

# ENVIRONMENTAL HEALTH PROJECT

DEFENDING PUBLIC HEALTH 2012-2022

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**Docket ID No. EPA-HQ-OAR-2021-0317**

**Public Comments on Proposal to Reduce Methane and Other  
Harmful Emissions from the Oil and Natural Gas Industry  
Submitted to the U.S. Environmental Protection Agency (EPA)  
By the Environmental Health Project (EHP)**

**Friday, January 28, 2022**

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Members of the Environmental Protection Agency:

The Environmental Health Project (EHP) is a data-driven public health organization headquartered in McMurray, Pennsylvania, just south of Pittsburgh. We are a skilled group of health care providers, community educators, and data analysts who have become national leaders in the comprehensive understanding of public health consequences of shale gas development, including the effects of air quality on individuals' health.

EHP has a decade of community science experience, working directly with frontline residents concerned about how their health has been, or may be, impacted by shale gas operations. Our primary vehicle for community engagement is our HealthWatch program, which mobilizes individuals to gather air quality data using a network of particulate matter (PM<sub>2.5</sub>) and volatile organic compound (VOC) monitors. That information is then analyzed and displayed in our AirView App to help residents understand immediate health risks and long-term trends in local air quality.

We are submitting this written comment to express our unequivocal support for stronger rules to curb air pollution from the shale gas industry, which jeopardizes the health of countless Americans. Improved standards of performance for new, reconstructed, and modified sources, as well as emissions guidelines for existing sources, will better protect public health and save lives across the nation.

### Health Outcomes Tied to Methane Exposure

Leaking methane puts public health at risk in a number of ways. Methane worsens the effects of climate change, which carry with them a wide range of public health concerns. Methane's contribution to climate change and broad-reaching adverse health outcomes associated with it are not in question. However, it is important to note that methane released from shale gas operations, and the toxic pollution that accompanies it, can also

seriously impact the health of residents in localized circumstances and contribute to the deterioration of regional air quality.

Over the past 10 years, EHP has met with residents living near shale gas operations and witnessed firsthand a host of troubling health impacts. Further, more than two dozen peer-reviewed epidemiological studies show a correlation between shale gas emissions and health harms. Identifiable health impacts include respiratory issues, such as persistent coughs, asthma, and chronic obstructive pulmonary disease. Those with existing health conditions may suffer worsening symptoms and are more likely to end up in the hospital. People living close to shale gas sites risk higher rates of heart disease, poor birth outcomes, and neurological issues. Additionally, residents living within a mile of shale gas drilling will likely experience significantly greater exposure to chemicals known to cause cancer and disrupt the endocrine system, such as benzene, toluene, and formaldehyde.

Hundreds of investigative reports corroborate these studies by demonstrating similar health impacts, with some demonstrating elevated levels of toxic chemicals in the blood, urine, hair, and nails of people living close to shale gas development. If one looks at the facts revealed by these studies, there can be no mistake that shale gas development puts public health at risk. Strong governmental intervention is required to help stem this serious public health threat.

#### Community Monitoring Approach

The EPA has asked how it could empower communities to help reduce large emission events by detecting and reporting them to owners and operators for follow up and emission-reduction actions. EHP is a national leader in the collection and analysis of air quality data in communities close to shale gas infrastructure, and we have extensive insight into what factors contribute to successful community engagement. Over the last 10 years, EHP has placed more than 800 air monitoring devices in communities and has assisted residents in interpreting the resulting data, more recently developing a sophisticated real-time analysis app.

One of our goals in engaging communities for air quality monitoring is to identify risk levels for residents and provide them with immediate actions they can take to protect their health. Additionally, we want to encourage longer-term protections by arming them with information they need to make a compelling case to local decisionmakers. Based on our extensive experience with community science, we believe there are some significant challenges to overcome in mobilizing frontline residents to police emissions from non-compliant operators, as the EPA has outlined.

1. A closer look is needed, but support must be provided equitably

We appreciate the EPA's acknowledgement that current EPA air monitoring provides only a limited, regional view of air quality processed through a small number of monitors, some not located near pollution sources. The data reported from this monitoring may lull residents into a false sense of security, believing that air across the region is clean, when in reality they are being exposed to localized sources of pollution not captured by a sparse monitoring network. For that reason, to gain a better understanding of air quality impacts, it makes sense to rely on monitoring done closer to the source of actual emissions.

In communities surrounded by multiple sources of emissions, as is common with shale gas development, operators regularly deny responsibility for elevated readings, instead

pointing to other nearby emitters. In these situations, fence-line monitoring coupled with community-based monitoring can give a better idea of when emissions from all combined sources reach unsafe levels for those living nearby, while providing actionable information about which sources are contributing most to the danger. Combining this with regular, frequent inspections of all leak-prone sites would provide greatly improved ability to find and address harmful emissions.

