September 20, 2019

Rep. John T. Galloway, Chairman
Members, House Commerce Committee
House Commerce Committee
Pennsylvania House of Representatives

Re: Letter Opposing HB 1102, the Keystone Energy Enhancement Act, signed by 30 Pennsylvania organizations

Dear Representative John T. Galloway and members of the House Commerce Committee,

We, the undersigned Pennsylvania organizations, strongly oppose House Bill 1102. HB 1102, or the Keystone Energy Enhancement Act, is designed to encourage, facilitate, and subsidize natural gas and related manufacturing industries, including the highly polluting petrochemical industries, in Pennsylvania. However, it has been made clear in recent years that further subsidization of these industries would be extremely misguided and counterproductive to the economic health and development of the state. Investing further tax dollars into fracking would be completely out of touch with the economic realities of natural gas production in the Commonwealth, recklessly ignoring the environmental and public health impacts of fracking and their economic ramifications on the people and the state. It is highly irresponsible for the Commonwealth to endorse the investment in, subsidization of, and move to deregulate the high-risk and high-cost fracking and related industries at a time when all credible expert economic projections demonstrate that further fracking will not provide long-term sustainable revenue or jobs in the state, and that any income generated by fracking is severely outweighed by the measurable external costs of environmental, health, and community impacts imposed on the people. As such, we urge you to VOTE NO on HB 1102.

Expert analysis on the true costs of shale gas development in Pennsylvania (the direct costs of fracking as well as the external costs not directly paid for by the natural gas producers but rather by others in the community) clearly demonstrate that the fracking and related industries are a poor investment for the state. In *The Economic Costs of Fracking in Pennsylvania*, (linked here: https://bit.ly/2JCO7yz), economists with ECONorthwest found that (citations omitted):

- "While [the fracking] boom is creating economic activity in the state, it is doing so by imposing large and long-term costs on residents."
- "Annually, the costs of fracking in Pennsylvania are estimated as $1.5 billion per year. This estimated annual cost is roughly equivalent to 0.3 percent of the state's Gross Domestic Product. If fracking continues at current rates, the costs from fracking in Pennsylvania are estimated to be $54 billion over the next twenty years."
- "Like other non-renewable extraction industries, the initial boom can produce an equally large bust. In a collaboration between the Pennsylvania College of Technology and Penn State Extension, researchers estimated that 98 percent of natural gas exploration and development jobs are not needed after the well is drilled. Researchers have also found

that non-local workers primarily fill the new jobs created by increases in UOGD in Pennsylvania."

- "Ultimately, the reliance on fracking, which makes up 0.4 percent of Pennsylvania's employment, leaves the state vulnerable to future reductions in the industry and creates a situation where lower-educated workers are unable to reintegrate into the economy."

Additionally, Senior Economist and author of the report Mark Buckley found that the "regional economic benefits also seem to be less than stated, as the long-term benefits for local economies are quite low, and can disrupt more sustainable and beneficial economic trajectories that might not be available after a community has embraced fracking."

Sponsors of HB 1102 have touted "success stories" like that of Shell's ethane cracker in Beaver County, to highlight the potential of the bill. However, this narrative ignores the massive and long-term investment of Pennsylvania tax dollar handouts that have propped up the facility. In reality, Pennsylvania granted the company a fifteen-year tax amnesty window in 2012, in addition to tax breaks that have provided Shell with a $2.10 credit for every gallon of ethane it purchases from Pennsylvania-based shale gas drillers. The credit has been valued at $1.65 billion over a 25-year window, making it the largest tax break in state history. In total, Pennsylvania is already subsidizing fossil fuels at a cost of almost $2.9 billion per year.

Any public investments in energy production in Pennsylvania should instead be focused on a transition to a truly sustainable, clean and profitable renewable economy. According to a report by Synapse Energy Economics, Inc., shows that Pennsylvania's transition to 100% renewable energy production by 2050 would result in energy savings of $134 billion from 2015 to 2050 and $9 billion in electric bill and fuel cost savings in 2050 alone. In addition, from this investment, the report authors conclude PA could see a net increase of nearly 500,000 jobs over the same period. With the implementation of renewable energy options and effective energy efficiency measures immediately to replace them, the report shows that no new natural gas electric generating stations or other fossil fuel-fired power plants will be needed in Pennsylvania. Renewable and clean energy options can substantially replace fossil fuels within the next decades.

The problem of greenhouse gas emissions from natural gas development must be recognized by the Legislature. The composition of natural gas is about 95% methane. Methane leaks or is vented or flared at all stages of the natural gas process (extraction/production, gathering, processing, transmission, storage, local distribution and consumption). Methane is 86 times more efficient than CO2 at trapping heat over a 20-year period and 34 times more efficient over a 100-year period.[1] To achieve accuracy in calculating the effect of methane on heating the atmosphere and subsequently feeding climate change, it is essential to consider the greenhouse gas impacts from methane from a full life cycle perspective.

