in the industrial and commercial sectors to make businesses more energy efficient, cost competitive and profitable. Although many of the details on the operation of the proposed Energy Communities Trust Fund remain to be worked out, Gov. Wolf has appropriately made the Fund a priority and the following section explains why flexible RGGI funding may prove to be so valuable for impacted coal communities.



# VIII. What the Future of Coal Communities in Pennsylvania Could Look Like Under RGGI

The case studies of coal power plant closures from New York, Massachusetts, Colorado, and Washington demonstrate that no local community chooses voluntarily to go through the wrenching experience and economic distress caused by market changes in the energy marketplace. There are no quick and easy solutions and RGGI funding will not provide a panacea for Pennsylvania's coal plant communities and workers. However, RGGI funding as proposed in Gov. Wolf's Energy Communities Trust Fund could prove to be a uniquely valuable tool to address common problems associated with coal plant closures. This RGGI funding tool could be deployed in coal plant communities to address the following challenges:

Loss of "PILOT" Payments in Lieu of Taxes or Local Tax Revenues—Coal communities suffer the double whammy of lost jobs and coal related business activities when a coal plant shuts down – while at the same time, demands for local services such as schools, police and fire safety remain the same. Any hope of attracting new businesses and investments in a local community start at a disadvantage if teachers, police forces and fire fighters also face severe layoffs. In the New York and Massachusetts examples, the number one demand made by local officials and business leaders was a method to offset the impact of the loss of *Payments in Lieu of Taxes* from a closed coal plant. Often, these payments were baked into the local government budgets for decades and the economic downturns caused by the loss of hundreds of local jobs were appropriately seen as a bad time to significantly raise property taxes or other fees.

Both New York and Massachusetts relied upon RGGI funding to fill this gap. Whether dispensed by a formula (e.g. the NY Mitigation Program) or direct grants from the legislature (as in Massachusetts), RGGI funding was used to fill these local tax gaps – largely to buy time to develop alternative business development opportunities or for the redevelopment and reuse of the site. RGGI funding could be used in Pennsylvania for the same purpose – targeted directly to the same communities that have experienced or will soon experience market driven transitions from coal to natural gas and other sources for power plants. The \$3.7 million in local taxes paid by Pennsylvania four coal plants, as described in the ESI Report, can and should be a candidate for funding replacement by the proposed Energy Communities Trust Fund.

**Site Retrofits, Demolitions and Cleanups**—Coal communities also suffer the immediate question of whether and how a closed coal plant site might be reused. Many sites have an intrinsic value and a market advantage of an already developed infrastructure of rail, highway, sewer, electrical and other connections. The Pennsylvania Department of Community and Economic Development (DCED) has already developed a cutting-edge approach in the design of decommissioned coal-fired power plant redevelopment Playbooks. DCED's Playbooks are a collaboration between state and local government, community and business stakeholders, environmental analysts, and market experts. Each customized DCED Playbook includes an assessment of the regional economy, overview of the site's potential liabilities, and at least three reuse options. As was observed at the coal plant sites in New York and Massachusetts – site redesign, cleanup and reuse are the keys to a prosperous future – whether or not a local community decides to replace a coal power plant with a natural gas or solar power facility.

RGGI funding could be used to develop future DCED Playbooks and assist with redevelopment and remediation costs. RGGI funding should not be used to replace private sector liabilities or private sector investments designed to reuse a coal plant site. Any negotiations to replace a coal site with a natural gas operating unit should certainly follow the examples of the Salem Harbor Power Station and the TransAlta Centralia plant described above where private sector funding drove much of the planning for reuse (or continued use) of the site.

RGGI funding could provide critical funding to local coal communities for planning, design, demolition, or rehabilitation work to prepare coal plant sites for new uses. Hand in hand with the PILOT funding described above, RGGI funding can allow communities the time to build consensus among local businesses, workers, and community groups to select the highest and best use of the site going forward. In the absence of RGGI funding, local communities will have less time, and fewer options for planning and implementing recovery strategies.

