

## **What is Radon?**

Radon is a naturally occurring radioactive gas, which occurs throughout the UK.

Radon cannot be detected visually, it has no odour and no taste.

The amount of Radon which we are exposed to in outside air is relatively low, but human health can be affected where we are exposed to radon gas in the air we breathe within buildings.

Radon is measured in Becquerels per cubic metre of air.

Average homes in the UK would be around 20 Bq/m<sup>3</sup>, and therefore for most homes risk to health is small.

Where levels are below 100Bq/m<sup>3</sup>, individual risks remain low.

Risks increase as the Radon Level Increases. The updated interactive maps which have been issued 2015, provide indicative estimates of the concentration of Radon at localities within Northern Ireland and searches can be made to determine the levels within the Causeway Coast and Glens Borough Council Area.

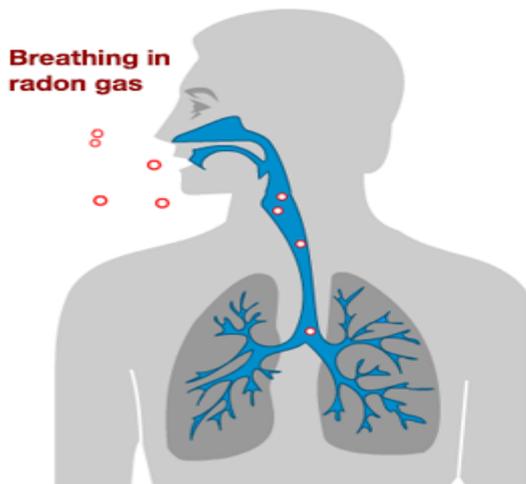
Only by means of special test equipment can radon concentrations be detected indoors.

## **How is Radon Formed?**

Radon is formed by uranium in rocks and is associated with the natural geology, rocks such as: Granite; Limestone and Mudstone.

## **What is the Risk from Radon?**

Long term exposure to levels which exceed the action level, can lead to cancer and it is estimated that every year there are about 1,000 radon linked lung cancer deaths in the UK. However there are practical measures that can be taken to substantially cut the level of radon exposure.



The radioactive elements formed by the decay of radon can be inhaled and enter our lungs.

Inside the lungs, these elements continue to decay and emit radiation, most importantly alpha particles.

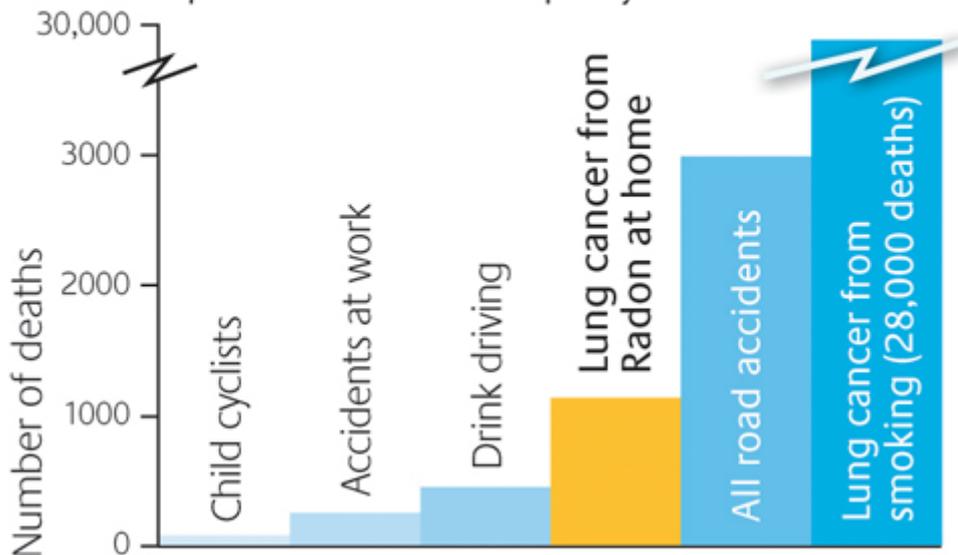
These are absorbed by the nearby tissues and cause localised damage.

This damage can lead to lung cancer.

Any radiation exposure carries a risk: the higher the exposure the higher the risk.

## Radon deaths

compared with other causes of premature deaths per year in the UK



## **Radon - Further Information regarding Homes Which May be Affected**

In August 2015, a new interactive map of radon affected areas was published for Northern Ireland. The 2015 map which is an update from the 2009 atlas/data has increased the total number of homes at risk in Northern Ireland. Further information regarding the new maps and the announcement within NI can be accessed at website [www.gov.uk](http://www.gov.uk), the link is <https://www.gov.uk/government/news/new-radon-map-for-northern-ireland-published>

The new map allows the identification of areas where properties (homes either existing or proposed) have a **1% or greater probability of exceeding the radon action level** and in which householders or others should make radon measurements

The map is interactive and allows navigation and searching using postal addresses/post codes.

Accessed at: [www.ukradon.org](http://www.ukradon.org).

<https://www.gov.uk/government/publications/radon-indicative-atlas-for-northern-ireland>

## **Radon Protection**

The new interactive maps enable appropriate Government Bodies to identify localities in which new homes or other buildings should be constructed with precautions against Radon.

Causeway Coast and Glens Health and Built Environment Department will therefore appropriately utilise this resource in order to identify properties falling within a Radon Affected Area within our Borough.

It has been reported that from the original 2,000 properties previously identified within the 2009 maps that for the Causeway Coast and Glens Borough Council Area, this has increased to 5,000 properties, which could require Radon Protection to be incorporated.

*Further information about the practical measures that can reduce radon exposure and to view the maps visit [www.ukradon.org](http://www.ukradon.org).*

## **Role of Environmental Health Officials - Health and Built Environment Department**

Environmental Health Officers provide a technical advisory role to our Planning Colleagues within the Planning Department.

Environmental Health provides a consultation response through the Planning/Development Control process (for any new development or for development which requires a grant of planning permission).

Therefore we will ensure that advice is provided to the Planning Department which will alert applicants to the risks of Radon and where further information/help can be obtained.

For localities in which new homes or other buildings are identified from the indicative atlas as being within a Radon Affected Area > 1% probability of exceeding the Radon Action Level = Annual Average Radon Gas

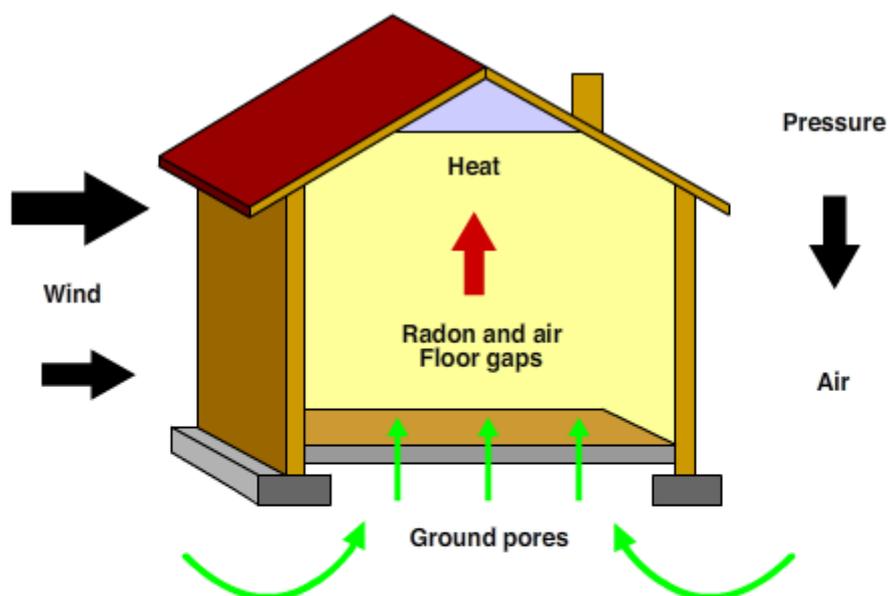
Concentration of Radon = **200 Becquerels**, properties will need to be constructed with precautions against Radon.