[1] Myhre, G. et al. 2013. Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Stocker, T.F., D. Quin, G.K. Plattner, M.Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex, and P.M. Midglet (eds). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. and https://en.wikipedia.org/wiki/Global_warming_potential

30% to 60% of the global increase in atmospheric methane between 2010 and 2014 was due to emissions in the lower 48 U.S. states and 63% of the increase in gas production over the past decade has been from shale gas.[2] Natural gas systems emit more anthropogenic methane than any other source in the United States, and are the third highest source for carbon dioxide emissions nationally.[3]

Natural gas, touted as "clean" or a "bridge fuel" is, in fact, a bigger problem than other fossil fuels due to uncontrolled and uncontrollable leaks, intentional flaring and venting. "Methane is far more potent than carbon dioxide in contributing to climate change. That makes it particularly harmful to the environment when it is discharged into the atmosphere. In the U.S. alone, the methane that leaks or is released from oil and gas operations annually is equivalent to the greenhouse gas emissions from more than 69 million cars, according to a Wall Street Journal analysis using conversion formulas from the Environmental Protection Agency and emissions estimates for 2015 published last year in the journal Science."[4]

Estimating and subsequently controlling methane leakage presents huge challenges that are not easily met. For instance, natural gas system leakage from plastics manufacturing emits a larger volume by far than any other use, including electricity generation, due to the unavoidable action of heating the gas in the manufacturing process.[5] In addition, uncontrolled leakage and venting during the extraction of fracked gas is largely unavoidable and leakage from orphan and abandoned wells is intractable.

According to a recent article in VOX.com, methane's impact on atmospheric warming is much shorter and simpler than carbon: "Reduced emissions [of methane] have an almost immediate climate impact. It's a short-term climate lever, and if the countries of the world are going to hold rising temperatures to the United Nations' target of "well below" 2 degrees Celsius above the preindustrial baseline, they're going to need all the short-term climate levers they can get."[6]

According to Dr. Howarth of Cornell University, the planet is going to continue to warm to 1.5 degrees C in 12 years and to 2 degrees C in 35 years or less unless we substantially cut methane emissions.[7] He points out that the planet responds much faster to methane than carbon dioxide. There is already so much carbon in the atmosphere that the ONLY hope of meeting global climate targets is to address methane because that can quickly reduce greenhouse gases and slow the warming of the atmosphere.[8] If Pennsylvania wants to be part of the solution to

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[2] Dr. Robert Howarth, Cornell University, https://www.youtube.com/watch?v=1NPuYr1LGMI

[3] EPA 2016.Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014. https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014

[4] Wall Street Journal, *The Leaks That Threaten the Clean Image of Natural Gas*, https://www.wsj.com/articles/the-leaks-that-threaten-the-clean-image-of-natural-gas-11565280375

[5] Ibid. p. 8.

[6] https://www.vox.com/energy-and-environment/2019/8/15/20805136/climate-change-fracking-methane-emissions

[7] Dr. Robert Howarth, Cornell University, "COP21 Reflections on the Historic Paris Climate Agreement", http://events.cornell.edu/event/cop21_reflections_on_the_historic_climate_agreement

[8] Ibid.

global climate change, it cannot induce natural gas development, which HB 1102 would do through its "Energy Enhancement Zones."

Scientists predict that at least another 50,000 wells will be drilled in the Marcellus Shale in Pennsylvania at build-out; more than 10,000 have already been drilled.[9] If development of natural gas continues to increase at its current rate in Pennsylvania's Marcellus Shale, demand created by the industry will increase, resulting in an additional 1600 to 2000 new fracked gas wells each year, at the least. That will cause natural gas production to nearly double by about 2030, at least tripling Pennsylvania's contribution to greenhouse gas emissions from shale gas (relative to 2012 levels).[10] The effect is regional and global.

HB 1102 would further wed Pennsylvania to the natural gas industry and its highly damaging methane emissions, digging us further into a hole that contributes to atmospheric warming and climate change impacts, when we should be moving with the national and global trends towards clean, renewable sources of energy and a plastic-free future.

What's more, the environmental, health, community, and direct economic costs of shale gas development and the petrochemical and industrial infrastructure buildout that it feeds are already disproportionately being borne by communities already burdened by industrial legacies and affect vulnerable populations such as communities of color, children, elderly, and low-income people, due to economic inequities and health risks. HB 1102 would further engrain the disproportionate burden of fracking on already disadvantaged communities by design – as the bill targets communities with "Evidence of distress and adverse economic and socioeconomic conditions" for its "Energy Enhancement Zones."

