



Orphan and abandoned wells are an environmental and public health threat in Pennsylvania. These wells have been left behind by fossil fuel extraction companies without proper decommissioning, usually due to failure to plug and clean up the well site. As a result, orphan and abandoned wells continue to leak harmful pollutants, including climate-warming methane and dangerous volatile organic compounds (VOCs) into the environment.

Pennsylvania's Department of Environmental Protection (DEP) estimates that among the wells drilled in the state since 1859, between 100,000 and 560,000 wells are not accounted for in official records.¹ This number continues to grow as more wells are abandoned each year. As of February 16, a total of 103 violations for conventional oil and gas well abandonment were issued by DEP so far this year. Wells continue to be abandoned despite efforts and funding made available to plug them, pointing to a more systemic issue. Lack of documentation makes it even more difficult to identify especially harmful wells, locate, and plug them.

Wells that leak pollutants unabated are particularly dangerous when they are located near where people live, work, and play. Methane is the primary component of gas and is one of the gasses leaked from abandoned wells. At high enough levels, methane exposure can harm humans by limiting the amount of oxygen available for breathing.² Methane can also contaminate groundwater and cause explosions.^{3,4} Other pollutants such as VOCs are also leaked alongside methane. Exposure to VOCs is associated with a plethora of negative health impacts. For example, benzene is a VOC and is a known human carcinogen. VOCs are linked to higher asthma incidence and exacerbation, leukemia, and poor birth outcomes.^{5,6} VOCs can also react with nitrogen oxides in the atmosphere to create ground-level ozone – or smog – which worsens asthma and irritates the airways and lungs.⁷

HealthFirstPA is a coalition of healthcare professionals, public health advocates, parents, and faith leaders working to raise awareness of the health impacts of air and water pollution as well as climate change threats. We support frontline communities whose health is directly impacted by environmental pollutants and advocate for policies that prioritize public health for Pennsylvania families – especially communities of color and low-income communities who are disproportionately impacted by pollution. We envision a world where all Pennsylvanians have equitable access to clean air, pristine water, and a stable climate in order to safeguard public health.

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<https://greenport.pa.gov/elibrary//PDFProvider.ashx?action=PDFStream&docID=1419023&chksum=&revision=0&docName=ABANDONED+AND+ORPHAN+OIL+AND+GAS+WELLS+AND+THE+WELL+PLUGGING+PROGRAM&nativeExt=pdf&PromptToSave=False&Size=411528&ViewerMode=2&overlay=0>

2 <https://www.ncbi.nlm.nih.gov/books/NBK208285/>

3 <https://extension.psu.edu/methane-gas-and-its-removal-from-water-wells>

4 <https://www.fractracker.org/2011/04/abandoned-well-suspected-in-mckean-county-explosion/>

5 <https://www.lung.org/blog/volatile-organic-compounds-at-home>

6 <https://www.ehn.org/fractured-harmful-chemicals-fracking-2650428324.html>

7 <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>



Our coalition has met regularly with DEP's Office of Oil and Gas Management to discuss our concerns about the health impacts of orphan and abandoned wells in Pennsylvania, to learn more about plans for use of Infrastructure Investment and Jobs Act (IIJA) funding, and to better understand the department's criteria for prioritizing wells to plug. We believe that IIJA funding has the potential to make a significant difference in the lives of communities impacted by pollution from abandoned wells. In tracking the department's use of funding thus far, we have been particularly encouraged by the proportion of wells plugged in Justice 40 communities.

At the same time, we believe the department can go much further in prioritizing the plugging of wells that have the greatest potential to impact public health and climate. As of March 19, 2024, only 6% of wells plugged thus far with IIJA funding had "environmental impacts" and only 12% had "human impacts" according to DEP metrics. HealthFirst PA believes the public would benefit from more transparency around the use of a scoring rubric for prioritization of well plugging. In our meetings with DEP prior to the initial release of IIJA funds, the department shared a scoring rubric that emphasized human health and environmental impacts. A shortlist of high priority wells had been developed at that time, and we would like to know what percentage of these wells have been plugged up to this point, and how many will be plugged over the next year. While we understand the value of bundling many wells into each contract, this cannot come at the expense of unmitigated public health harms.

Additionally, we would like to see the Shapiro administration and the state legislature take a proactive approach to preventing the abandonment of additional oil and gas wells in Pennsylvania. Bonding for conventional wells is currently set at \$2,500, while DEP estimates the actual cost of plugging to be approximately \$68,000, with more complicated wells costing far more to plug.^{8,9} Without proper financial assurance, operators will continue to walk away from wells when they are no longer profitable, leaving taxpayers to foot the bill for years to come. IIJA funding is a once-in-a-lifetime opportunity to begin plugging wells abandoned over more than a century of drilling in Pennsylvania, but it will not protect future generations from the impact of polluting wells abandoned today. Protecting the public health of the next generation of Pennsylvania's children will require a multi-pronged strategy, and we look forward to being partners in this work.

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<https://www.sierraclub.org/press-releases/2022/05/producing-reports-first-step-plug-pennsylvania-s-wells-address-environmental>

⁹ <https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2022&sessInd=0&act=96>