

New Guidance on Mitigation for High Radon Levels in Homes

New guidance published by public health authorities outlines recommended steps for mitigation for high radon levels in residential properties. The measures aim to reduce long-term exposure to the radioactive gas, which is the second leading cause of lung cancer after smoking.

Radon is a naturally occurring gas that seeps into buildings from the ground. It is colourless and odourless, making detection impossible without specialised testing. The new guidance consolidates research from environmental agencies and building science institutes into a single reference for homeowners and contractors.

When Mitigation Becomes Necessary

Health authorities recommend action when radon concentrations exceed 200 becquerels per cubic metre (Bq/m³). At this threshold, the risk of lung cancer over a lifetime becomes statistically significant. The guidance stresses that any home can have elevated radon, regardless of age or location. Testing is the only reliable way to know.

Short-term tests, which last from two to seven days, provide a preliminary reading. Long-term tests of three months or more give a more accurate annual average. If the result is above the threshold, [mitigation for high radon](#) is the next logical step.

Key Mitigation Methods

The guidance describes several proven techniques, each suited to different house types and foundation designs.

- Sub-slab depressurisation: A pipe system draws radon from beneath the concrete floor and vents it above the roofline. This is the most common method for houses with basements or slab-on-grade foundations.
- Sub-membrane depressurisation: Used in crawl spaces. A plastic membrane covers the soil, and a fan pulls radon from under the membrane.
- Sealing cracks and openings: Caulking gaps around pipes, drains, and foundation joints reduces radon entry points. This method works best alongside active ventilation.
- Positive pressurisation: A fan blows fresh air into the house, raising indoor air pressure to keep soil gases from seeping in.

- Heat recovery ventilation (HRV): An HRV system exchanges stale indoor air for fresh outdoor air while conserving energy, which dilutes radon levels.

Each method has installation costs and ongoing energy implications. The guidance recommends consulting a certified radon professional to select the right system for a given building.

Steps for Homeowners

The first step is to test the home. Test kits are available at hardware stores or through local health departments. Mail the kit to a laboratory after the test period ends. Results typically arrive within two weeks.

If the result is between 200 and 600 Bq/m³, the guidance recommends completing mitigation for high radon within two years. For readings above 600 Bq/m³, action should be taken within one year. The timeline reflects the cumulative nature of radon risk.

After installation, the system should be tested again to confirm that levels have dropped below the threshold. Periodic retesting every two years is advised, as soil conditions and house settlement can change over time.

Professional Standards and Certification

The guidance emphasises the importance of using certified professionals for installation. In many regions, radon mitigation contractors must hold a certification from a recognised body such as the National Radon Proficiency Program or the Canadian National Radon Proficiency Program. These certifications verify that the contractor has passed exams and follows industry standards.

Homeowners are encouraged to ask for proof of certification and to obtain a written contract that specifies the work to be done, the materials used, and a guarantee that the system will reduce radon levels below 200 Bq/m³.

Uncertified work can leave the problem unsolved or even worsen indoor air quality by creating negative pressure that draws in more radon. Proper installation is critical for effective mitigation for high radon.

Building Codes and New Construction

Many jurisdictions have updated building codes to require radon-resistant features in new homes. These include a layer of gravel under the slab, a vapour barrier, a sealed sump or pipe stub for future fan installation, and airtight sealing of all foundation penetrations. These

passive measures cost very little if installed during construction and can be activated later if radon is found.

Retrofit mitigation is more expensive, but the cost is modest compared to the health benefit. Typical installation costs range from a few hundred to a few thousand dollars, depending on the method and house design. Some governments offer financial assistance or low-interest loans for radon mitigation.

Health Impact and Public Awareness

Lung cancer from radon exposure is preventable. The World Health Organization estimates that radon causes between 3% and 14% of all lung cancers, depending on the national average radon level and smoking prevalence. Smoking combined with radon exposure multiplies the risk dramatically.

Public awareness campaigns and free or low-cost test kit programs have increased testing rates in recent years, but many homes remain untested. The new guidance aims to close that gap by providing clear, actionable information to a broader audience.

Local health departments and environmental agencies are distributing the guidance through their websites, social media channels, and partnerships with real estate agents and home inspection services. The goal is to make radon awareness part of routine home maintenance.

Limitations of the Guidance

The guidance does not cover every building scenario. High-rise apartments, for example, rarely have radon problems because the gas is diluted over many floors. Mobile homes and houses with very unusual foundations may need custom solutions not described in the general document. In those cases, a certified professional should be consulted directly.

Also, the guidance does not address waterborne radon, which can occur in homes using private well water. A separate set of recommendations covers aeration or charcoal filtration for well water systems. Homeowners on municipal water do not face this issue because water treatment plants remove radon before distribution.

Despite these limitations, the guidance provides a strong starting point for any homeowner or contractor looking to understand and address radon risks. The key message is straightforward: test your home, and if the level is high, take action promptly.