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Environmental Health Project Statement on CNX Report

CNX's claims that its shale gas drilling poses no public health risks are misleading, irresponsible, and dangerous.

Background

Last fall, Pennsylvania Gov. Josh Shapiro and CNX Resources, a shale gas extraction company based in Canonsburg, Pennsylvania, announced [a collaboration](#) on environmental monitoring and chemical disclosures. On August 14, 2024, CNX Resources released a report titled "[Initial Results are in: Radical Public-Private Collaboration Demonstrating CNX Natural Gas Development Poses No Public Health Risks.](#)" The CNX report cited data monitoring associated with the collaboration and declared that its shale gas development "is safe and poses no public health risk." These initial results are based on monthslong monitoring of fine particulate matter (PM_{2.5}) and benzene, toluene, ethylbenzene, and xylene (or BTEX compounds) at two fracked gas well pads, one in production and the other during the horizontal drilling, hydrofracturing, drill-out, and flowback stages of development.

CNX provides monitoring data around 11 active shale gas well pads and three compressor stations as part of its "[Radical Transparency](#)" program. At the end of August 2024, there were 13,098 active shale gas wells in the state on 3,360 well pads, with an average of 50 wells added each month. Dozens of operators develop shale gas resources across Pennsylvania, with CNX producing just 7.45% of last year's total annual gas production in the state.

Environmental Health Project Statement

Alison L. Steele, Executive Director

The CNX report displays an astonishing number of misleading statements, questionable methodologies, and premature conclusions that, unfortunately, only serve to further undermine the health of frontline communities faced with pollution from fossil fuel extraction. The flawed methods CNX used to interpret the data, CNX's naïve assertions about the field of public health, and the Shapiro Administration's tacit support of this report show, once again, that the health and wellbeing of Pennsylvanians is being compromised in favor of industry.

Cherry-picked Data

The CNX report and press release state that the air quality data collected over recent months proves that CNX operations are “safe” and pose “no public health risks.” However, these conclusions are speculative and based on extremely limited information. In its report, CNX referenced selected criteria from just two cherry-picked wells and compared it to EPA standards that are not, in fact, safety levels; CNX then concluded that these wells pose no health threat and implied that none of its other sites do either. To say that this limited data from self-selected sites proves there are no public health risks company-wide is premature and irresponsible.

The CNX report claims that the emissions monitored never exceeded EPA air and water quality standards. EPA standards do not reflect “safe” levels of exposure to harmful pollutants. Instead, they are agreed-upon measures that attempt to balance the protection of as many people as possible, the limits of pollution detection and control technology, and industry’s opportunities to reduce costs. Unfortunately, when industry is allowed to pollute at will and without adequate oversight, many individuals—not by their own choice—are exposed to toxic pollutants that raise the risk of health impacts to them and their families. Simply meeting EPA standards is not enough to truly protect the health of those on the front lines of shale gas development.

To underscore this point, the EPA standards to which CNX compared its own data are based on 24-hour monitoring averages. We know for a fact that [peaks, or spikes, in emissions can raise the risk of health harms](#), especially for individuals in vulnerable populations like children, the elderly, and those who are pregnant or have pre-existing health conditions. Since the CNX report uses the 24-hour average standard, it fails to take into consideration these short-term emission peaks. A more precise gauge of emission exposure would be a 15-minute rolling average that identifies when individuals may experience sporadic higher doses of pollution.

Further, the CNX report claims that if emissions limits are not exceeded at the fence lines of the well pads, then someone living farther away would not experience higher emissions or health risks. This statement is naïve at best. While the report is correct to say that wind direction affects emissions dispersal, there are a number of other meteorological and topographical factors that must be considered. Pollution can rise into the air and be carried long distances before settling back to ground level. It can also collect in valleys or combine with other elements in the atmosphere to produce compounds harmful to humans at distances greater than the fence line. [Emissions dispersion modeling](#) can illustrate how pollution may be more concentrated in areas not directly adjacent to well pads; several studies have demonstrated adverse health impacts occurring a mile or more away from wells.

When gauging pollution exposure, it is also important to consider [aggregate emissions](#), that is, emissions from more than one source, such as multiple well pads

and other polluting facilities sited in proximity to each other. So, even if it is conceivable that a single well pad may not produce emissions strong enough to harm individuals, several well pads or a well pad in combination with a compressor station, power plant, or other industrial facility can significantly raise the emissions exposure and with it the risk of health harms. The CNX report makes no mention of aggregate emissions in its analysis of the data.

True health-protective monitoring must be done with sufficient sensitivity to identify short-term spikes in emissions, and monitors should be located not only at the fence line, but also where people live, work, and go to school. It should be noted that the CNX report leads with the title “Initial Results,” meaning this is a very preliminary analysis of the data. Future analyses based on better scientific methods and additional data—and evaluated by scientists not associated with the industry itself—may very possibly show that these “initial results” are premature and inaccurate.

Real Health Impacts

No peer-reviewed study has ever been able to demonstrate that shale gas development can be done safely and without impact to human health, and any report that claims as much, especially one authored by a company that has [an extensive history of fines for violating environmental rules and regulations](#), must be met with doubt and skepticism.

