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Remarks for Public Testimony

The True Cost of the Petrochemical Industry
PA House Democratic Policy Committee Hearing
Millvale Community Center
416 Lincoln Ave, Millvale, PA 15209

March 3, 2020

Dear Representative Innamorato and Distinguished Members of the Pennsylvania House Democratic Policy Committee:

Thank you for holding this hearing. I appreciate the opportunity to comment on the true cost of the petrochemical industry in Pennsylvania.

In Pennsylvania, we should feel confident knowing that the air we breathe will not make us sick or cause cancer, asthma, or other diseases. We have the right to live and work in clean, safe-and healthy environments.

Our region has made improvements from the industrial days of the past, but there is still a long way to go before the air is truly healthy and safe for everyone. Our county is in the top 2 percent of counties nationwide for risk of cancer from air toxics. Our children have significantly higher rates of asthma compared to national averages. All of our region's public officials should take action to rapidly and significantly reduce existing and avoid new air pollution in our region so that our risk is comparable to, or better than, other urban counties.

As stewards of our state's Constitution, which guarantees Pennsylvanians the right to a clean environment, our public officials must act as the ultimate protectors of the health of the people in our state and region. It is not acceptable to allow industries to create higher cancer risks, higher respiratory and cardiovascular disease rates, higher rates of asthma, and deny local citizens' rights to clean air.

Everyone knows that air pollution is bad for your health. No one wants to breathe dirty air, get sick, or to see our children, our parents, our friends or neighbors get sick or die before their time. The time for action is now. Our region's leadership has a history of coming together to meet such challenges.

Context: Our Region Already Has Serious Air Quality Problems

Our region continues to suffer from some of the worst air pollution in the United States.

The American Lung Association's (ALA) annual "State of the Air" (SOTA) report for 2019 again put the Pittsburgh region on notice. Allegheny County once again received straight Fs for ozone, daily particulate matter levels and long-term particulate matter levels. This was the only county outside of

California to get straight Fs for all three measures of air pollution. Overall, the Pittsburgh region ranked 7th worst out of 203 metropolitan regions for annual average PM 2.5 concentration. For the daily measure for fine particle pollution, the metro area's rank stayed for a second year in a row at 10th worst out of 228 regions.¹

In terms of the EPA's Air Quality Index (AQI), air quality was rated "not good" about 2/3 of the time. The region experienced 233 "not good" air days in 2019, building off of 229 such days in 2018.

In terms of monitored data, averaged across the region's monitors, our air ranks in the dirtiest 8.5% of U.S. Regions for average annual particle pollution out of 335 urban areas using U.S. EPA data from 2016 to 2018.²

Based on an annual average for PM 2.5 spanning 2016 – 2018, 7 of the 10 Pittsburgh regional monitors had PM 2.5 levels in the worst 20% ranking of the nation's 800 monitors. Three of these ten monitors were in the worst 10% nationally. The Liberty monitor was ranked at 3.1%, Braddock 6.2%, and Parkway (Wilkinsburg) at 6.5%.

For 2016 -2018, six of the Pittsburgh region's 10 ozone monitors ranked in the worst 50% of the nation's monitors, with three in the bottom 20% and one in the bottom 10%.³

In 2018 Allegheny County was designated as a "nonattainment" area for fine particulates (PM 2.5) and Sulfur Dioxide, meaning it is out of compliance with the Clean Air Act. These designations are expected to be extended to 2019, once that data is qualified by EPA. The county is also likely to be listed as in non-attainment for ozone once again for 2019, having gotten taken off that list for 2018.

"Nonattainment" is clearly a negative regional marker. However, it is important to note that an "attainment" designation does not mean that public health is protected. Public health researchers have established that there is no safe lower bound for exposure to particulate matter, with a linear dose response to exposure, which basically means that as pollution increases, there is a proportionate increase in negative health outcomes for people.⁴ The rankings of regional monitors are a better benchmark of comparison for setting goals to protect the region's health from air pollution.

