

TO BETTER KNOW YOUR COUNTY

FAQs About Calvert's Environment

Formed in 1975, the Calvert County Environmental Commission (EC) is a volunteer advisory committee charged to make recommendations, after thorough study and deliberation, to the Board of County Commissioners (BOCC) on matters pertaining to the environment of Calvert County. The EC's arena of activities includes, but is not limited to, water resources, biodiversity, sustainability, aesthetic impacts, socio-economic impacts, and the general health and welfare of county residents. Knowledgeable residents can help the EC gather information on environmental issues and make more informed recommendations to the BOCC. These Frequently Asked Questions (FAQs) and answers were developed by the EC to help educate county residents. This list of FAQs will be expanded and updated as needed. If you have a question on this topic that doesn't appear below, go to the "Can I Ask A Question?" section at the end of this FAQs list and submit your question(s).

RADON

1. Are there any indoor air quality issues I should know about?

Yes. Radon gas is a potential problem in the lower levels of some homes. There are instances when radon gas can also be found in upper levels if the house or an addition is built on a concrete slab.

2. What is radon?

Radon is gas that you cannot see, smell, or taste that can seep into homes and other buildings from underlying soils and bedrock upon which they are built. Radon levels are low outdoors and not a health problem because the gas is diluted, but indoor levels can build up because houses act like chimneys. As the air in the house warms, it rises and creates a small suction at the lowest level, like a basement, which pulls the radon out of the soil and into the house.

3. Why can radon be an important indoor air quality problem?

Radon (isotope-222) has been linked to an increased risk of lung cancer. Radon exposure is estimated to cause thousands of lung cancer deaths in the U.S. each year. The Surgeon General has warned that radon inhalation (not ingestion of radon in well water) is the second leading cause of lung cancer, behind smoking, in the U.S. today. When radon decays, it shoots off alpha particles that can alter the way lung cells reproduce. Basements and first floors

typically have the highest radon levels because of their closeness to the ground. Radon-222 adheres to surfaces and dust particles, so airborne concentrations tend to be higher in dusty areas with cigarette smoke. The longer you and your family are exposed to airborne radon, the greater the risk of having lung cancer. If you smoke and your home has elevated levels, your risk of lung cancer is especially high. Families with a hereditary predisposition to cancer should be more concerned about exposure to radon than families who don't have a history of cancer.

4. Is airborne radon found in Maryland and Calvert County?

Yes, airborne radon is found everywhere in Maryland, including Calvert County. Basements and first floors typically have the highest radon levels. According to data available on airborne radon levels, 37.5% of Calvert County homes and other buildings tested had radon gas levels above 4 pCi/L (picoCuries per liter of air), a threshold for taking mitigative action (<https://www.radon.com/maps/>). The amount of radon at any location varies due to the soil and underlying rock formations, so radon levels in your neighbor's basement may be higher or lower than radon levels in your basement.

5. How can I find out if I have airborne radon in my home and my family may be at risk?

A simple and inexpensive radon test kit certified by NRPP (National Radon Proficiency Program) or NRSB (National Radon Safety Board) can be purchased at most hardware stores, home improvement centers, and on-line. A short-term test kit requires a 3 to 90-day exposure period. Carefully follow the directions that come with the test kit. At the end of the prescribed test period, seal the test kit immediately, record the information requested by the vendor, and mail it to the testing lab. The purchase price of \$10-\$30 per kit usually includes the lab analysis but not postage to mail the kit to the vendor to be analyzed. If these test results show the radon levels in your basement or first floor are less than 2 pCi/L, no further testing or other actions are needed. If later your home or building foundation develops cracks, this test should be repeated to assure a safe level.

The results of a short-term radon test will tell you if an additional long-term test (greater than 90 days and usually 6-12 months) should be done to confirm an elevated radon gas level in your home. If the second test also yields elevated radon gas levels, mitigation (a process to reduce radon levels in your home) is needed. If the radon test results are above 2 pCi/L but less than 4 pCi/L (EPA's Action level for mitigation at this time), a second long-term radon test is recommended to confirm radon levels are below the action level. If any of the tests show

concentrations greater than 4 pCi/L, mitigation is recommended to reduce airborne radon to safer levels.

6. How can I fix my home if it has elevated radon levels?

The primary method of radon mitigation (reduction) involves installation of an active soil depressurization (ASD) system. An ASD system removes radon gas from the soil beneath a house's foundation (basement, slab-on-grade, crawl space). The system includes a 3-4 inch diameter PVC vent pipe, a continuously-running suction fan, and a system indicator. A credentialed (by the American Association of Radon Scientist & Technologist, AARST) and licensed (by the Maryland Home Improvement Commission, MHIC) radon mitigation contractor (go to: www.mde.state.md.us under the "Air" tab, then "Radiological Health", and then "Radon") should provide a guarantee that the ASD system will reduce radon gas levels in your home to below the EPA Action Level of 4 pCi/L and also conduct a 2-7 day test soon after installation of the ASD system to confirm lowered radon levels. The ASD system should have a warning device to indicate when it is not operating properly. Depending upon the size and construction features of your home or business's basement or first floor, installation of the ASD system may cost about \$800 to \$2500.

7. Can radon also be present in my well water?

Possibly. If you are concerned about radon in your well water, have the water tested. Because groundwater is the only source of potable water for Calvert County residents, exposure to airborne radon could come from the volatilization (vaporizing) of radon in groundwater. Because radon volatilizes rapidly when exposed to air, significant amounts of airborne radon can escape when well water is used for showering, doing laundry, and washing dishes. Volatilized radon will then be released into the air, elevate indoor radon levels, and be inhaled.

If your well water has elevated radon levels, it can be fixed. Point-of-entry treatment can effectively remove radon from well water before it enters your home. Point-of-use treatment devices can remove radon from your well water at a specific tap, but only from that tap. To learn more about dealing with radon in well water, call the Environmental Health Helpline at the Maryland Department of Health (1-866-703-3266).

8. Where can I get more information about radon?

Check these links and hotlines:

<https://www.radon.com/maps>

<https://www.epa.gov/radon>

<https://extension.umd.edu/healthy-environments/radon>

<https://www.epa.gov/radon/find-information-about-local-radon-zones-and-state-contact-information>

<https://maps.health.maryland.gov/phpa/eh/radon/>

http://www.mgs.md.gov/reports/RI_60.pdf

<https://www.atsdr.cdc.gov/csem/radon/radon.pdf>

www.kansasradonprogram.org

<https://phpa.health.maryland.gov/OEHFP/EH/Pages/Radon.aspx>

<http://www.epa.gov/radon/pubs/citguide.html>

[National Radon Hotline \(1-800-767-7236\)](#) and [National Radon Fix-It Line \(1-800-644-6999\)](#)

Can I Ask a Question?

Can't find the answers to other related questions you may have on Radon? Ask the Environmental Commission by sending an email to Will Hager at Will.Hager@calvertcountymd.gov. Please include your name and email address along with your question(s). We will do our best to answer your question(s) in a timely manner. We may even add them to this FAQs list.