While better monitoring of emission events is crucial to get a better understanding of the impacts on an individual community, we are skeptical that community air monitoring, as the EPA outlines it, is a realistic course of action to protect public health at large. Community monitoring can be expensive, requiring residents to purchase devices or pay for laboratory interpretation of results. Without government subsidies, some less affluent communities (which are commonly among the most impacted by pollution) may not have the means to participate and protect themselves. If community monitoring is to be relied upon for accurate data, it should be subsidized so that more communities and residents—particularly Environmental Justice communities—can afford to participate.

## 2. Policing of operators should be managed by the government, not residents

Secondly, while real-time monitoring data can help individual communities protect themselves from health harms, we believe that any meaningful reduction in emissions, and therefore health impacts, can only come with active regulatory agency participation and enforcement. For many years the shale gas industry has avoided addressing public health concerns, even going so far as to pay fines rather than comply with regulations or to spend large sums in marketing dollars to refute the available science.

Given the track record of industry responses to reputable science, let alone community concerns, we do not believe that operators will respond accordingly to resident notifications about emission events without a stronger enforcement mechanism in place. Community-based monitors located at private homes and public spaces give emitters opportunities to plausibly deny that elevated pollution readings came from their facility, instead pointing to other nearby shale gas operators or smaller community sources of pollution like auto body shops, laundromats, and home improvement work. In EHP's experience, operators will reliably point to these alternative explanations instead of meaningfully attempting to address community concerns related to their facilities.

However, it is important that, should residents choose to monitor and report peak emissions, the EPA provide a vehicle for logging those events. Such reports should be dealt with in a timely, responsible fashion by an agency that has the authority to enforce regulation. Only through the involvement of regulatory bodies that have the mandate and resources to address issues revealed by community monitoring can we expect any improvement in the health and wellbeing of those who live and work near oil and gas sites.

## 3. Public, independent data is necessary for health protection and regulation enforcement

Ultimately, it should not be the responsibility of residents to safeguard their own health. Government agencies have the mandate to make and enforce health-protective regulations, and community-based monitoring introduces confounding factors that can limit accountability for emitters. While locating monitors in a community can, in certain situations, provide insight into the levels of exposure experienced by community residents,

we believe that the best approach to visibility is through government-run fenceline monitoring outside the sites in question, with the resulting information being made publicly available.

It is important to ensure active agency oversight in this process. As we have seen in practice, fenceline monitor setups can be largely unhelpful and even designed to obstruct data collection when managed by an operator. For example, one operator in Southwest Pennsylvania set up an advanced fenceline monitoring system at a new well pad after community pressure to do so but placed the monitors immediately behind and below an impermeable sound barrier, rendering the system useless. We have seen that even a small well can become a large emitter at any time, so transparent and unbiased emissions data is a critical tool for enhancing public health protections.

When larger emissions are detected, operators should be compelled to inform residents living nearby using a codified warning system. Such a system has already been established within a community near the Borger Compressor Station in New York State, the only such example of which we are aware. Additionally, operators could be compelled to modify their own behavior if the potential for health hazards increases. For example, Allegheny County in Pennsylvania has required action plans from emitters in the Monongahela River Valley on how they intend to reduce emissions when forecasters predict poor air quality. In order to reduce the risk posed by these facilities in the first place, we also support requiring operators to incorporate the latest zero-emission technology into all new facilities and to retrofit existing facilities with such technology—the compliance of which must also be regulated by government.

### In Summary

Having managed community science projects in frontline communities for the last decade, EHP understands how resource-intensive the process is. Arming these communities with the monitors, training, and analysis capability to protect their own air quality will be an immensely expensive endeavor. It is for that reason that even EHP has elected to run such projects in a limited number of communities and then broadly apply our learning to advocate for stronger policy protections in the first place. Residents should not bear the burden of proving their health is being negatively impacted by local industrial sources, and many in underserved communities do not have the resources to do so even if they so desired.

Community monitoring can help residents gauge their own risk and take immediate steps to limit their exposure, but that approach deals with the symptom, not the cause, and it does not break the pathway of exposure to harmful pollutants. Monitoring itself does not prevent exposure, but it can inform more proactive health-protective approaches. Strong, science-informed federal methane rules can compel more states to take a more proactive approach to shale gas development.

The Environmental Health Project has a long track record of expertise in this area and supports the EPA in its pursuit of more stringent regulations. If we can be of further assistance, we will be happy to provide any additional information we can.