Environmental Protection Agency
An Ghníomhaireacht um Chaomhnú Comhshaoil

Radon Gas – A Workplace Carcinogen

The Air We Work In: Protecting Workers from Respirable Carcinogens

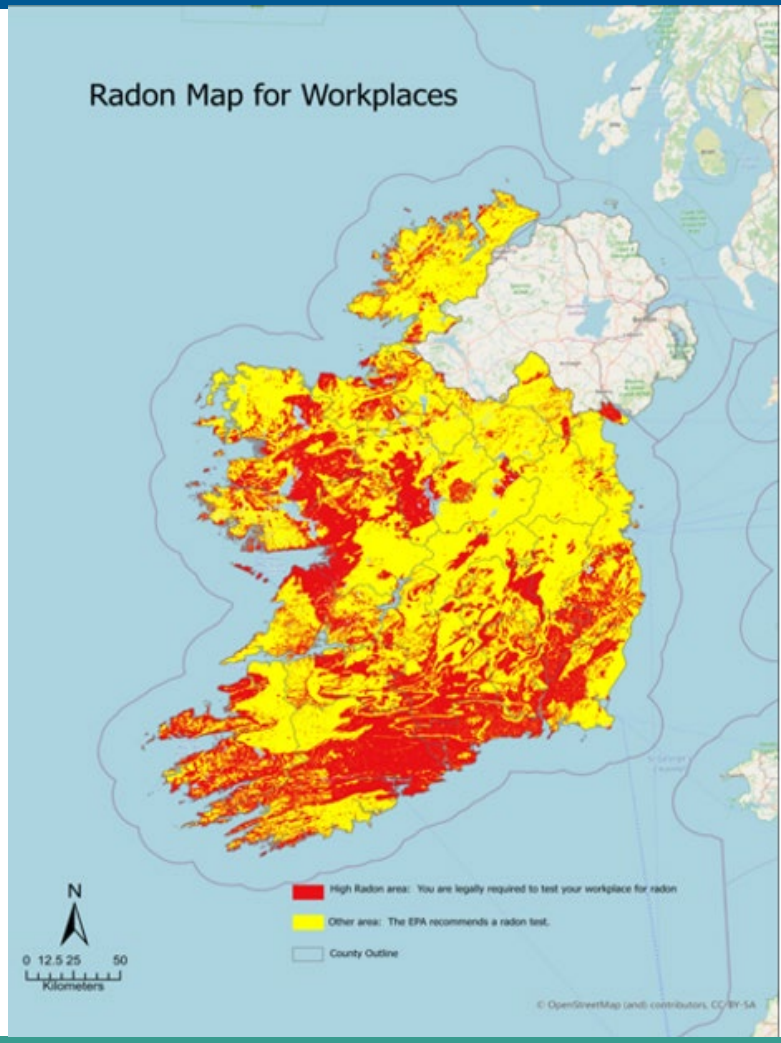
Alison Dowdall, Environmental Protection Agency

28 – 29 October, 2026

Why is Radon a concern?

Radon gas causes about 350 lung cancer cases every year in Ireland

- About one third of the country is designated a High Radon Area
- Legal requirements regarding radon include:
  - Governments National Radon Control Strategy
  - Employers workplace requirements



Radon legislation and EU presidency

2013	Ireland hold EU presidency Key output - EU Basic Safety Standards Directive for protection against the dangers arising from exposure to ionising radiation
2019	BSS transposed into Irish law - S.I. 30 of 2019 National Radon Control Strategy Radon in workplace requirements
2026	Ireland hold EU presidency Carcinogens Conference 2026- The Air We Work In: Protecting Workers from Respirable Carcinogens

eu2013.ie

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Ireland's National Radon Control Strategy (NRCS)

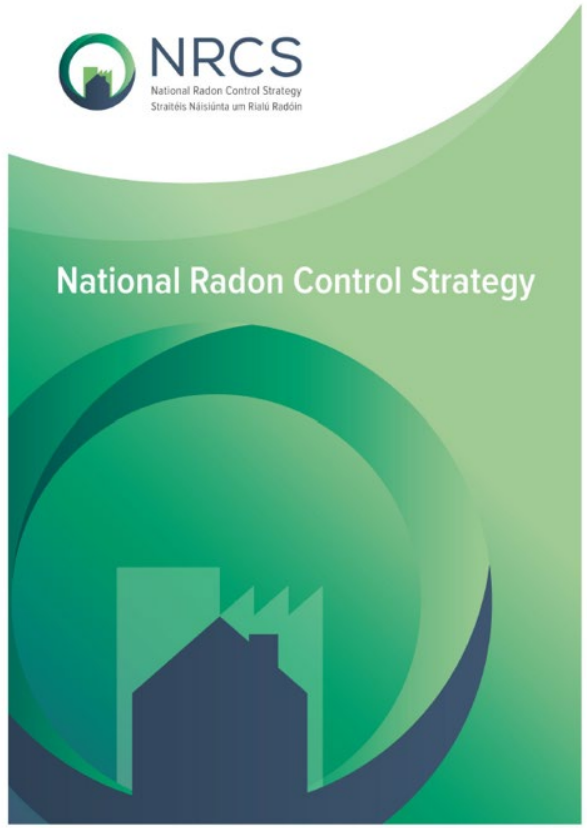
Aim: To minimise the exposure to radon gas for people in Ireland and to reduce to the greatest extent practicable the incidence of radon related lung cancers.

