Expanding Protective Buffers in Pennsylvania

Approximately 1.5 million Pennsylvanians live within 2,640 feet of oil and gas wells, compressors stations, and other infrastructure.[1] These impacted community members represent more than 1 in 10 Pennsylvanians.

Clean Air Council and the Environmental Integrity Project filed a **rulemaking petition** with Pennsylvania's Environmental Quality Board, recommending increased minimum setbacks to keep new fracking further away from our homes, schools, hospitals, and streams. **The Shapiro administration has the legal authority, scientific evidence, and public support needed to make these changes.**

Public health benefits of setbacks

Greater setback distances would be expected to reduce health impacts.[2] The greater the distance between fracking and an occupied building, the lower the risk of exposure to dangerous levels of pollution.

Hundreds of health studies and scores of other investigations confirm negative health outcomes[3] from fracking occur at distances well beyond our recommended setbacks. A trio of studies conducted by the University of Pittsburgh School of Public Health, at the request of the Pennsylvania Department of Health, identified an increased risk of **childhood lymphoma[4]** and **asthma attacks**[5] for those living near shale gas wells in the production phase.

Other research confirms that proximity to fracking operations results in health effects such as **asthma**[6], **upper respiratory symptoms**[7], **poor birth outcomes**[8,9,10], **cardiovascular conditions**[11,12], **cancer**[13,14], and **mental health symptoms**[15]. For example, upper respiratory symptoms are reported with 39% higher frequency by individuals living in households less than 3,280 feet from gas wells.[16] For pregnant individuals living in the same buffer zone, there was a 25% increase in the probability of having a child with a low birth weight.[17]

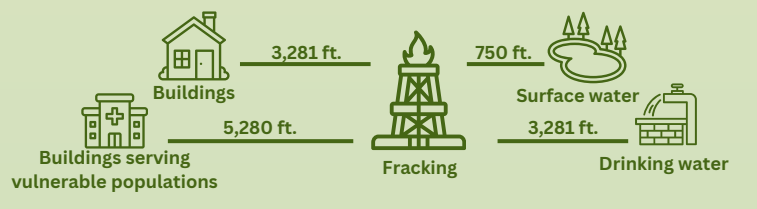
Proposed setbacks for new fracking in rulemaking petition

- **3,281 feet** from any **building**
- **5,280 feet** from any **building serving vulnerable populations** (e.g., hospitals)
- **3,281 feet** from any **drinking water wells**
- **750 feet** from any **surface water** of the Commonwealth

Protect health and natural resources

A **setback** is the minimum distance required between a specific use (e.g., shale gas well pad in this case) and an existing structure, boundary, natural resource, or any other area that needs protection.

Municipalities with zoning ordinances can establish setback standards for gas infrastructure. Bills (most recently SB 581 and HB 170) have also been proposed in the Pennsylvania Legislature, however none have advanced. A **statewide setback** around **homes**, **sensitive sites** such as schools and hospitals, and **streams** will better **protect health and natural resources** for all Pennsylvania residents.



Economics of protective setbacks

Overall, oil and gas jobs make up less than 1% of the state's total figure. And while fracking's exact economic footprint on Pennsylvania is not fully understood, due to a lack of research, there is evidence to suggest that the **benefits of fracking do not outweigh the costs.**

A 2019 analysis from Carnegie Mellon University reviewed the economic benefits from oil and gas, comparing the $21 billion revenue generated for the Appalachian region to the **$57 billion total cost arising from air quality and climate impacts**.

Setbacks in Pennsylvania

Act 13 of 2012 extended the setback distance for fracking wells from 200 ft. to 500 ft. from existing buildings or water wells and established a 1,000-ft. setback for any fracking well from water supplies used by a water purveyor, unless written consent is provided by the owner or purveyor.

“We were astonished to learn that the drilling set-back is no different even when it comes to sensitive sites, like a hospital, or an elementary school playground. It is the same 500 feet. We think the no-drill zone for schools and hospitals should be even bigger – 5,000 feet”