The CNX report goes to great lengths to discredit the methods and conclusions of the [University of Pittsburgh Health and Environment Studies](#) (Pitt Studies), the results of which the Pennsylvania Department of Health presented in August 2023. The Pitt Studies showed a number of concerning health impacts for people living in proximity to gas well pads:

- People with asthma living close to wells during the production phase had an increased chance of their asthma getting worse.
- Children who lived within 1 mile of one or more wells had 5 to 7 times the chance of developing lymphoma, a relatively rare type of cancer, compared to children who lived in an area without wells within 5 miles.
- Infants born to pregnant women who lived near wells during the production phase were 20-40 grams (about 1 ounce) smaller at birth.

For CNX to equate its own analysis to the taxpayer-funded Pitt Studies is an apples-to-oranges comparison. The Pitt studies purposely measured health endpoints, not emissions data. University of Pittsburgh researchers looked at health results in proximity to well pads over many years and compared these results to areas without well pads. The researchers never made the claim that air pollution was

responsible for the observed effects, and included in the study report was the limitation of not being able to identify a specific hazard. In fact, the researchers acknowledge that it could have been air, water, noise, light, stress, radiation—or combinations of these or other factors—that were responsible for the study results.

To be clear, the Pitt Studies identified the above health impacts from any number of exposure pathways and a wider swath of pollutants over a longer period of time than what is represented in the data CNX has gathered to date. CNX measured a limited number of pollutants: PM_{2.5} and four volatile organic compounds (VOCs)—benzene, toluene, ethylbenzene, and xylene (BTEX). However, [there are other chemicals](#), such as nitrogen dioxide (NO₂) and many other VOCs, not to mention toxic mixtures of chemicals, that are of concern to human health. For CNX to compare its own conclusions based on monthslong air emissions data from two highly scrutinized wells to an independent and unbiased scientific study that measured known health impacts over a relatively long period of time is misleading.

Looking at the larger picture, the Pitt Studies are just one indication that people living near gas wells are subject to higher risks of health impacts. Indeed, [more than two dozen other epidemiological studies](#) have shown a correlation between shale gas development and a host of health risks for people living nearby: respiratory issues, infant health harms, heart attacks, leukemia and other cancers, and mental health problems. These studies have established plausible harm based on strength of association and pathways of exposure. Epidemiological studies are designed to examine trends in a broad population; faulting them for not including things they're not designed to collect is disingenuous, especially since [more than a hundred other studies and investigations](#) reveal the same concerns.

If CNX has modified its operations with respect to curbing pollution, such as using better technology to identify and capture fugitive emissions, that is not discussed in this report. Indeed, if CNX chose to examine, for example, the effectiveness of different types of pollution control technologies at different sites instead of clearly attempting to refute established science about health harms, that approach might at least have the potential to provide useful insights. And, for CNX to deny and denigrate the work of scores of competent, unbiased researchers conveys a lack of scientific seriousness and undermines legitimate, good-faith efforts to secure better health protections for Pennsylvania residents.

Shapiro Administration Complicity

After the zeal with which Attorney General Shapiro investigated and condemned operations of the shale gas industry in Pennsylvania, it is shocking that Gov. Shapiro's Administration would allow any industry operator to self-regulate its activities. It is even more astounding that the Shapiro Administration would permit that operator to use a photo of Gov. Shapiro and the implied consent of administrative agencies to further a highly flawed report. The CNX voluntary

agreement, including its lack of oversight and penalties, was always [an anemic effort](#) that was never designed to meaningfully protect public health. Further, CNX's [track record of violations and fines](#) calls into question the claim that its activities are harmless and free of consequences.

CNX's unfounded attacks on unbiased researchers, community organizations, and other nonprofits in this report indicate that CNX truly has no interest in working transparently with potentially impacted residents and no desire to protect the safety and health of residents on the front lines of shale gas development. It appears that the promised "radical transparency" was never the real goal. If it were, CNX, at a minimum, would have monitored emissions at points of human impact, engaged communities more fully in the process, respected the findings of reliable and unbiased researchers, and based its claims on proper scientific analysis without hyperbole and bias.

Pennsylvania is not in the position to wait for more information before taking action or to allow more people to be harmed in the name of waiting for "one more study." Additional well-constructed, unbiased, independent studies, if and when they are conducted, will undoubtedly add more reliable information to the existing body of public health knowledge, but they should not preclude immediate action to protect public health when relevant, useful information is already available.

Finally, it should be noted that Gov. Shapiro has not yet sought to dissociate himself from this CNX report, nor has he spoken to the Pitt Studies' findings, which show clear associations between shale gas development and health impacts. Since taking office, he has not meaningfully addressed the health concerns of Pennsylvania residents living near shale gas development, which he affirmed so clearly when he was Pennsylvania's attorney general. Gov. Shapiro's actions—and inactions—indicate a concerning trend: being unresponsive to the pleas of residents whose health has been harmed and minimizing the serious health risks still in play across the Commonwealth.

About EHP

The [Environmental Health Project](#) (EHP) is a nonprofit public health organization that defends public health in the face of shale gas development. EHP provides frontline communities with timely monitoring, interpretation, and guidance while engaging diverse stakeholders: health professionals, researchers, community organizers, public servants, and others.