Carnegie Mellon University has documented the extensive airshed burdens that the petrochemical/fracking industry has and continues to impose on communities in our region. They have shown that there have been an extra 1200 – 4600 premature deaths in the region due to pollution from petrochemical/fracking activities between 2004 – 2016 and that the cumulative damages to health have exceeded \$23 Billion in costs over this same period.⁵ They will certainly have more to say about this when they testify. I just want to remind everyone that we are still talking about what already exists before we talk about what is coming.

¹ American Lung Association, "State of the Air 2019." Online: <https://www.lung.org/our-initiatives/healthy-air/sota/city-rankings/msas/pittsburgh-new-castle-weirton-pa-oh-wv.html#pmann>, viewed March 2, 2020.

² Breathe Project, "Breathe Meter." Online: <https://breatheproject.org/breathe-meter/>, viewed March 2, 2020.

³ Breathe Project, "Our Region's Air is Still Polluted." Online: <https://breatheproject.org/resources/air-pollution-sources/>, viewed March 2, 2020.

⁴ Schwartz et al, "The Concentration Response Relation between PM 2.5 and Daily Deaths," Environ Health Perspect. 2002 Oct; 110(10): 1025–1029.

⁵ Mayfield, E.N., Cohon, J.L., Muller, N.Z. et al, "Cumulative environmental and employment impacts of the shale gas boom." Nat Sustain 2, 1122–1131 (2019).

Adding to Our Airshed Burden Will Only Make Things Worse

The Shell plant's air emissions permit⁶ shows that the plant will likely bring the emissions of Volatile Organic Carbon (VOC) emissions to levels in Beaver County higher than were recorded over 30 years ago, in 1999, when the region had more industrial facilities operating there. This level of VOC emissions would make the Shell plant the largest source of VOC emissions in Southwestern Pennsylvania. The permit grants Shell the ability to emit 522 tons of VOC's. This is larger than the VOC emissions from the US Steel Clairton Coke Works, the next largest regional source, which emitted around 336 tons of VOC's. The plant has the potential also to emit over 159 tons of PM 2.5 and over 30 tons of Hazardous Air Pollutants (HAPS), such as benzene, acrolein, and formaldehyde.⁷

These emissions levels are important to note because of the fact that census tracts in communities surrounding the Clairton Coke Works have cancer risks greater than 98% higher than the entire US population. Cancer risks will almost certainly increase with the operation of this plant. These emissions will most likely result in higher rates of [respiratory disease, heart disease, asthma, lost productivity, cancer, early deaths](#), and adverse birth outcomes near where the plant will operate.

In 2018 we worked with Clean Air Task Force to try to model the health care costs associated with the buildout of adding the three proposed cracker plants in the Ohio Valley. We included the Shell plant, located in Beaver County, a PTT Global plant near Shadyside, OH, and a third plant, Braskem, located in Washington Bottom, WV, using information provided by a US Department of Energy Study.⁸ We used a free modeling, screening tool offered by the US EPA called "CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool" (COBRA).⁹ This is a rather basic modeling tool, and it only accounts for the health impacts from the addition of PM 2.5 into the atmosphere. This tool does not capture the effects of the VOC or HAPs emissions. It should also be noted that these results do not account for any of the supply infrastructure for these plants either (wells, compressor stations, cryogenic fractionators, pipelines, etc...)

The result of even this very limited and basic model are noteworthy. These plants will add increased health care costs between \$120 – 271 million per year across all regional counties. Over a 30-year period, this means that these plants will add between \$3.6 – 8.1 billion in increased health care costs due to premature deaths, increased lung and cardiovascular diseases, increased asthma rates, lost productivity, and visits to emergency rooms.

⁶ Commonwealth of PA Air Quality Program, "Plan Approval No. 04-00740A," December 30, 2016, Page 15, Section # 006 [25 Pa. Code §127.12b]. Online: <http://files.dep.state.pa.us/RegionalResources/SWRO/SWROPortalFiles/Shell/PA-04-00740A%20ERC%20Modified%2012-30-16.pdf>, Viewed March 2, 2020.

⁷ Reid Frazier, Allegheny Front, "Could Shell's Ethane Cracker Erase Recent Gains In Air Quality?" Online: <https://www.alleghenyfront.org/could-shells-ethane-cracker-erase-recent-gains-in-air-quality/>, Viewed March 2, 2020.