**Project Development and Seed Funding**-RGGI proceeds could provide seed money and matching funds to local and regional planning groups in Pennsylvania to pursue federal funding for economic development projects. While there are many potential sources for existing federal economic development funds, local and regional seed money and planning are often a prerequisite for successfully acquiring funds. Recent successful efforts in Indiana County to expand broadband access are a good example of the local planning and expertise that are required to access available federal funding. RGGI funding could fill this essential role by providing seed money, local expertise, and time to apply for additional federal resources.

In March 2017, Pace University's Environmental Law Program released Transition Support Mechanisms for Communities Facing Coal Power Plant Retirement in New York. The Pace Study is an excellent primer on the issues facing local coal plant communities. One strong and well-crafted recommendation for local communities is that they should seek out federal grant funding opportunities—programs specifically designed for communities in crisis—like coal plant communities. The Pace Study presents a helpful list of potential grant sources:

- Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Program Appalachian Regional Commission
- U.S. Economic Development Admin. (EDA), Assistance to Coal Communities (ACC)
- Department of Labor: Employment and Training Administration (ETA)
- Environmental Protection Agency: Office of Land and Emergency Management.
- Department of Energy: Jobs Strategy Council
- Small Business Administration Small Business Development Center (SBDC)
- Department of Treasury, Community Development Financial Institutions (CDFI) Fund
- SelectUSA and Access to Foreign Direct Investment (FDI)
- Department of Commerce, National Institute of Standards and Technology: Manufacturing Extension Partnership (MEP)
- Corporation for National and Community Service (CNCS)

Since the Pace Study was completed in 2017, additional federal programs have come online (most recently during the Biden administration). Many new programs focusing on infrastructure and economic revitalization are particularly intriguing. However, all these programs share common requirements. A local applicant coal community needs: 1) seed funding (in some cases a matching requirement); 2) a general economic development plan that is consistent with current state, regional and local planning and investment efforts; and 3) a specific proposal for the former coal plant site that lines up well with #1 and #2.

Good, solid, long term economic development planning and federal grant acquisition takes time and (ironically) resources. In addition to interest from businesses, investors, workers, and local government leaders, to maximize federal grant opportunities like the programs described above – coal communities need the time to develop plans, put together grant proposals and perhaps most importantly acquire seed money (or "local matching funds") before moving ahead with a federal grant application. While there are many economic development experts at Pennsylvania DCED and several local coal communities are blessed with seasoned regional, county, or local economic development practitioners, local coal communities will need seed funding and planning expertise to be successful. RGGI funding can play a critical role in filling this gap in expertise, planning skills and ultimately in the seed money to develop a "blended" funding strategy to deploy federal, state, local and private sector investments in the businesses and industries of the future.

RGGI funding did not prove to be a panacea at the New York or Massachusetts sites described above and revitalizing shuttered Pennsylvania coal power plants will require a lot of hard work on planning, training and recruitment of local workforces and private sector investors to allow projects and local businesses to succeed. However, with RGGI funding, local communities will have the resources to take the time and effort to determine their own economic development futures in a manner that has not been available at Pennsylvania coal plant closures in the past.

Variety of Local Approaches – The examples from New York, Massachusetts, Colorado, and Washington demonstrate that there are a wide variety of approaches that could be adopted in Pennsylvania to address closed coal plant community and worker concerns and needs. State level planning (Colorado), special legislation to apply RGGI funding to a particular site (Massachusetts), state legislation applying to all closed power plants (New York's Mitigation Fund) or site-specific deals between the coal plant owner and the local government (Washington state) are all valuable procedural models. RGGI could provide funding to coal plant communities to study and pursue any of these approaches.

Job Training and Job Placement for Displaced Workers – The New York coal plant examples at Tonawanda, Cayuga and Somerset demonstrated that federal and state job training and placement programs can be successfully deployed to identify new employments opportunities for at least part of the workforce that suffers from a coal plant closure. RGGI funding has been and continues to be deployed at each of these New York coal plant communities to seek reemployment both locally and in other locations in New York state. As with the examples described immediately above, local and regional seed money and planning grants can go a long way towards developing successful state and federally funded job training programs. RGGI funding could be deployed locally to fill that specific need for seed money in coal impacted communities in Pennsylvania to attract new employers. Existing state and federal workforce development funding could then be deployed to help fill those new positions.

Local Coal Plant Community Investment Funds - The TransAlta Centralia coal plant example from Washington state provides a roadmap for grant programs designed to create new job opportunities in energy efficiency and weatherization that boost the local economy. RGGI funding combined with private coal plant owner contributions (like the TransAlta negotiated settlement) could be deployed for similar, targeted grant programs in Pennsylvania's coal impacted communities. There may have been several economic factors at play in Centralia, Washington, but job growth rates at nearly double the national average are worth further analysis. An energy efficiency investment fund could be a worthy candidate for a pilot program in Pennsylvania's coal plant communities. The Centralia energy efficiency jobs were created locally (homes and businesses that were retrofitted were not going to move) and were focused on the construction and skilled trades where demand for new opportunities was the highest.

# IX. Conclusion

Pennsylvania has been a national leader on energy technology development and economic innovation since the beginning of the industrial era. The Commonwealth has experienced significant disruptions before in the steel and anthracite coal industries. In analyzing a decision to move forward with RGGI, Pennsylvania is facing two fundamental options:

- **Reject RGGI** and allow market forces to determine when and if the last Pennsylvania coal-fired generating units at coal plants will close, with little or no help from existing owners or available local and regional funding sources to cushion the impact; or
- Adopt RGGI and use a significant portion of new RGGI funding to ease the transition for coal plant workers and local communities to new business opportunities.

Successful approaches for attracting new businesses to retired coal plant sites, reinvesting in new economic development projects to help replenish the local tax bases and attracting new businesses to replace lost jobs can be adopted and re-applied from eight case studies and other examples states across the country. None of these approaches are simple or easy, and no single one-size-fits all approach will likely be successful. However, one common theme of successful approaches in other states is the ability to access flexible state and local funding (such as those offered by RGGI) to help support the local tax base and a coal community planning process.

The other benefits of participating in RGGI are clear and significant: improved public health; new jobs across the Commonwealth, economic development opportunities in clean energy, and a strong clean energy infrastructure. With hundreds of millions of dollars each year in new funding – an additional benefit of RGGI is the potential of targeted support for workers and communities most affected by coal plant closures. This has been a direct benefit of RGGI funding that has been demonstrated in examples from other states.

# X. Appendix A: Coal Plant Retirements and Conversions, 2010 to 2016

State	Unit	Plant	Operator	Year Built	Capacity (MW)	Retire- ment
PA	Armstrong power station Unit 1	<u>Armstrong power</u> <u>station</u>	FirstEnergy	1958	163.2	2012
PA	Armstrong power station Unit 2	Armstrong power station	FirstEnergy	1959	163.2	2012
PA	Beaver Valley Generation Plant #1	<u>Beaver Valley</u> <u>Generation Plant</u>	AES	1987	35	2015
PA	Beaver Valley Generation Plant #2	<u>Beaver Valley</u> <u>Generation Plant</u>	AES	1987	114	2015
PA	Cromby Generating Station Unit 1	<u>Cromby Generating</u> <u>Station</u>	Exelon	1954	188	2011
PA	Eddystone Generating Station Unit 1	Eddystone Generating Station	Exelon	1960	353.6	2011
PA	Eddystone Generating Station Unit 2	Eddystone Generating Station	Exelon	1960	353.6	2012
PA	Elrama Power #1	<u>Elrama Power Plant</u>	NRG Energy	1952	100.0	2014
PA	Elrama Power #2	<u>Elrama Power Plant</u>	NRG Energy	1953	100.0	2014
PA	Elrama Power #3	<u>Elrama Power Plant</u>	NRG Energy	1954	125.0	2014
PA	Elrama Power #4	Elrama Power Plant	NRG Energy	1960	185.0	2014
PA	Hatfields Ferry power station Unit 1	Hatfields Ferry power station	FirstEnergy	1969	576	2013
PA	Hatfields Ferry power station Unit 2	Hatfields Ferry power station	FirstEnergy	1970	576	2013
PA	Hatfields Ferry power station Unit 3	Hatfields Ferry power station	FirstEnergy	1971	576	2013
PA	Hunlock Creek 3	Hunlock Power Station	Ugi Corp	1959	49.9	2010
PA	Mitchell power station Unit 3	Mitchell Power Station (PA)	FirstEnergy	1963	299.2	2013
PA	New Castle Plant #3	New Castle Plant	NRG Energy	1952	98	2016
PA	New Castle Plant #4	New Castle Plant	NRG Energy	1958	114	2016
PA	New Castle Plant #5	New Castle Plant	NRG Energy	1964	136	2016

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State	Unit	Plant	Operator	Year Built	Capacity (MW)	Retire- ment
ΡΑ	Piney Creek 1	<u>Piney Creek Power</u> <u>Plant</u>	Aci Energy	1992	36.2	2013
PA	Portland Generating Station Unit 1	Portland Generating Station	NRG Energy	1958	172	2014
ΡΑ	Portland Generating Station Unit 2	Portland Generating Station	NRG Energy	1962	255	2014
ΡΑ	Shawville Station #1	Shawville Generating Station	NRG Energy	1954	125	2016
ΡΑ	Shawville Station #2	Shawville Generating Station	NRG Energy	1954	125	2016
ΡΑ	Shawville Station #3	Shawville Generating Station	NRG Energy	1959	187.5	2016
ΡΑ	Shawville Station #4	Shawville Generating Station	NRG Energy	1960	187.5	2016
ΡΑ	Sunbury Steam Station Unit 1	Sunbury Steam Station	Corona Power	1949	89.1	2014
ΡΑ	Sunbury Steam Station Unit 2	Sunbury Steam Station	Corona Power	1949	89.1	2014
ΡΑ	Sunbury Steam Station Unit 3	Sunbury Steam Station	Corona Power	1951	103.5	2014
ΡΑ	Sunbury Steam Station Unit 4	Sunbury Steam Station	Corona Power	1953	156.2	2014
ΡΑ	Titus Generating Station Unit 1	<u>Titus Generating</u> <u>Station</u>	NRG Energy	1951	75	2013
PA	Titus Generating Station Unit 2	Titus Generating Station	NRG Energy	1951	75	2013
PA	Titus Generating Station Unit 3	Titus Generating Station	NRG Energy	1953	75	2013



# XI. Appendix B: Pennsylvania Coal Plant Retirements and Conversions, Highlighted List of Units from 2016 to Present

				Capacity
Name	Status	Retire Date	Units	(MW)
Beaver Valley	Retired	9/1/2015	2	149
Bruce Mansfield	Retired	11/7/2019	3	2,742
Brunner Island	Announced	12/31/2028	3	1,559
Cheswick Power Plant	Announced	9/15/2021	1	637
Conemaugh	Active		2	1,872
Hatfields Ferry Power Station	Retired	10/9/2013	3	1,728
Homer City Station	Active		3	2,012
Keystone	Active		2	1,872
Mitchell Power Station	Retired	10/9/2013	1	299
Montour	Announced	12/31/2025	3	1,642
Elrama Power Plant	Retired	6/30/2012	4	510
New Castle Plant	Repowered	4/30/2015	3	348
Portland	Repowered	1/31/2015	2	427
Shawville	Repowered	4/30/2015	4	626
Titus	Retired	4/30/2015	3	225
Hunlock Power Station	Repowered	5/1/2010	1	50
Sunbury Generation LP	Retired	12/31/2014	4	438
Armstrong Power Station	Retired	9/1/2012	2	326
Cromby Generating Station	Retired	12/31/2011	1	188
Eddystone Generating Station	Retired	12/31/2012	2	707
Cambria Cogen	Retired	9/17/2019	1	98
Colver Power Project	Waste Coal		1	118
Ebensburg Power	Waste Coal		1	58
Foster Wheeler Mt Carmel Cogen	Waste Coal		1	47
John B Rich Memorial Power Station	Waste Coal		1	88
Kline Township Cogen Facility	Retired	10/24/2018	1	59

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				C	Capacity
Name	Status	Retire Date	Units	(	MW)
Northampton Generating Company LP	Waste Coal			1	114
Panther Creek Energy Facility	Waste Coal			1	94
Piney Creek Project	Retired	4/12/2013		1	36
Scrubgrass Generating Company LP	Waste Coal			1	95
Seward	Waste Coal			1	585
St Nicholas Cogen Project	Waste Coal			1	99
Wheelabrator Frackville Energy	Retired	3/1/2020		1	48
WPS Westwood Generation LLC	Waste Coal			1	36



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