ENVIRONMENTAL HEALTH PROJECT
DEFENDING PUBLIC HEALTH SINCE 2012

POSITION STATEMENT on SHALE GAS DEVELOPMENT

EHP advocates for public health action in the face of shale gas development

SUMMARY STATEMENT

The Environmental Health Project (EHP) advocates for a health-protective approach to shale gas development (also known as unconventional gas development or fracking) that places health and wellbeing at the center of policy decisions and ensures safety and health for all, regardless of race or ethnicity, sex, sexual identity, age, disability, or socioeconomic status.

Petrochemical/plastics cracker plant in Beaver County, PA. Photo courtesy of Teake Zuidema.

THE PROBLEM

The last few decades have seen a shale gas development boom across the U.S., **with the addition of an estimated 1.3 million oil and gas facilities**—active production wells, gas compressor stations, processing plants—not to mention a web of other infrastructure, such as pipelines, storage facilities, injection wells, waste sites, trucking services, and petrochemical plants.

Approximately 12.6 million people live within one-half mile of such a facility. Many, especially those in underserved and underrepresented communities, live near multiple sources of emissions. Nearly 2.9 million children attend school within a half-mile of these facilities.[1] Against this backdrop of industry, **the risk that people are being exposed to toxic chemicals is greatly intensified**, a public health crisis that policy makers need to address (see "Impacts" below).

Various governing bodies—at the federal, state, and local levels—have created an extremely favorable environment for shale gas companies. These policy makers **have put public health at risk by prioritizing shale gas development over health protections** for residents while at the same time limiting municipal efforts to reduce that risk.

While some states have responded accordingly and placed indefinite moratoriums on shale gas drilling (New York, Maryland), others (Pennsylvania, Texas, Colorado) have given operators broad access to lease private property for maximum production, relaxed standards and oversight, and provided administrative cover for myriad risks to public health. As mounting scientific evidence has revealed that shale gas development poses a serious risk to public health, policy makers have continued to ignore that evidence, **allowing business to continue as usual and further delaying health-protective action.**

Compressor station emissions made visible with a thermal imaging infrared (FLIR) camera. Photo courtesy of Earthworks.

RECOMMENDATIONS

In addition to specific recommendations made in other position statements, EHP urges policy makers to prioritize the following general policy actions to reflect a true public health approach to shale gas development:

1. **Adopt a health-protective approach to shale gas development.** Policy makers should halt or mitigate the risks to the community by preventing exposure to air and water contamination when there is uncertainty about its effects on residents, especially children, pregnant women, the elderly, and those with existing health conditions. Primary consideration should be given to the people living within proximity to any shale gas facility, ensuring they are not exposed to levels of emissions harmful to themselves or their families.

2. **Shift the burden of proof to industry and away from residents.** Government agencies should require shale gas companies to disclose expected emissions to the public and to install monitoring equipment—the data from which should be made publicly available—to ensure that degradation of industry systems do not risk public health over time. Agencies should establish such monitors and compliance of standards before granting permits. Further, agencies should appropriately classify waste streams based on the toxics they contain. All waste must be tracked from cradle to grave and disposed in a fashion that prevents exposure to residents. Once operational, any company failing to comply with regulations and standards should lose its permits to operate.

3. **Increase public participation in health decision-making.** People who live in proximity to shale gas development should be involved in decisions that affect their own health. This is especially true of those in underserved and underrepresented areas. Government agencies should develop and maintain open channels of communication that allow residents to easily and without threat of retaliation share health information and harms related to shale gas development. Departments of health should actively warn residents of the risks they face and provide advice to them and to physicians for how they can best protect themselves and others from exposure. Departments of environmental protection should notify communities of any substantive changes to existing permits or permit applications, as well as any industry violations, so that residents and communities can better manage the associated health risks.

4. **Fully fund and staff government agencies that protect public health.** State departments of health and environmental protection should be adequately supported so that they can investigate and monitor the entire shale gas development process, from site preparation through waste treatment and sequestration. Relying on industry to self-report emissions, waste, and health impacts does not provide adequate safeguards to public health.

5. **Work toward a quick and just transition away from fossil fuels and toward renewable energies.** Policy makers should take into account global and local health impacts, economic priorities, and environmental justice issues when making policy regarding shale gas development. Fossil fuel extraction, transportation, processing, and consumption hastens the warming of the planet and exposes local residents and their families to numerous serious and documented health risks (see "Impacts" below). In addition to examining economic and social factors, a consideration of health impacts is central to any policy decision, especially when underserved and underrepresented communities are involved.

Our recommendations do not leave residents risk-free, but they do reflect remedies that would help to keep residents significantly safer from environmental exposure to shale gas emissions and waste than they are under current regulations and practices.

IMPACTS

More than two dozen peer-reviewed epidemiological studies,[2] and hundreds of other investigations and first-hand accounts,[3] have shown that **shale gas development correlates with poor health outcomes** in people living in proximity to such infrastructure.

Air emissions from shale gas sites contain levels of particulate matter high enough to create health hazards. Emissions also may release toxic substances, including formaldehyde and per- and polyfluoroalkyl substances (PFAS), and volatile organic compounds (VOCs), such as benzene and toluene.

Recent studies have shown that the radioactivity of airborne particles increases significantly downwind of shale gas sites.[4] Further, methane—the primary component of shale gas—is responsible for 25% of human-produced warming. Higher temperatures make smog worse, increase heat-related deaths, and spawn more natural disasters and insect-borne diseases.

Peer-reviewed studies indicate that **health impacts increase the closer one is to shale gas facilities.** These studies show:

- Worsening asthma symptoms are linked to nearness of shale gas facilities.[5]
- Symptoms that include headaches, fatigue, upper and lower respiratory complaints, and skin rashes have been reported near well pads.[6,7]
- Babies born to mothers living less than a mile from wells were 25% more likely to be born with low birth weights,[8] which may lead to serious future consequences in growth and development, including asthma, intellectual and developmental disabilities, obesity, and infant mortality.
- An increasing number of babies have been born with congenital heart defects and possibly neural tube defects, impacts dependent on both the number of wells in the vicinity and the distance from the wells to mothers' homes.[9]
- Hospitalizations for heart failure are significantly higher in areas impacted by shale gas development.[10]
- Stress, anxiety, depression, and other mental health symptoms increase the closer one is to shale gas development.[11]

Health impacts from shale gas development are very real. The research has been done. Now is the time to act to protect public health.

ABOUT THE ENVIRONMENTAL HEALTH PROJECT

The **Environmental Health Project (EHP)** is a nonprofit public health organization that defends public health in the face of oil and gas development. We engage diverse stakeholders: health professionals, researchers, community organizers, policy makers, and others.

Since 2012, EHP has been collecting health data, monitoring emissions, analyzing research, and providing educational materials in areas across the nation and the world where shale gas development has posed health risks for local residents. EHP's team includes public health and community service professionals, data scientists, physicians, and educators, who are available to advocate for and assist frontline communities to better protect themselves from the health harms associated with shale gas development.

Photo courtesy of FracTracker Alliance.

[1] FracTracker Alliance, 2017 Update on U.S. Oil & Gas Activity (accessed online 7/20/21), https://www.fractracker.org/map/national/us-oil-gas/

[2] Southwest Pennsylvania Environmental Health Project (2020). Health Outcomes Associated with Exposure to Shale Gas Development from Peer-Reviewed Epidemiological Literature. https://www.environmentalhealthproject.org/sites/default/files/assets/resources/health-outcomes-associated-with-exposure-to-shale-gas-development.pdf

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