- Led by Department of Climate, Energy and Environment
- Cross government/agency co-ordination group to implement and track strategy actions



National Radon Control Strategy
Thematic areas

- Actions under five thematic areas:
  - (1) Radon prevention in new buildings
  - (2) Use of property transactions to drive action on radon
  - (3) Communications and advocacy
  - (4) Promoting confidence in radon services
  - (5) Radon in workplaces and public buildings



What is Radon?

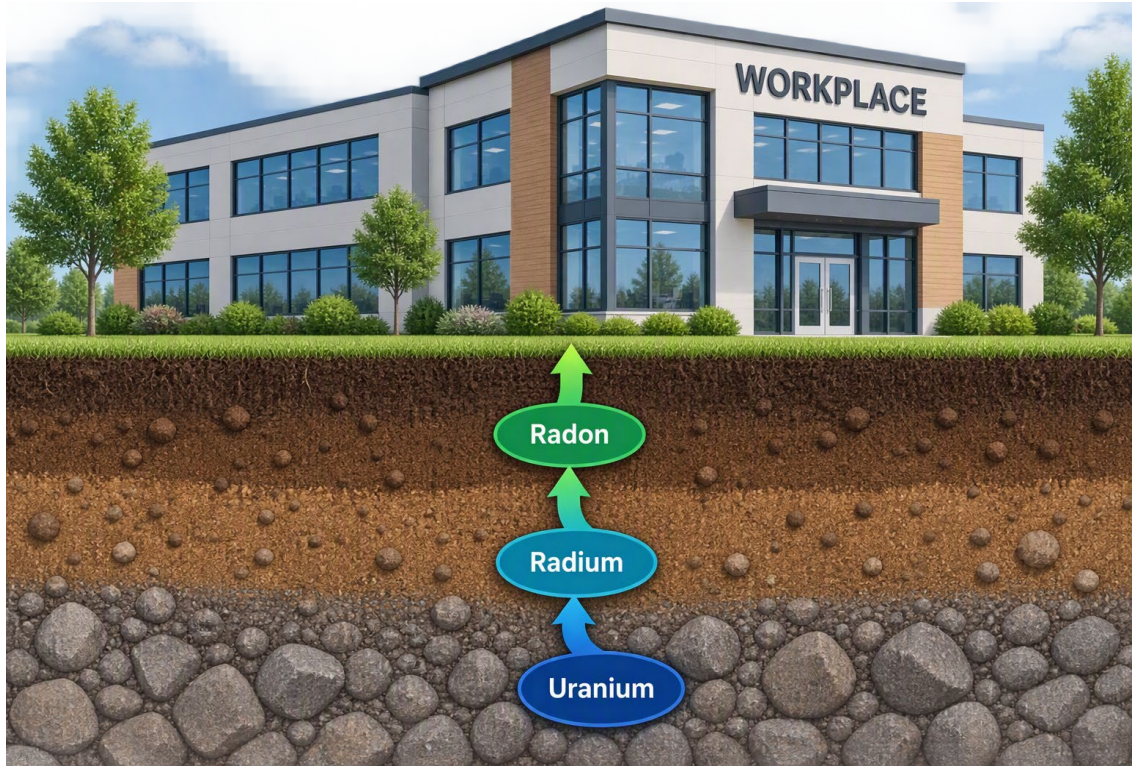
Radioactive gas produced in the ground

Accumulates in enclosed spaces, frequently to high concentrations

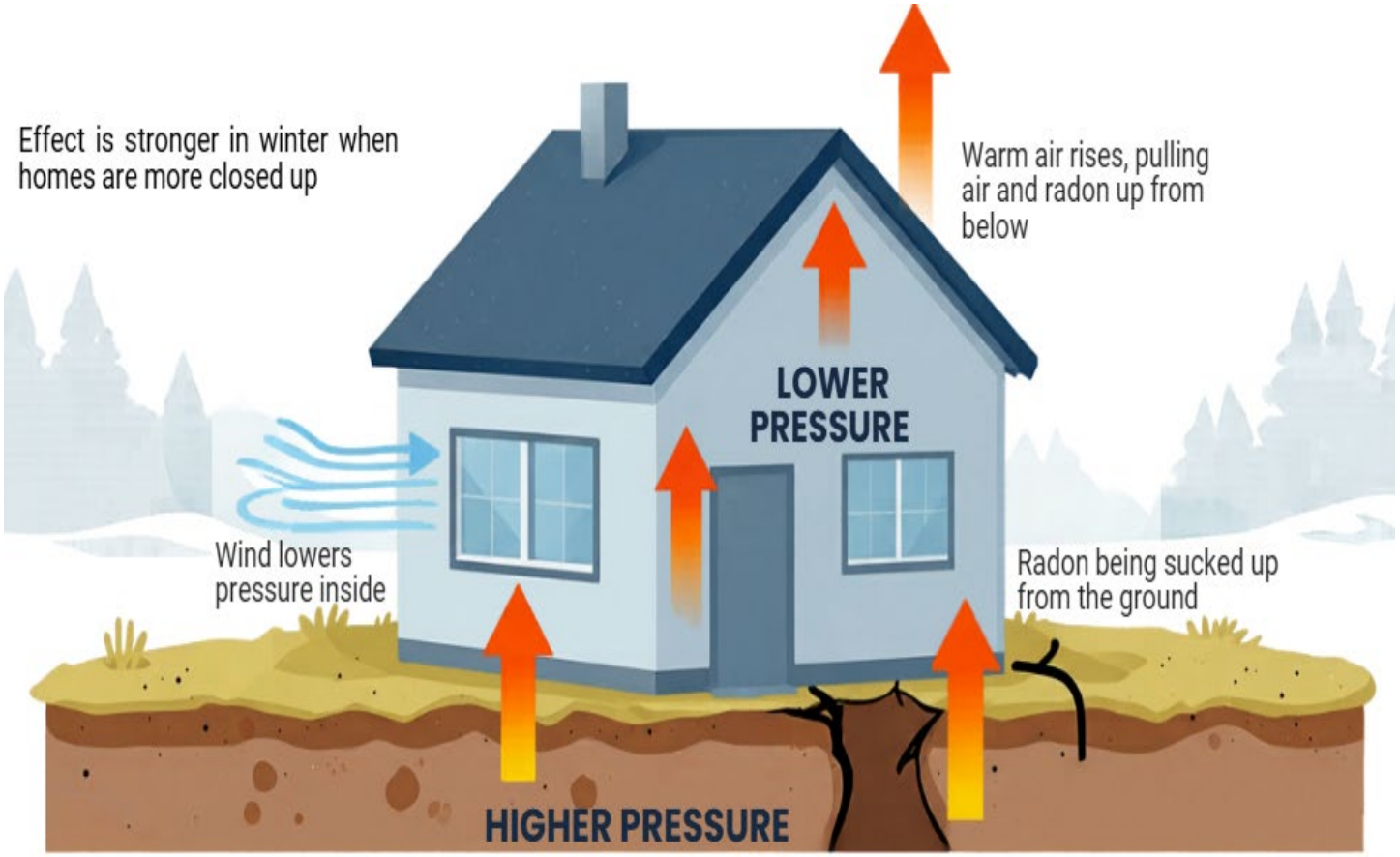
Decay of uranium in rocks and soils

Odourless, colourless and tasteless

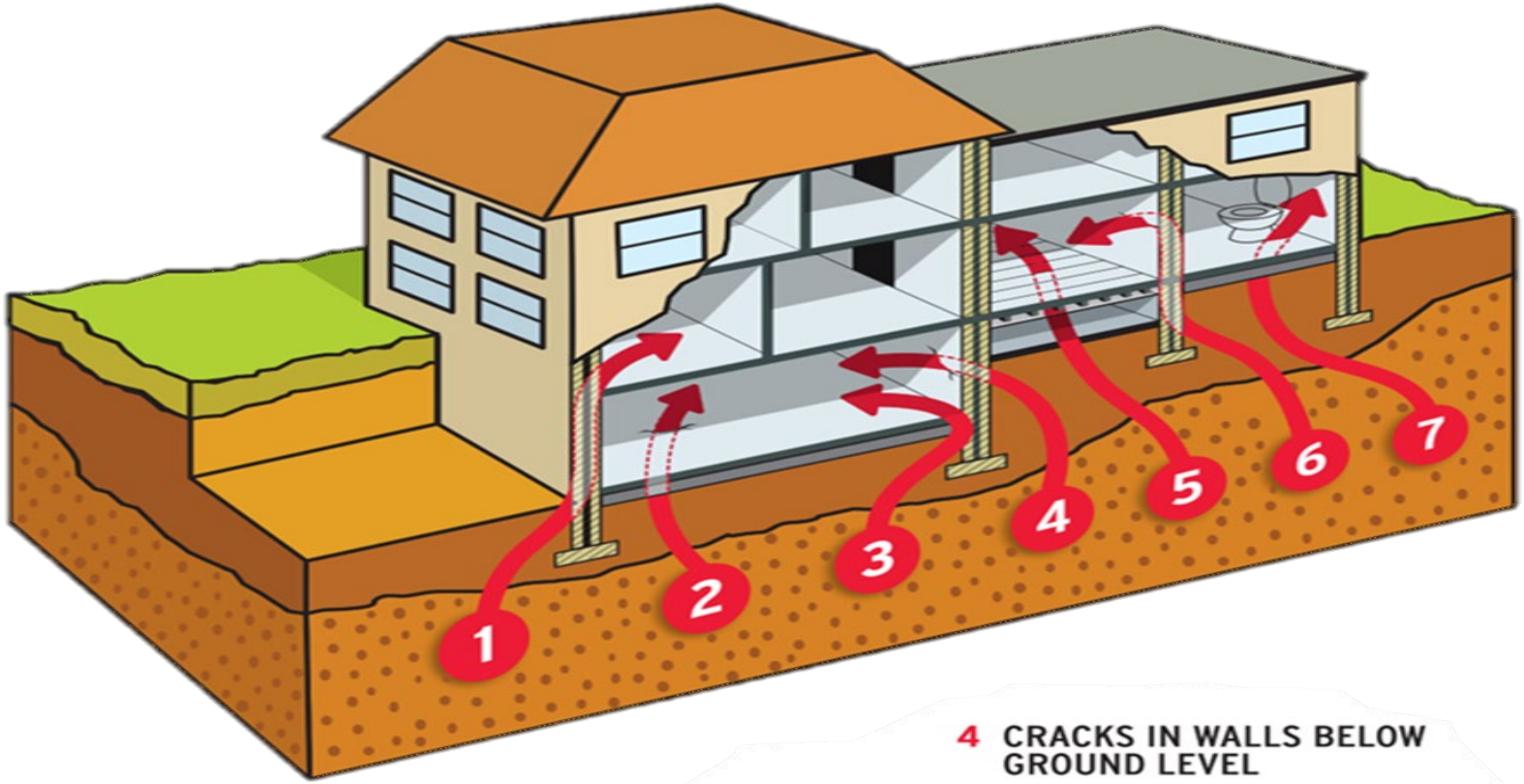
Naturally occurring



How does Radon get into buildings?



How does Radon get into buildings?



1 CAVITIES IN WALLS
2 CRACKS IN SOLID FLOORS
3 CONSTRUCTION JOINTS
4 CRACKS IN WALLS BELOW GROUND LEVEL
5 GAPS IN SUSPENDED FLOORS
6 CRACKS IN WALLS
7 GAPS AROUND SERVICE PIPES

A brief history of Radon



1600s
Records of wasting disease in miner's lungs

1930s
Radon suggested as cause of lung cancer in miners



1980s
It was discovered that radon could be a significant problem in homes

1988
World Health Organisation classify Radon as a human carcinogen

1998
Studies of miners used to calculate the risk of lung cancer from radon in homes

2004 - 2006
European, American and Chinese epidemiological studies calculated the risk for exposure in the home

Health effects of Radon

The World Health Organisation has categorised radon as a Class 1 carcinogen

Radioactivity from particles deposited in the lungs causes damage leading to lung cancer

Radon causes about 350 cases of lung cancer every year in Ireland

It is the leading cause of lung cancer after smoking and smokers at much higher risk



Reference levels and Radon levels in Ireland to date

- Homes: 200 Bq/m^3
- Schools: 200 Bq/m^3
- Workplaces: 300 Bq/m^3 (S.I. 30 of 2019)

- Note: Reference Level is not a rigid boundary between safety and danger – it is a level above which the risk is large enough to warrant action



School

5,000 Bq/m^3

Kilmacthomas
Co. Waterford



Workplace

25,000 Bq/m^3

Mallow
Co. Cork



Home

49,000 Bq/m^3

Castleisland
Co. Kerry

Workplace requirements

- S.I. No. 30 of 2019 (Ionising Radiation) Regulations

Sets out an employer's legal requirements with respect to radon, including:

- The workplace Reference Level of 300 Bq/m^3
- Who must measure and how
- The actions that need to be taken if the levels are high and the timeframe