Finally, the environmental and public health impacts of natural gas development can no longer be swept under the rug. The sixth edition of the fracking "Compendium," provides extensive evidence of the damage that fracking is doing to public health through the review of thousands of peer-reviewed reports. The evidence is all too clear in the 2019 edition of the *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking.* (Linked here: https://bit.ly/2MTDs5k)

As the second largest producing state of dry natural gas in the nation (next to Texas), the environmental and health toll in Pennsylvania is mounting as documented in the recent report entitled "Categorical Review of Health Reports on Unconventional Oil and Gas Development; Impacts in Pennsylvania", authored by Fractracker Alliance (linked here: https://bit.ly/30kqe4u). The report documents the scientific analyses that reveal myriad adverse health impacts from fracking, many of the reports focusing on Pennsylvania fracked regions. Several reports show

[9] Lars Hanson, Steven Habicht, and Paul Faeth, "Potential Environmental Impacts of Full-development of the Marcellus Shale in Pennsylvania", September 2016. https://www.delawareriverkeeper.org/sites/default/files/MarcellusPA_FullReport.pdf

[10] PSE Healthy Energy, "Lifecycle Greenhouse Gas Emissions Associated With Projected Future Marcellus Development", January 2017. http://www.delawareriverkeeper.org/sites/default/files/DRN_MarcellusBuildOut_18Jan2017%282%29.pdf

that health harms such as developmental problems in children and low birth weights as well as cancers are occurring more frequently in regions that are undergoing fracking than other regions.

Kyle Ferrar, Western Program Coordinator and one of authors of the Fractracker Alliance report, states, "The FracTracker Alliance conducted a review of the literature studying the impact of unconventional oil and gas on health. Findings of this review show a dramatic increase in the breadth and volume of literature published since 2016, with 89% of the literature reporting that drilling proximity has human health effects. Pennsylvanian communities were the most studied sample populations with 49% of reviewed journal articles focused on Marcellus Shale development. These studies showed health impacts including cancer, infant mortality, depression, pneumonia, asthma, skin-related hospitalizations, and other general health symptoms were correlated with living near unconventional oil and gas development for Pennsylvania and other frontline communities".

The alarming reports of at least 67 case of rare cancers, including Ewing's Sarcoma in children, has emerged this year in four Pennsylvania rural counties. (See link here from Southwest PA Environmental Health Project: https://www.environmentalhealthproject.org/search/node/childhood%20cancer). The Pittsburgh Post-Gazette editorialized about these cases and the delivery of a letter by the Better Path Coalition saying: *"More than 100 organizations and 800 people asked Gov. Tom Wolf to order an investigation into the possible health effects of natural gas production. He stopped short of giving them what they wanted but did what his administration described as the most he could do: He directed the health department to seek out others who could perform the study. Mr. Wolf and health Secretary Rachel Levine should be given time to beat the bushes, but those advocating for the study should keep the pressure on. Mr. Wolf and Dr. Levine are responsible for public health in Pennsylvania, and they cannot punt, pass the buck or leave concerned Pennsylvanians hanging. The people who live in fracking country feel a sense of urgency, and Pennsylvania's top officials must feel it, too."*

HB 1102 will spur natural gas development and will increase the potential for these devastating health outcomes. The bill states among its purposes is: "To encourage the development of manufacturing business, petrochemical business and other downstream business opportunities and to cooperate with other industrial development agencies, local authorities and the Department of Community and Economic Development, Department of Environmental Protection, Department of Revenue, Pennsylvania Public Utility Commission and other agencies of the Commonwealth." (See bill at https://bit.ly/2lVPFde, page 7) It also is charged with: "To facilitate the proliferation of transmission and distribution pipelines for the transportation of natural gas and natural gas liquids, which are necessary for the development of manufacturing business, petrochemical business and other downstream business opportunities in zones…" (See bill at https://bit.ly/2lVPFde, page 8). These purposes and the appropriation of taxpayer funds to carry out these activities should not be allowed and is contrary to the public's environmental rights, in addition to being a bad financial investment as previously discussed.

We are urging you, as Pennsylvania's Representatives pledged to defend our rights and the rule of law, to vote no in Committee on HB 1102 or, alternatively, to entirely remove the bill from consideration.

Respectfully submitted,

(in alphabetical order)
350BucksCounty
A SMART Collaboration
Beaver County Marcellus Awareness
Berks Gas Truth
Better Path Coalition
Breathe Project
Bucks County Concerned Citizens Against the Pipelines
Bucks County Sierra Club
Bucks Environmental Action
Camp White Pine
Citizens to Protect the Ambridge Reservoir (CPAR)
Communities First--Sewickley Valley
Delaware Riverkeeper Network
Food and Water Watch
Green Justice Philly
LAWPA (Local Authority Western PA)
Lebanon Pipeline Awareness
Mountain Watershed Association, home of the Youghiogheny Riverkeeper
Murrysville Watch Committee
NoPetroPA.com
Patriots From The Oil & Gas Shales
Pennsylvania Alliance for Clean Water and Air
Physicians for Social Responsibility Philadelphia, Pennsylvania
Project CoffeeHouse, Montgomery PA
Protect PT
Responsible Drilling Alliance
Save Our Streams PA
Sierra Club Southeastern Pennsylvania Group
UBCAMP - Upper Burrell Citizens Against Marcellus Pollution
Unitarian Universalist Pennsylvania Legislative Advocacy Network (UUPLAN)