The requirements in relation to Radon as stipulated within the Building Control Regulations (NI) 2012, will be applied by Building Control Regulators working within the Health and Built Environment Department, for Building Control Regulatory Submissions and Approvals.

Guidance pertaining to Radon Protection Measures is detailed within Technical Booklet C "Site Preparation and Resistance to Contaminants and Moisture", October 2012 - Section 3.

Technical Booklet C can be accessed at :

<http://www.buildingcontrol-ni.com/assets/pdf/TechnicalBookletC2012.pdf>



Inside buildings, the air pressure tends to be lower than outside, so radon is drawn in through the gaps in the floor.

**Further Advice on Radon - Is your existing property within a Radon Affected Area and What to do about it?**

For existing homes/properties ***Dr Gerry Waldron, Consultant in Health Protection at the Public Health Agency in Northern Ireland, said:***

*"You won't know if your home has a high level of radon unless you test, so we're urging people to have a look at our new map, find if their home is an affected area and if so get a test".*

<https://www.gov.uk/government/publications/radon-indicative-atlas-for-northern-ireland>

*"Testing is easy, it is not intrusive and there are plenty of websites online where you can order a radon test.*



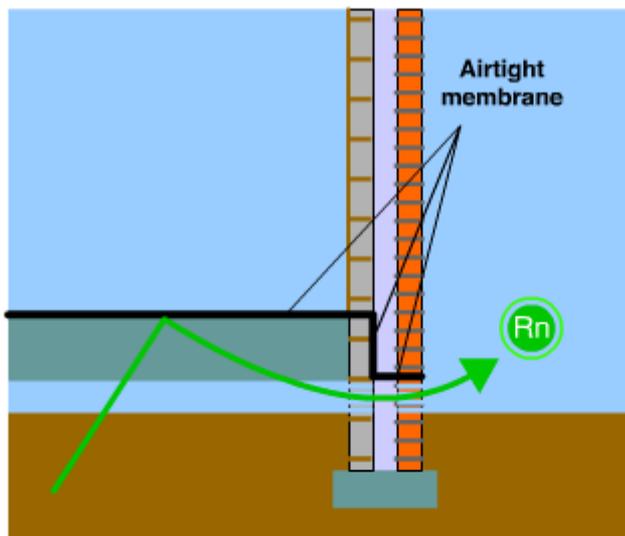
**PHE conducts surveys for government departments, local councils, other organisations, and private householders. The small black detectors, used to measure radon, are sent direct to the householder by post.**

**The detectors contain a piece of clear plastic which is sensitive to radon. At the end of a three month period the householder returns the detector to the PHE in the postal envelope provided: no one needs to visit the home.**

For further information access: [www.ukradon.org](http://www.ukradon.org).

*It's not only homes where radon is an issue. Although we all get our greatest exposure at home, because it's where we spend most of our time, employers have responsibilities under health and safety laws to protect their staff. So it's important they look at the new maps too so they can see if their workplace is at risk".*

*For more information about the practical measures that can reduce radon exposure and to view the maps visit [www.ukradon.org](http://www.ukradon.org).*



For new houses, simple measures can be taken cheaply during construction to prevent high radon levels. This diagram shows an airtight membrane across the floor and through the walls.

### Radon – What are the likely Costs of Mitigation Measures?

The following information provides indicative costs for radon mitigation measures, it should be noted that these will be variable and subject to site-specific assessment and specification.

Remedy	Typical cost	Normal range
Active Sump (with fan)	£800	Up to £2,000
Active Sump (DIY)	£300	Up to £700
Passive Sump (without fan)	£450	Up to £1,000
Natural Under-floor Ventilation	£200	Up to £600
Active Under-floor Ventilation	£700	Up to £1,500
Positive Ventilation	£550	Up to £1,000

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