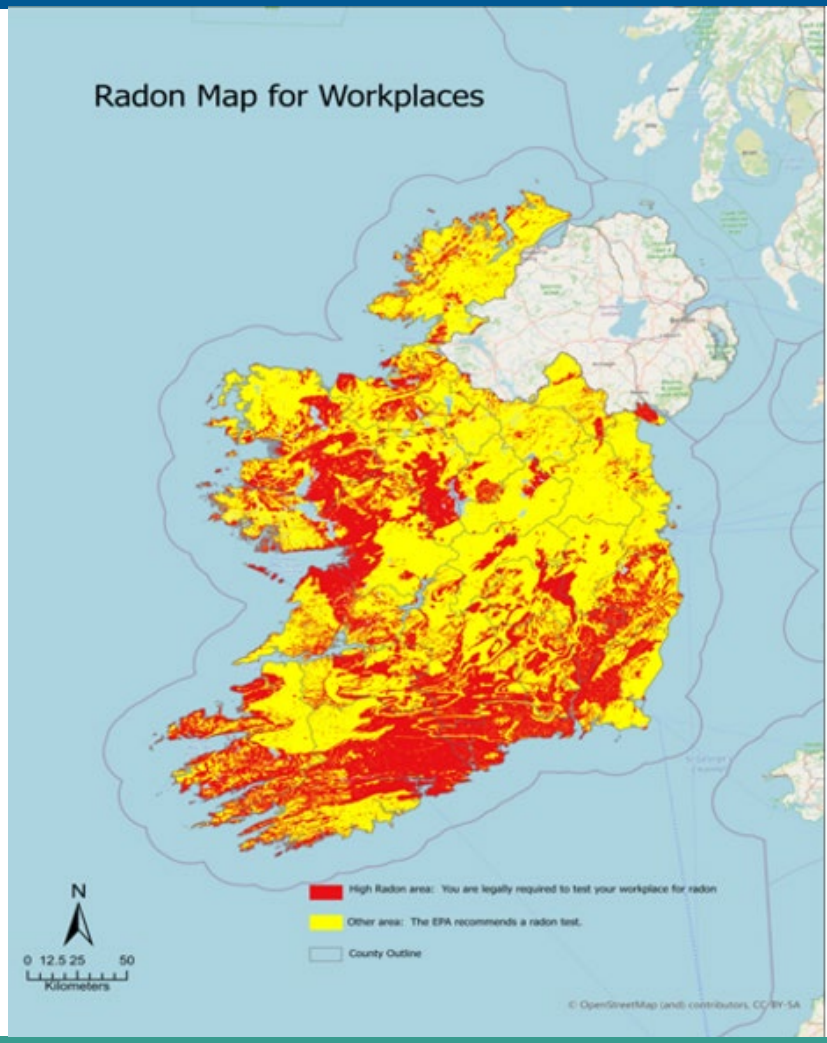


EPA maintain a list of registered radon measurement companies: www.radon.ie

Who must measure?

By law, employers must test if your workplace is:

- Underground, including mines and show caves
- On the ground floor or basement level in high radon areas
- Identified by the EPA as being liable to have radon concentrations above 300 Bq/m^3



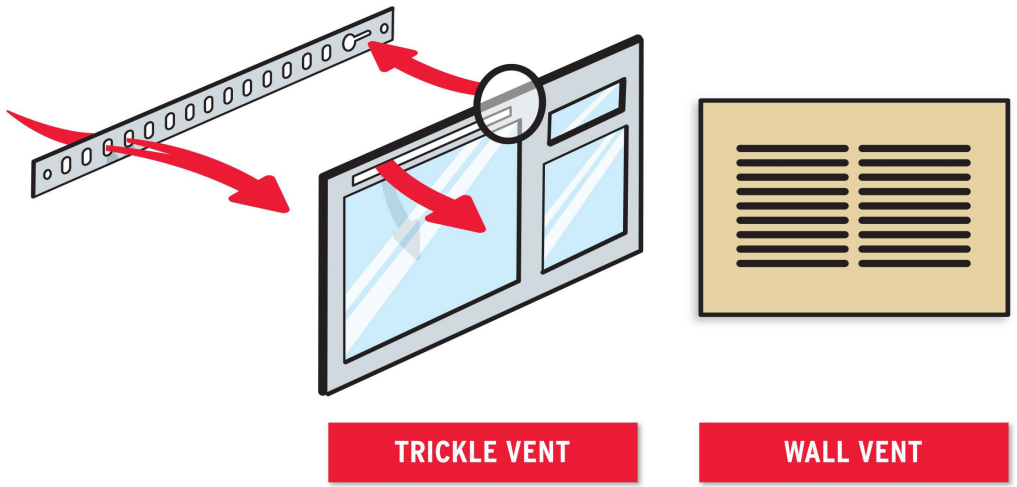
Results above the workplace reference level

Where a result is above 300 Bq/m^3:

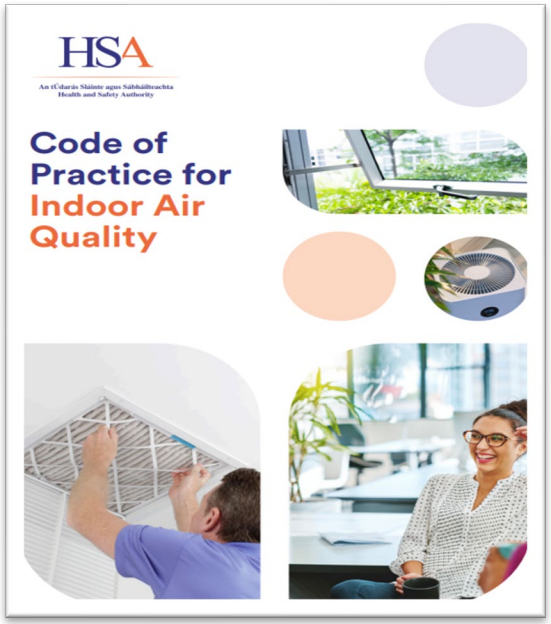
- Employer must take remedial measures as soon as is practicable to protect the health of workers.
- Remedial measures and retesting work must be completed within 12 months.
- Following remedial measures, retest must be carried out as soon as is practicable.
- Where the remedial measures are unsuccessful, the employer should contact the EPA for further advice.

Remedial Measures - Ventilation

- Improving ventilation can reduce moderate radon levels by about 50%



- HSA Code of Practice on Indoor Air Quality and webpage on how to improve ventilation



Remedial Measures – Radon Sump



EPA has a list of registered radon remediation companies on www.radon.ie

Health and Safety Legislation

- 8.—(1) Every employer shall ensure, so far as is reasonably practicable, the safety, health and welfare at work of his or her employees.

- (2) Without prejudice to the generality of subsection (1), the employer's duty extends, in particular, to the following:

- (d) ensuring, so far as it is reasonably practicable, the safety and the prevention of risk to health at work of his or her employees relating to the use of any article or substance or the exposure to noise, vibration or ionising or other radiations or any other physical agent;



19 October 2005

Number 10 *of* 2005

SAFETY, HEALTH AND WELFARE AT WORK ACT 2005

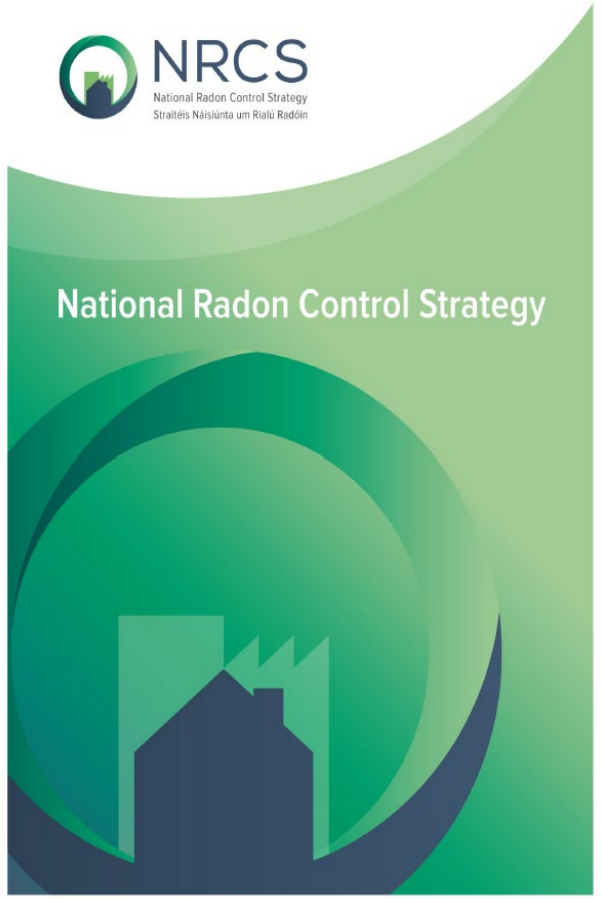
EPA and HSA Collaboration on Radon

- Government's National Radon Control Strategy:

  Action: Continue co-operation to ensure a coordinated approach to radon in workplaces.

- Memorandum of Understanding between EPA and HSA:

  Collaborate and share relevant advice and information in relation to matters such as workplace requirements for radon under S.I. 30 of 2019 and awareness amongst employers.



Raising Awareness of Employers Obligations



2026 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations (2001 to 2026) and the Safety, Health and Welfare at Work (Carcinogens, Mutagens and Reprotoxic Substances) Regulations (2024 and 2026)

Clár Oibre 2026

Did you know the Biological Limit Value (BLV) for occupational exposure to lead is being reduced?

April 28th is World Day for Safety and Health at Work 2026. Do you know what carcinogens you are exposed to at work?

Radon in the Workplace: An Infographic for Employers

Event Recap: Preventing Common Workplace Injuries in Small Businesses – Cork

Did you miss our Safety Culture Webinar?



HSA Newsletter - April 2026 | 17 April 2026

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Radon in the Workplace: An Infographic for Employers

Radon is a naturally occurring radioactive gas produced from the breakdown of uranium in rocks and soil. It is colourless, odourless and tasteless, meaning it cannot be detected without specialised testing. Radon can enter buildings through small openings such as cracks in floors, gaps around pipes, and other structural openings and it can accumulate indoors, particularly where there is limited ventilation. When radon is inhaled it can lodge in the lungs and damage lung tissue over time.

Radon and Health Risks
Radon is the largest source of radiation exposure for people in Ireland, accounting for around 60% of the radiation dose we receive each year. Exposure to radon is linked to around 350 cases of lung cancer annually in Ireland, making it the second leading cause of lung cancer after smoking. Since 2014 the Government has a National Radon Control Strategy (NRCS) setting out actions to reduce the number of radon related lung cancers in Ireland.

Employer Responsibilities
The Environmental Protection Agency (EPA) has developed an infographic on radon in workplaces, outlining the key information for employers. The infographic can be found here: Radon | Environmental Protection Agency.

By law, employers in high radon areas must measure the indoor radon concentrations in their workplaces, where the workplace is located on the ground floor or basement level or underground, including mines and show caves.

Where high radon concentrations are detected i.e. radon concentrations above the national reference levelfor workplaces (300 Bq/m³), remedial works will be needed to reduce exposure. Remedial measures are generally straightforward, and reduced exposure is demonstrated by carrying out follow-up testing within 12 months of the original test. If the level cannot be reduced below 300 Bq/m³ the employer must notify the EPA.

Check if your workplace is in a high radon area by entering your eircode here: **Radon in Workplaces map**.

Even if your workplaces are not in an area classed as a high radon area, employers are still advised to assess the radon concentrations in their workplace.

Radon Test
The list of registered radon testing services is published by the EPA here: Radon testing | Environmental Protection Agency

Further Information

For more information, visit the Environmental Protection Agency radon pages at www.radon.ie or the Health and Safety Authority's webpage Radon - Health and Safety Authority. Call: the HSA on 0818 289 389 or contact the EPA Radon Office Freephone 1800 300 600

In this issue today

Free Seminar: Preventing Common Workplace Injuries in Small Businesses

Workers' Memorial Day: April 28th 2026

Construction: All Island Work at Height Campaign

Driving for Work Seminar 2026

New HSALearning.ie course launched

Guidance on Managing Stockpiles in the Quarry Industry

Coffee Machines: Thorough Examination Requirements

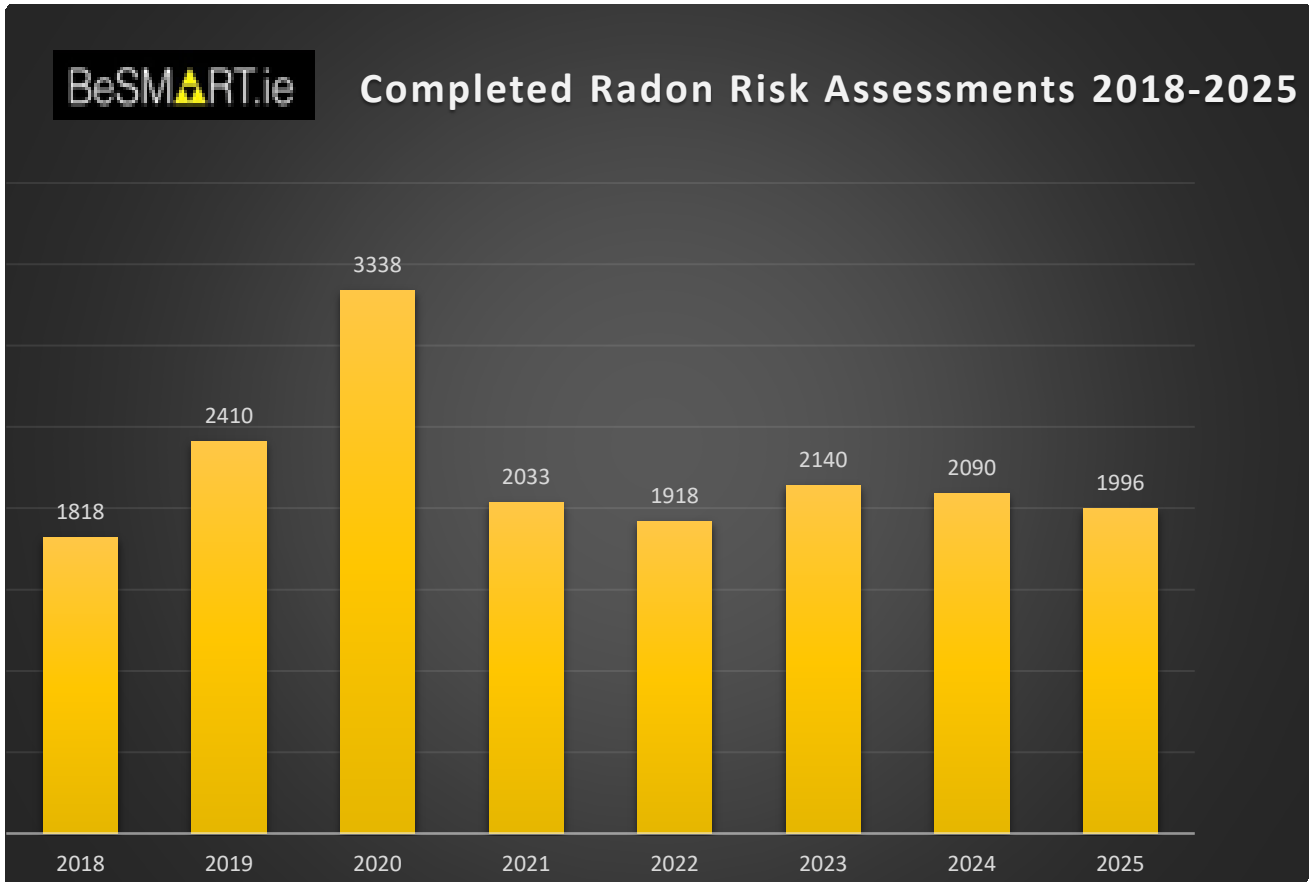
Programme of Work 2026

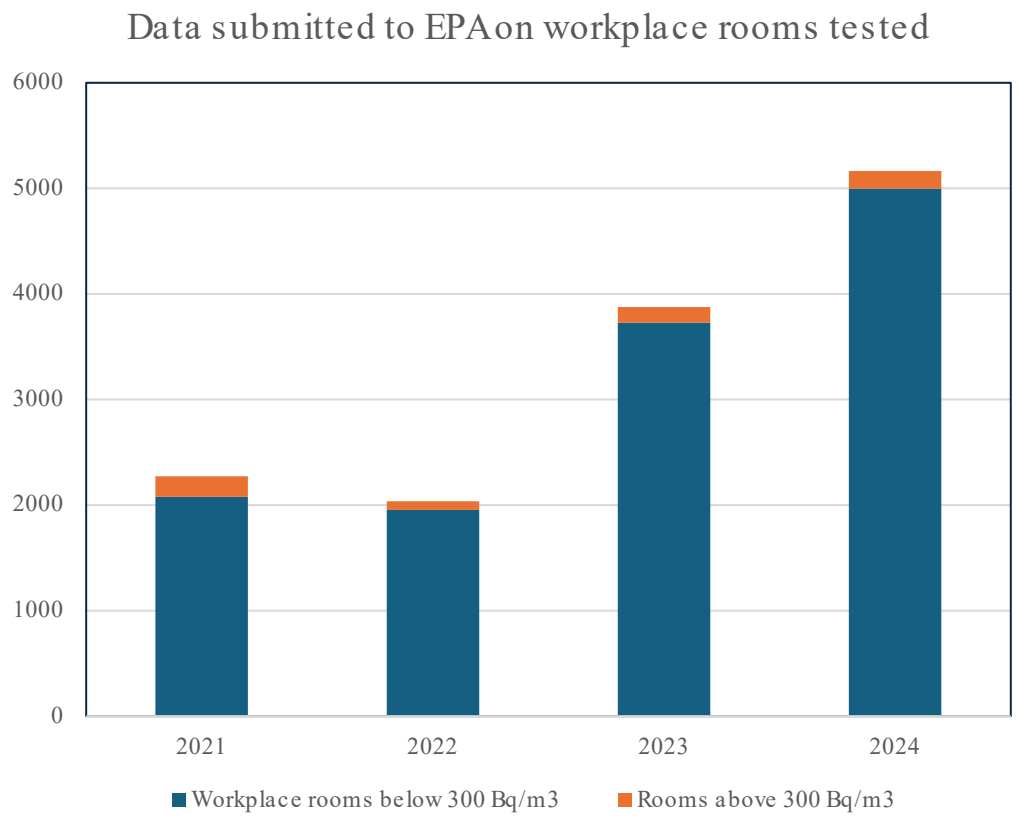
Safety Representatives Resource Book

Climate Action Roadmap 2025



Tracking Metrics





Key Messages

- Prolonged exposure to radon can cause lung cancer.
- Employers in HRAs are legally required to test.
- Radon levels can easily be measured.
- Radon levels can easily be reduced.
- Check the radon map today: www.radon.ie