RADON – What You Need to Know

Radiation Protection Bureau
Health Canada
November 2016
WHAT IS RADON

• Radon is a radioactive gas that is produced naturally by the breakdown of uranium in the ground.

• Radon represents almost 50% of a person's lifetime radiation exposure.

• All homes have some level of radon (unless they are on stilts or in a tree) - the question is how much and the only way to know is to test.

• If the radon level in your home is high, it can be fixed!
Revised guideline introduced in 2007:

“Remedial measures should be undertaken in a dwelling whenever the average annual radon concentration exceeds 200 Bq/m$^3$ in the normal occupancy area”

“Dwelling” includes residential homes, and buildings with a high public occupancy rate such as schools, hospitals, long-term care residences, and correctional facilities

Normal Occupancy = Occupied for greater than 4 hours per day
HOW RADON ENTERS A HOUSE

• Any cracks, openings or gaps in foundation walls or floors provide route(s) of entry into home

• The air pressure inside a house is normally lower than the pressure underneath or around the foundation

• This difference in pressure acts like a vacuum drawing radon in through foundation cracks and other openings

• Once inside the home, radon can build up to dangerous levels

Image: Courtesy of the Department of Natural Resources Canada
WHAT ARE THE HEALTH RISKS

- Radon is the 2\textsuperscript{nd} leading cause of lung cancer after smoking
- The only known health effect associated to long term radon exposure is an increased risk of developing lung cancer

- Smokers also exposed to high levels of radon have a significantly increased risk of developing lung cancer
RADON EXPOSURE RISK COMPARISON

*All accidental deaths includes motor vehicle accidents, drownings, falls, fires and more*
Two options

1. Hire a certified radon measurement professional
2. Purchase a do-it-yourself test kit

- Homes should be tested using long-term test device for a minimum of 3 months.
- If the radon level is above the Canadian Guideline level of 200Bq/m³ take action to reduce

www.TakeActiononRadon.ca/test
Indoor radon levels vary greatly, even over a 24 hour period. Several factors including building design, building condition, occupancy pattern etc. influence radon levels in a house. Two houses built side-by-side can have different indoor radon levels. So, measurements gathered over a longer period of time will provide a better estimate of the annual average exposure.
HOW TO REDUCE RADON LEVELS

• If the radon level is found to be high, it can be fixed at a reasonable cost.

• Hire a certified radon mitigation professional to help you find the best way to reduce the radon level in your home.

To find a certified mitigation professional go to:

www.c-nrpp.ca
www.TakeActiononRadon.ca/reduce
WHAT IS HEALTH CANADA DOING ABOUT RADON?
NATIONAL RADON PROGRAM

- National Radon Lab
- Radon Testing Project
- Database & Mapping
- Radon Research
- Education & Public Awareness
NATIONAL RADON PROGRAM

• Highlights:

• Federal Building Testing Program – More than 20,000 buildings tested

• Cross Canada residential radon testing project – ~18,000 homes
  • 95% of the Health Regions that participated had homes that tested above the Canadian guideline of 200 Bq/m$^3$
  • ~7% of Canadian homes exceed the Canadian guideline

• New 2010 National Building Codes for protection against radon ingress

• Development of a Canadian Certification Program C-NRPP

• Radon research in testing, mitigation techniques, granite and building materials to support program, policy and public guidance

• Extensive radon education and awareness programs across the country
2016 RADON OUTREACH PROGRAM

• Launch of 4th annual Radon Action Month
  November 2016 -  http://www.takeactiononradon.ca/
• Radon PSA campaign with Mike Homes and Mike Holmes Jr.
• Promotion of the radon accredited on-line continuing medical education (CME) course for health care professionals

• Canadian Real Estate Association -  co-branded radon publication, blog
• Promotion of the 3 Point Home Safety Checklist campaign and recruitment of radon leaders / champions in the childcare sector
• Pro-active engagement with Provinces and Territories
• Promotion and distribution of radon outreach materials
2016 RADON OUTREACH PROGRAM

- Radon outreach through Canada Post’s SmartMoves program to 600,000 + homeowners annually
- Distribution of Radon: Another Reason to Quit fact sheet - 500+ pads of factsheets sent out to doctors office each month across Canada
- Pro-active radon outreach campaign in the fall / winter
- Events and conferences: Health Canada attendance at home shows, health care, real estate and home builders events across the country promoting radon testing and reduction, building codes and the Canadian National Radon Proficiency Program

Available Reports and Publications

www.healthcanada.gc.ca/radon
www.santecanada.gc.ca/radon

TAKE ACTION ON RADON

Radon-related Lung Cancer 16%
Second Leading Cause of Lung Cancer
7% of homes in Canada have high radon
All homes should be tested

You can’t see it, smell it or taste it in your home, but it is there, it is in the air.

Radon Gas: A Simple Test Can Save Your Family

A simple test can save your family from lung cancer caused by radon gas in your home.