

New Report Highlights Radon Zone 1 Pennsylvania Risks for Homeowners

The Environmental Protection Agency has updated its radon risk mapping, placing large portions of the state in the highest risk category. Known as radon zone 1 Pennsylvania counties carry the greatest potential for elevated indoor radon levels, a concern that public health officials say demands immediate attention from homeowners and property buyers alike.

Radon is a naturally occurring radioactive gas that forms when uranium in soil, rock, and water breaks down. It is colorless, odorless, and tasteless, making detection impossible without specialized testing. The gas enters buildings through cracks in foundations, gaps around pipes, and other openings in the lower levels of structures. Once trapped indoors, prolonged exposure can increase the risk of lung cancer. The EPA estimates that radon causes thousands of deaths each year in the United States, making it a leading environmental health hazard.

Understanding the EPA Radon Zone Map

The EPA classifies counties into three zones based on predicted average indoor radon screening levels. Zone 1 represents the highest potential, with predicted average levels exceeding 4 picocuries per liter (pCi/L), the action level at which the agency recommends mitigation. Zone 2 indicates moderate potential, with predicted averages between 2 and 4 pCi/L. Zone 3 suggests low potential, with predicted averages below 2 pCi/L.

For homeowners in [radon zone 1 Pennsylvania](#) areas, the agency recommends testing all homes regardless of age or construction type. The map is based on a combination of indoor radon measurements, geology, soil characteristics, and housing factors. It serves as a guide for prioritizing testing and mitigation resources, not as a definitive predictor of radon levels in any single home.

Geographic Scope of Zone 1 in Pennsylvania

Pennsylvania contains more zone 1 counties than most states. The designation covers a broad swath of the commonwealth, including much of the southeastern, central, and western regions. Counties such as Berks, Chester, Delaware, Montgomery, and Philadelphia are all classified as zone 1. The zone extends northward through the Lehigh Valley and into parts of the Poconos, and westward across the central ridge and valley region.

The geology underlying these areas is dominated by granite, shale, limestone, and other uranium-bearing rocks. Glacial deposits and soil permeability also contribute to the radon potential. The Pennsylvania Department of Environmental Protection has published detailed

maps that break down radon risk by municipality, providing even finer-grained guidance for residents.

Why the Zone Designation Matters for Real Estate Transactions

In Pennsylvania, radon disclosure is not mandated by state law, but many buyers request radon test results as part of home inspections. A property located in radon zone 1 Pennsylvania may prompt a buyer to require testing before closing. Real estate agents and home inspectors increasingly advise clients in these high-risk areas to include radon testing as a contingency in purchase agreements.

Lenders and mortgage insurers have not, as a rule, required radon mitigation as a condition of financing. However, some local housing authorities and first-time homebuyer programs do ask for radon test results in zone 1 areas. For sellers, a pre-listing radon test can streamline the transaction by addressing concerns before they become negotiating points.

Testing Protocols and Mitigation Options

The EPA recommends that all homes in zone 1 be tested for radon. Short-term tests, which remain in place for two to 90 days, provide a quick snapshot of radon levels. Long-term tests, lasting more than 90 days, give a more accurate picture of year-round average concentrations. Test kits are available from hardware stores, online retailers, and state or county health departments.

If a test reveals levels at or above 4 pCi/L, mitigation is advised. Common mitigation techniques include sub-slab depressurization, which uses a fan and piping system to draw radon from beneath the foundation and vent it outside. Sealing cracks and openings in the foundation is a complementary step but is not sufficient alone to reduce high levels. Other methods include block wall depressurization and the installation of heat recovery ventilators.

Mitigation costs vary depending on the size of the home, the construction type, and the severity of the radon problem. Typical residential mitigation projects in Pennsylvania range from several hundred to a few thousand dollars. Many contractors offer initial testing and consultation at no charge. The Pennsylvania Department of Environmental Protection maintains a list of certified radon mitigators who have passed state-approved training and testing.

Public Health Guidance for Schools and Workplaces

Radon risks are not limited to private homes. Schools, daycare centers, and workplaces located in radon zone 1 Pennsylvania are also encouraged to test. The EPA recommends radon testing in schools as part of a broader indoor air quality program. Several Pennsylvania school

districts have undertaken voluntary testing and mitigation in recent years, and some have adopted radon-resistant construction standards for new buildings.

Employers in zone 1 counties who operate ground-floor or basement workspaces should consider testing. Occupational Safety and Health Administration does not have a specific standard for radon in general industry, but the agency does recognize the EPA action level as a benchmark for employee safety. Building owners who test and mitigate demonstrate due diligence in protecting occupants.

New Construction and Radon-Resistant Design

For new homes built in radon zone 1 Pennsylvania, builders can incorporate radon-resistant features during construction at relatively low cost. Techniques include installing a gas-permeable layer of gravel beneath the foundation, placing a vapor barrier over that layer, and running a vent pipe from the gravel layer through the roof. These passive systems can be activated later with a fan if testing shows elevated levels.

The International Residential Code, which Pennsylvania has adopted in various editions, includes radon-resistant construction requirements for zone 1 areas. Builders and code officials in the state are expected to follow these provisions. Homebuyers purchasing newly constructed homes in zone 1 should ask the builder whether radon-resistant features were installed and request documentation of compliance with local building codes.

State and Local Resources for Residents

The Pennsylvania Department of Environmental Protection operates a radon program that provides free test kits to residents of certain counties, conducts research, and offers public education. The department also issues guidance on how to interpret test results and select a qualified mitigator. County health departments in high-risk areas sometimes supplement these services with local outreach programs.

Nonprofit organizations such as the American Lung Association have advocated for expanded radon testing and mitigation in Pennsylvania. The association has called on state lawmakers to require radon testing in schools and to provide financial assistance for low-income homeowners to mitigate their homes. Legislation has been introduced in past sessions but has not yet passed both chambers.

Conclusion: Awareness and Action

For anyone living, working, or buying property in radon zone 1 Pennsylvania, testing is the first and most important step. The risk is measurable and manageable, but only if homeowners and occupants take action. With the updated EPA map now available, residents can check their

county designation and begin the testing process. The cost of a test kit is modest compared to the potential health benefits of knowing and addressing radon levels.

Public health officials emphasize that radon exposure is preventable. The science is clear, the mitigation methods are proven, and the resources are available. The remaining challenge is awareness. By spreading the word about radon zone 1 Pennsylvania designations and the importance of testing, communities can reduce the health burden of this silent hazard.