

EHP recommends increased setback distances from shale gas operations to protect public health and safety

SUMMARY STATEMENT

The current **setback distances** from shale gas operations are too close to protect the health and safety of residents living or working in proximity to them. They are also too close to safeguard the health of vulnerable populations like children, senior citizens, and people who have pre-existing health conditions.

DEFINITIONS

In this context, a *setback* is the **minimum distance an operator may legally site any shale gas facility from an occupied building**, such as a residence, school, workplace, or hospital. These shale gas facilities include wells, compressor stations (used to enable the flow of gas through pipelines), and gas processing plants. Note that pipelines, which are proven explosion risks, are not currently subject to any setback distances from an occupied building in Pennsylvania.

RECOMMENDATIONS

EHP recommends **increasing existing setback distances** in Pennsylvania to:

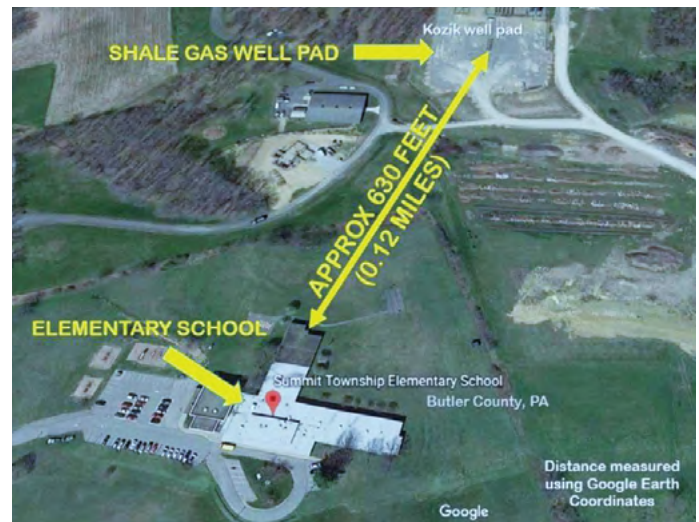
- **At least 0.6 miles (3,281 feet or 1 km) for smaller shale gas facilities**, such as wells and small compressor stations
- **At least 1.25 miles (6,600 feet or 2 km) for larger compressor stations** and processing plants
- **At least 1.25 miles (6,600 feet or 2 km) from schools, day care centers, nursing homes, health care facilities**, and other buildings that house vulnerable populations or are difficult to evacuate, regardless of facility type
- Setbacks for other infrastructure also should be considered
- Greater setback distances would protect more people from health impacts

BACKGROUND

Setback distances are regulated by Pennsylvania law (PA Title 58, Section 3304). **Currently, a well head can be sited as close as 500 feet from a building**, 750 feet for compressor stations and processing plants. Allowances for the distance to be as little as 300 feet for well pads apply in residential districts if the 500 feet restriction cannot be met. Municipalities have limited ability to regulate shale gas activities within their boundaries, which is why we need commonsense state-wide regulations created at the legislative or agency level to protect the health of residents.

IMPACTS

Research increasingly shows the human health impacts from shale gas facilities, which release dangerous emissions into the environment. Air emissions contain methane as well as toxic substances, including formaldehyde, and other 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.¹



Air currents carry the emissions away from facilities into surrounding homes and communities. In addition, methane is explosive. Toxic substances from shale gas operations can also enter water sources and settle in the soil.

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 facilities²
- Symptoms including **headaches, fatigue, upper and lower respiratory complaints, and skin rashes** have been reported near well pads^{3,4}
- Babies born to mothers living less than a mile from wells were **25% more likely to be born with low birth weights**,⁵ 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 nearby and the distance from the wells to mothers' homes
- **Stress, anxiety, depression, and other mental health symptoms** increase the closer one is to shale gas development⁶

Greater setback distances would be expected to reduce health impacts.

