

RADON AND LOCAL GOVERNMENT: Getting Started on Action

HEALTHY
INDOOR
ENVIRONMENTS
PROGRAM



What Is Radon Gas?

Radon occurs naturally when uranium breaks down in rock and soil. It is an invisible, odourless and tasteless gas.

When radon leaves the ground it is usually diluted in air and is relatively harmless. However, radon can seep into people's homes through small cracks and openings where the building contacts the soil. In some homes it can accumulate in higher concentrations, posing a health risk.

About 7% of homes in Canada have radon over the National Radon Guideline of 200 Bq/m³. In some communities in British Columbia more than half of homes have high radon. Radon testing is easy and techniques to lower radon levels are effective and can save lives.

Radon and Human Health

Radon is naturally occurring radiation and when breathed in it can cause lung cancer. Radon gas is the #1 cause of lung cancer in non-smokers. High radon causes approximately 3,360 deaths per year in Canada. Health Canada research estimates that with lifetime exposure at 800 Bq/m³, the lifetime lung cancer risk would be one in 20 for non-smokers, and one in three for smokers.

For radon test results between 200 and 600 Bq/m³, Health Canada recommends taking steps to reduce the radon level within two years. If results are greater than 600 Bq/m³, Health Canada recommends to reduce the level within one year.

Avoiding High Radon

For testing homes, best practice involves placing long-term 'alpha tracker' test kits in the lowest inhabited rooms for 91 days. These hockey-puck sized units are available at leading retailers or from the British Columbia Lung Association at our [website](https://www.bc.lung.ca), by email: info@bc.lung.ca, or by phone: 604.731.LUNG (5864).

Elevated radon can be avoided in new construction through putting in a radon mitigation system. The best systems use "sub-slab depressurization". A hole in the building foundation and a vent pipe ensures low pressure on the ground floor does not result in radon being sucked into the space. Best practices in radon mitigation are described in Canadian General Standards Board (CGSB) [Radon control options for new construction in low-rise residential buildings, CAN/CGSB-149.11-2019](https://www.cgsb.ca/en/standards/149.11-2019)

The BC Building Code has provisions for radon prevention in select municipalities, mostly east of the Coast Mountains (s. 9.13.4).

In older homes, if the radon reading turns out to be higher than 200 Bq/m³, professional radon mitigators can put a system in place in one or two days. The [Canadian National Radon Proficiency Program](#) (C-NRPP) has lists of certified radon mitigation professionals by community.

What Local Governments Can Do

BC has provisions for new construction in the BC Building Code, 2018, but there are still many gaps in coverage. Local governments can adopt policies, pass bylaws and offer subsidies and incentives that will help reduce radon exposure.

Municipalities can begin by promoting awareness on websites, conducting Community Testing Initiatives to learn radon prevalence in their area, ensure local libraries have radon detectors and subsidize low cost radon test kits. They can test their own buildings and social housing.

There are ample opportunities to address radon in Standards of Maintenance Bylaws and business bylaws. Energy retrofits can increase radon levels and efficiency programs need to be coupled with radon action.

In the 1990s many BC municipalities introduced new bylaws on smoking, and addressing radon is the next logical step in protecting lung health.

Why Should Local Governments Care?

Local governments care for the health of their citizens and want to do what they can to save lives. Radon action can fit into broader municipal planning and is a natural addendum to sustainability plans and healthy community strategies.

Addressing radon is also a way local governments can avoid liability that they may face as landlords, employers, owners and operators of buildings and in the building inspection process.

Working with the Healthy Indoor Environments Program

The British Columbia Lung Association has worked with Health Canada on creating Radon Action Guides for Municipalities. These include documents on ***Justifying Radon Action*** and ***Radon Action in Municipal Law: Legal Powers of Cities and Towns in Canada*** to take action on radon.

The British Columbia Lung Association has also produced a more detailed report, ***Radon and Local Government: Municipal Law Powers in BC***, [available on our website](#).

Our project on local government action includes working closely with governments in BC that want to move from learning about the Guides to more concrete implementation. We can help, whether its too take initial steps to address radon or build radon action plans.

Please contact Dr. Noah Quastel, Director of Law and Policy, Healthy Indoor Environments, at nquastel@bc.lung.ca , phone 778 709 4496.

Funding for this project has been made possible by