43rd Statewide Grand Jury report

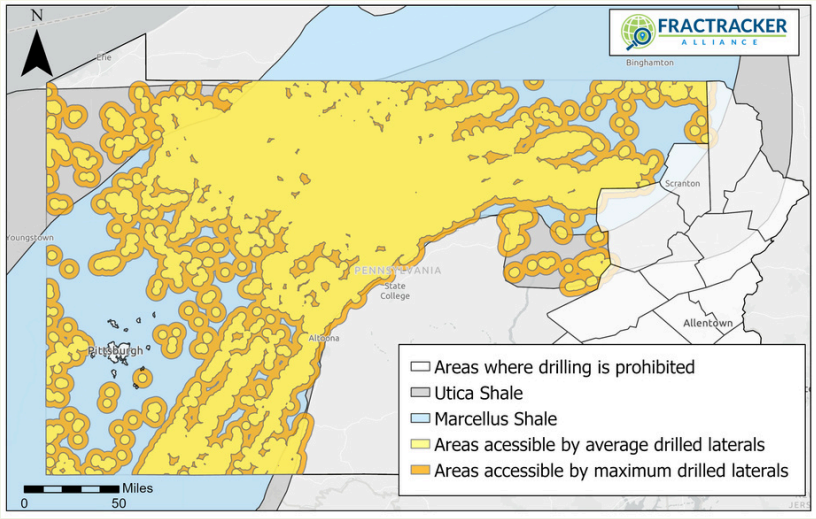
In June 2020, the Pennsylvania Attorney General Grand Jury issued a report that recommended a 2,500- foot setback between fracking and buildings and concluded that “the current 500 foot standard is woefully inadequate.” The report also advocated for even larger setbacks between fracking and sites that serve vulnerable populations.

Continued support for setbacks

A number of Pennsylvania municipalities have adopted strong setbacks between fracking and buildings as well as other protections that have similar effects.

- **Oakmont Borough** -- 2,000 ft. setback between fracking and any lot or parcel of ground located in residential zoning districts
- **Trafford Borough** - 2,500 ft. setback between drilling sites and any occupied structure, with some exceptions
- **Cecil Township** -- passed ordinance establishing 2,500 ft. setback from protected structures and a 5,000 ft. setback from schools and hospitals.

A recent poll from the Ohio River Valley Institute found that 9 in 10 Pennsylvanian voters support stricter regulations on fracking; 90% of voters support increased “setback” distances from schools and hospitals.[18]



This map estimates underground areas accessible to unconventional drillers using average (yellow) and maximum (orange) lateral length with a protective buffer of 3,281 feet. Expanding protective buffers would better protect the health of 3.6 million Pennsylvanians that live in regions overlying the Marcellus and Utica shale formations where unconventional drilling is possible while still allowing drillers to access millions of surface acres for new drilling permits with lateral underground development extending up to four miles from each well.

Endnotes

(1) FracTracker, 2023, Studies Reveal Health Impacts from Fracking in Pennsylvania
(2) McKenzie et al., 2012, Human health risk assessment of air emissions from development of unconventional natural gas resources
(3) Deziel et al., 2020, Unconventional oil and gas development and health outcomes: A scoping review of the epidemiological research
(4) Buchanich et al., 2023, Hydraulic Fracturing Epidemiology Research Studies: Childhood Cancer Case-Control Study
(5) Buchanich et al., 2023, Hydraulic Fracturing Epidemiology Research Studies: Asthma Outcomes
(6) Rasmussen et al., 2016, Association between unconventional natural gas development in the Marcellus Shale and asthma exacerbations
(7) Tustin et al., 2017, Associations between unconventional natural gas development and nasal and sinus, migraine headache, and fatigue symptoms in Pennsylvania
(8) Han et al., 2023, Associations between occurrence of birth defects and hydraulic fracturing activities in Barnett shale region, Texas
(9) Casey et al., 2016, Unconventional natural gas development and birth outcomes in Pennsylvania, USA
(10) McKenzie et al., 2014, Birth outcomes and maternal residential proximity to natural gas development in rural Colorado
(11) McKenzie et al., 2019, Relationships between indicators of cardiovascular disease and intensity of oil and natural gas activity in Northeastern Colorado.
(12) Jemielita et al., 2015, Unconventional gas and oil drilling is associated with increased hospital utilization rates
(13) Finkel, 2016, Shale gas development and cancer incidence in southwest Pennsylvania
(14) McKenzie et al., 2017, Childhood hematologic cancer and residential proximity to oil and gas development
(15) Resick et al., 2013, The meaning of health among mid-Appalachian women within the context of the environment
(16) Rabinowitz et al., 2015, Proximity to natural gas wells and reported health status: results of a household survey in Washington County, Pennsylvania
(17) Currie et al., 2017, Hydraulic fracturing and infant health: New evidence from Pennsylvania
(18) Ohio River Valley Institute, 2024, Pennsylvanians overwhelmingly support stricter regulations on fracking