



60 Years

Atoms for Peace and Development

Factsheet for Decision Makers

Radiation Protection of the Public

RADON IN HOMES

Why is it important?

Radon is a radioactive gas. It comes from the natural decay of uranium that is found in nearly all soils. Radon is constantly released from the soil into outdoor air, but when it enters an enclosed space such as a building, it can sometimes build up to high levels. For most people, radon is the largest source of radiation exposure throughout their lifetime.

What do I need to know?

Long term exposure to radon has been shown to increase the risk of lung cancer. Radon is the second most important cause of lung cancer after smoking, and the leading cause of cancer among non-smokers. Radon cannot be detected by the human senses—only by measurement. Homes with high radon levels are often concentrated in areas with a particular geology, such as granites and shales with a high uranium content.

High levels of radon in a house can be reduced by means of corrective actions. These actions are well developed and proven to work. Attention should be paid to thermal retrofitting of existing buildings. Low ventilation rates decrease the overall quality of indoor air and can increase radon levels.

Preventing radon accumulation in newly built houses is cheaper than corrective actions and is often highly cost-effective compared with other public health interventions.

High radon levels can sometimes be found in groundwater supplies and can be released into indoor air via taps and showers.

IAEA Safety Standards

for protecting people and the environment

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards

Jointly sponsored by
EC, FAO, IAEA, ILO, OECD/NEA, PAHO, UNEP, WHO



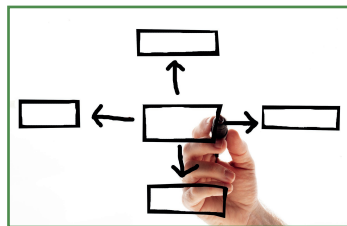
General Safety Requirements Part 3
No. GSR Part 3



The International Basic Safety Standards (BSS) are the international benchmark for radiation safety. The BSS are used in many countries as the basis for national legislation to protect workers, patients, the public and the environment from the risks of ionizing radiation.

The BSS are based on the most recent scientific evidence on the effects of ionizing radiation and take into account practices and experiences from around the world in the use of ionizing radiation and nuclear techniques. