

December 20, 2019

*Via Email*

Policy Office, Department of Environmental Protection  
[ecomment@pa.gov](mailto:ecomment@pa.gov)



**Re: Comments on Pennsylvania Energy Development Authority's Energy Development Plan**

**49 Pa.B. 6919 (November 16, 2019)**

To whom it may concern:

Clean Air Council and the below-signed organizations (the “Commenters”) hereby submit the following comments on the Pennsylvania Energy Development Authority’s (“PEDA”) proposed Energy Development Plan (“Energy Plan”).

Clean Air Council is a non-profit environmental and health organization headquartered at 135 South 19th Street, Suite 300, Philadelphia, Pennsylvania 19103. For more than 50 years, the Council has fought to improve air quality and the environment across Pennsylvania. The Council has members throughout Pennsylvania who support its mission to protect everyone’s right to a healthy environment.

The Commenters submit these comments to strongly advocate for zero-carbon energy generation, curtailing greenhouse-gas producing energy sources, directing funds to energy efficiency projects, and reducing energy sources that cause harm to the commonwealth’s residents and environment. Additionally, the Commenters support energy technology that does not disproportionately burden certain communities close to energy sources.

The Commenters believe the Energy Plan should reduce or eliminate emphasis on utilization of natural gas energy and provide more funding and support for energy efficiency and renewable energy sources. While the Energy Plan discusses the importance of lessening impacts of climate change and moving the commonwealth to “clean energy” production, the Commenters feel that any support by PEDA of greenhouse gas-generating energy sources runs counter to achieving this goal. PEDA should not support any and all greenhouse gas-generating energy sources going forward. No need exists for the commonwealth to continue to fund and utilize carbon-producing energy when other job-creating clean, and safe energy sources and programs exist.

## **The Definition of Clean, Advanced Energy Needs to Represent PEDA's Mission**

The Commenters disagree with PEDA defining “alternative energy” by simply using the definition found in the Alternative Energy Portfolio Standards Act (“AEPS”), codified in 73 P.S. § 1648.1 - 1648.8. PEDA unnecessarily, and without any reasoning, relies on this outdated, and politically arrived at definition to include “biomass, biologically derived methane gas..., landfill gas..., coal-mine methane, [and] waste coal” as “alternative energy sources.”<sup>1</sup> PEDA also defines bio-diesel, ethanol, [and] compressed natural gas” as “clean, alternative fuels.” *Id.* A more appropriate definition of clean energy is that which does not pollute the atmosphere.<sup>2</sup> Utilizing waste coal results in sulfur dioxide, nitrogen oxides, particulate matter, and heavy metals air pollution as well as smog and acid rain.<sup>3</sup> Thus, waste coal can hardly be considered a form of clean energy. Therefore, the Commenters believe the proposed Energy Plan should be amended to remove the citation to the outdated AEPS. The U.S. Department of Energy (“DOE”) has recognized solar, wind, geothermal, and water power as “clean energy.”<sup>4</sup> PEDA should use the DOE’s definition of “clean energy” or, in the alternative, by the simplest definition: clean energy sources are those which do not pollute the environment.

## **The Energy Plan Should Focus on Energy Efficiency and Eliminate Greenhouse Gas-Producing Energy Projects**

The Energy Plan states that part of PEDA’s mission is to “lessen the effects of climate change by reducing greenhouse gas emissions.” It further notes that environmentally-friendly energy production, using clean energy, and energy security are Policy Objectives. PEDA also states that “promoting alternative and renewable energy resources and technologies is critically important to protecting the environment.” Furthermore, the proposed Energy Plan states, in part, that “[p]rojects seeking PEDA funding [sic] demonstrate their contribution to either energy conservation, or energy efficiency.” The Commenters wholeheartedly back PEDA and the Energy Plan regarding these Policy Objectives and Mission as stated above.

However, the Commenters find Pennsylvania’s current energy production profile and Energy Plan to be contrary to PEDA’s Mission and Policy Objectives. Pennsylvania currently funds and supports many forms of greenhouse gas-producing energy sources, as it produced one fifth of the total natural gas produced in the U.S. in 2018, half of which is converted into electric power.<sup>5</sup> Electricity derived from natural gas now accounts for 33.4% of total electricity generation in Pennsylvania. *Id.* While natural gas emits less carbon dioxide when burned as compared with emissions from burning coal, it casts a heavy carbon footprint when the entire

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<sup>1</sup> See Energy Plan at page 4.

<sup>2</sup> Definition of “Clean Energy,” Collins Online Dictionary, dated 2019, available at <https://www.collinsdictionary.com/us/dictionary/english/clean-energy>.

<sup>3</sup> Environmental Impacts of Coal, Sourcewatch, dated March 16, 2015, available at [https://www.sourcewatch.org/index.php/Environmental\\_impacts\\_of\\_coal](https://www.sourcewatch.org/index.php/Environmental_impacts_of_coal)

<sup>4</sup> Clean Energy, U.S. Department of Energy, undated, available at <https://www.energy.gov/science-innovation/clean-energy>

<sup>5</sup> See Energy Plan at page 5.

process is taken into consideration.<sup>6</sup> The drilling and extraction of natural gas from wells and the transportation in pipelines results in methane leakage. *Id.* Methane is the primary component of natural gas. *Id.* Methane is 34 times stronger than carbon dioxide in trapping heat over a 100-year period and 86 times stronger over 20 years. *Id.* “Whether natural gas has lower life cycle greenhouse gas emissions than coal and oil depends on the assumed leakage rate, the global warming potential of methane over different time frames, the energy conversion efficiency, and other factors.” *Id.* Thus, the Commenters completely disagree with new and continued support for utilizing natural gas energy as a part of the proposed Energy Plan due to its obvious negative impacts on climate.

Alternatively, the Commenters strongly suggest PEDA amend the Energy Plan to direct funds to energy efficiency projects. Energy efficiency is the least-cost option for all and allows utilities to meet their energy demands and mitigate cost increases for customers.<sup>7</sup> As noted in the proposed Energy Plan, energy efficiency programs implemented by investor-owned utilities saved 101 MWh since the programs started in 2008.<sup>8</sup> According to the DEP, energy efficiency projects could further reduce consumption of electricity, natural gas, and gasoline by 15% by 2050. The Commenters fully agree with PEDA that, as a Policy Objective, a high priority should be put on funding energy efficiency initiatives and technologies.

Despite PEDA’s claim that energy efficiency is a high priority for Pennsylvania, studies show it is severely underutilized. Current law caps utility investment in energy efficiency programs at two percent of each utility’s 2006 total revenues.<sup>9</sup> As of 2018, Pennsylvania utilities achieved energy savings of roughly 0.8% annually statewide, but the Public Utility Commission’s Statewide Evaluator has found that Pennsylvania utilities could achieve annual savings of 1.2% to 2.0% without the investment cap. *Id.*

The Commenters realize that creating good, local jobs is important to the commonwealth and PEDA in making energy resource decisions. Not only does investing in energy conservation and energy efficiency lessen energy demands overall, it also creates the most jobs in the clean energy sector.<sup>10</sup> Energy efficiency accounted for over 65,000 Pennsylvania jobs in 2018.<sup>11</sup> If the cap on utility investing were lifted, more than 30,000 jobs in Pennsylvania in energy efficiency would be created, which is a 50% increase.<sup>12</sup> Nearly half of Pennsylvania’s energy efficiency jobs are local jobs that cannot be outsourced.<sup>13</sup> Thus, it is a win-win-win proposition for PEDA

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<sup>6</sup> Union of Concerned Scientists, “Environmental Impacts of Natural Gas,” dated June 19, 2014, available at <https://www.ucsusa.org/resources/environmental-impacts-natural-gas#:~:targetText=Natural%20gas%20is%20a%20fossil,new%20coal%20plant%20%5B1%5D>

<sup>7</sup> KEEA, “Lift Pennsylvania’s Energy Efficiency Investment Cap,” dated April 2018, available at <https://keealliance.org/wp-content/uploads/2018/09/Investment-Cap-Fact-Sheet-April-2018.pdf>.

<sup>8</sup> See Energy Plan at page 5.

<sup>9</sup> See *Lift*, supra note 7.

<sup>10</sup> KEEA, “Clean Jobs Pennsylvania,” dated June 2018, available at <https://keealliance.org/wp-content/uploads/2018/08/Clean-Jobs-Pennsylvania-2018-.pdf>.

<sup>11</sup> See *Lift*, supra note 7.

<sup>12</sup> ACEEE, “Lifting the Cap: Estimating the Economic Impacts of Energy Efficiency Investments in Pennsylvania,” dated April 2019, pages 2-3, available at <https://aceee.org/sites/default/files/pa-jobs-040419.pdf>

<sup>13</sup> KEEA, “Act 129: Energy Savings For Consumers,” 2018, available at <https://keealliance.org/wp-content/uploads/2018/08/Act-129-Fact-Sheet-2018.pdf>

to support and fund energy efficiency programs over carbon-intensive energy sources because good, local jobs will be created, overall energy demands are reduced, and negative climate effects are reduced.

### **Significant Health and Environmental Hazards Exist With Natural Gas Utilization**

The Commenters urge PEDDA to amend the Energy Plan to support and fund energy efficiency projects and renewable energy over carbon-produced sources because the latter are bad for human health, the environment, and national security. PEDDA states that it “will support energy projects that improve public health and protect the environment” as part of its mission. The Commenters back PEDDA in this endeavor. However, many of the energy projects that are contemplated in the Energy Plan fly in the face of this mission, specifically natural gas extraction and combustion in the commonwealth.

While combustion of natural gas is cleaner-burning than other fossil fuels, it still produces nitrogen oxides which have been linked with health problems such as asthma, bronchitis, lung cancer, and heart disease.<sup>14</sup> More significantly, however, natural gas energy development in the form of hydraulic fracturing (“fracking”), which is widespread in Pennsylvania, can severely affect local and regional air quality. *Id.* In some areas where drilling is being carried out, increases in concentrations of hazardous air pollutants and two of the six EPA “criteria pollutants” have been found. *Id.* In some cases, drilling projects produce air pollution at levels regulated by the EPA because of their harmful effects on health, such as respiratory symptoms, cancer, and cardiovascular disease. *Id.* People who live less than a half of a mile from a fracking site (or unconventional drilling site) are more likely to be at risk of negative health effects from air pollution than those living farther from fracking sites. *Id.*

Environments near and around natural gas fracking sites face harmful degradation. Sites used for fracking are subjected to erosion, wildlife habitat loss, and migration pattern disruption. *Id.* Many cases have been documented of drinking water and groundwater becoming contaminated with hazardous fracking chemicals. *Id.* Fracking also requires the use of extraordinary amounts of water (one well could use 3 to 12 million gallons) that are often not recoverable due to contamination. *Id.*

In addition to health and environmental threats of natural gas production, gas transport, storage vessels, and pipelines raise significant security and disaster issues. Tankers, pipelines, and vessels carrying or holding gas products are targets for terrorism because of their explosion and disruption capacities to surrounding areas, some of which are densely populated. Alternative energy, such as wind and solar, relieve most security concerns because they are typically dispersed and not explosive. Disruptions to solar and wind energy supplies are limited to smaller areas and thus have smaller effects on overall energy supplies making them less of a target to transgressors. As such, the Commenters strongly recommend PEDDA curtail natural gas projects in favor of alternative energy in Pennsylvania to protect residents’ health, protect the

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<sup>14</sup> See *Environmental Impacts*, supra note 6.

environment, and reduce energy security concerns. If PEDA truly wishes to fulfill its mission, it should dedicate its resources to energy efficiency and alternative energy projects that are truly sustainable.

### **Renewable Energy is Less Costly Than Natural Gas-Sourced Energy**

The Commenters also urge PEDA to amend the Energy Plan to support renewable energy projects over carbon-produced sources because solar, wind, and battery sources are competitively priced or soon will be less expensive. Infrastructure for extracting, shipping, containing, and converting natural gas will soon become more expensive than renewable energy. This will cause natural gas energy to quickly become outdated, much as coal energy is now.

The cost of producing energy from renewable sources is already less than or equal to that for carbon-based and nuclear sources according to a 2017 assessment of levelized costs in the U.S. market.<sup>15</sup> According to this report, energy produced from wind is \$30 - \$60 per MWh, whereas energy from natural gas (via reciprocating engine) is \$68 - \$106 per MWh. *Id.* The cost for community solar energy is \$76 - \$150 per MWh. *Id.* Thus, solar energy is on the same cost plane as natural gas, but wind energy far surpasses natural gas-sourced energy by at least \$8 per MWh. In some instances, wind energy costs half as much as natural gas-sourced energy. *Id.* Costs of renewable energy have dropped even more since 2017, the year this cost survey was performed.<sup>16</sup> Improved technology and materials for renewable energy storage are driving these cost drops which are expected to continue. *Id.* From a financial standpoint, funding more natural gas-sourced energy in Pennsylvania is the wrong choice.

The cost-saving metrics related to alternative energy were also documented by The Rocky Mountain Institute in a 2018 report.<sup>17</sup> Not only do advances in renewable energy and distributed energy resources offer lower rates, they also deliver the grid reliability service of a new power plant. *Id.* With the cost of clean energy predicted to continuously drop, eventually the market will create stranded assets of natural gas energy infrastructure.<sup>18</sup> This is obviously not financially viable for Pennsylvania and its taxpayers. Although funding clean energy is initially higher at the beginning of the project, a carbon-fired source will require far more funds continuously years down the road for maintenance and repairs. *Id.*

Other states have already discovered alternative, renewable sources of energy are more financially viable than natural gas energy production. In Arizona, regulators recently rejected energy plans because they called for too much reliance on natural gas and the risk of stranded assets. *Id.* Arizona then placed a nine-month moratorium on certain natural gas plants and called

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<sup>15</sup> Lazard, "Levelized Cost of Energy 2017," dated November 2, 2017, available at <https://www.lazard.com/perspective/levelized-cost-of-energy-2017/>.

<sup>16</sup> David Roberts, "Clean Energy is Catching Up to Natural Gas," *Vox*, July 2018, available at <https://www.vox.com/energy-and-environment/2018/7/13/17551878/natural-gas-markets-renewable-energy>.

<sup>17</sup> Rocky Mountain Institute, "The Economics of Clean Energy Portfolios," 2018, available at <https://rmi.org/insight/the-economics-of-clean-energy-portfolios/>.

<sup>18</sup> See *Clean Energy*, supra note 16.

for its utilities to look into adding in a much higher mix of renewable energy and storage to their plans. *Id.* In Minnesota, a recent administrative decision was made recommending the Public Utilities Commission reject a proposition to build a large-scale gas plant because insufficient consideration had been given to clean energy, such as wind and solar power. *Id.*

The Commenters urge PEDA to cease funding and support for natural gas and other carbon-intensive energy projects because Pennsylvania is currently a net-exporter of energy and can fulfill commonwealth energy demands from endemic sources. In the draft Energy Plan, PEDA wants to continue to utilize natural gas, waste coal, and other greenhouse gas-generating sources of energy in order to lessen Pennsylvania's reliance on foreign sources of energy. However, Pennsylvania already generates far more power than required, as the Energy Plan notes it is the second-largest net supplier of energy to other states in the U.S. Thus, no need exists for PEDA to continue to fund and support greenhouse-gas intensive energy projects in the commonwealth. The Energy Plan should be amended to remove support for any energy source that is known to contribute to climate change.

### **Conclusion**

The Commenters strongly urge PEDA to revise the Energy Development Plan to focus capital resources and funds away from developing natural gas and any other greenhouse gas-producing energy sources. Instead, PEDA should direct funds to energy-efficiency projects, and renewable power sources, such as solar and wind, which would not only create jobs, but also diminish the commonwealth's negative climate impacts and harm to residents' health and the environment.

Sincerely,



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