⁸ "Ethane Storage and Distribution Hub in the United States," US DOE, Nov. 2018, Table 2, "Proposed Major Appalachian Ethane Crackers." Online: <https://www.energy.gov/sites/prod/files/2018/12/f58/Nov%202018%20DOE%20Ethane%20Hub%20Report.pdf>, Viewed March 2, 2020.

⁹ For details, visit <https://www.epa.gov/statelocalenergy/co-benefits-risk-assessment-cobra-health-impacts-screening-and-mapping-tool>.

The impact to Allegheny County would be an increase of health care costs between \$15 – 33 million per year, or up to \$1 Billion over 30 years. Beaver County, which is closer to the sources, but has lower population, would see increases between \$21 – 46 million per year, or nearly \$1.4 billion over 30 years.

These numbers give pause to question what we think we are doing in order to put a few hundred people to work over this period of time. And question what the health impacts will be to the workers at these plants.

The Climate Change Implications of this Industry are Disastrous

From a climate the Shell plant will emit 2,248,293 tons of CO₂ per year¹⁰, the equivalent of 433,040 passenger vehicles, which is about half of the number of registered vehicles in Allegheny County.¹¹

The EPA's Social Cost of Carbon¹² metric to estimate the financial impacts of these carbon dioxide emissions, with the assumption of 2020 dollars and a 3% discount rate at \$42/ton, puts the 30-year cost of operating the Shell plant at \$2.83 billion. That is the cost that society will pay because of the negative effects of carbon pollution on society.

The petrochemical build-out will make meeting Paris Climate goals impossible. It will also damage our state's and region's reputation because we will be increasing our regional carbon footprint at exactly the wrong time.

Again, this does not include the climate impacts from leaking wells or pipelines, operations of compressor stations or fractionator plants, or the climate impacts of the releases of VOCs. This is only the Shell plant's permitted CO₂ emissions.

PA residents are Paying and Will Pay a Heavy Financial Price for Aligning with the Petrochemical Industry.

PA has provided the Shell plant with \$1.65 billion in tax credits in order to lure the company to build its cracker plant here.

Adding up the cost to PA taxpayers from the tax break and combine that cost with the cost of CO₂ emissions to PA as well as the PM 2.5 health care impacts to PA, we estimate \$6.1 Billion in PA taxpayer costs in a range between \$3.48 – \$8.25 billion over 30 years.

For the 400 – 600 estimated jobs, this amounts to a cost to the Commonwealth of about \$10.1 million per job. This seems like an absurd amount of costs and subsidies for this industry that will also leave a toxic legacy to our reputation and our communities. This industry will sacrifice our health and

¹⁰ Commonwealth of PA Air Quality Program, "Plan Approval No. 04-00740A," December 30, 2016, Page 15, Section # 006 [25 Pa. Code §127.12b]. Online: <http://files.dep.state.pa.us/RegionalResources/SWRO/SWROPortalFiles/Shell/PA-04-00740A%20ERC%20Modified%2012-30-16.pdf>, Viewed March 2, 2020.

¹¹ US EPA, "Greenhouse Gas Equivalencies Calculator." Online: <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>, Viewed March 2, 2020.

¹² US EPA, "The Social Cost of Carbon." Online: https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon_.html, Viewed March 2, 2020.

economy in order to overproduce plastics, for which there is not projected demand and which the world does not need.

Our prosperity depends upon attracting new businesses. This will be difficult when our community becomes increasingly toxic with falling property values and fleeing investment. Instead, we want clean jobs that do not sacrifice the lives of workers and the community. Our region has a long history of learning this lesson. We want to avoid that toxic path.

We recommend an immediate stop to subsidies for the petrochemical industry. These shortsighted measures will eventually drain the life out of our communities. We should not be spending billions of dollars of public money and loan guarantees for this industry that privatizes profits and socializes costs.

We would rather see support go to clean energy jobs that promote health, extend lives and support whole communities. Through innovation we can create more jobs and clean up communities. New York state has decided to offer \$1.5 billion in tax incentives to build 40,000 clean energy jobs. The contrast in strategies is quite clear. Our children's competitive future depends upon changing to a smarter path. Protect our health, our economy, and our children's future.

Thank you for your time and consideration.

Sincerely,

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Breathe Project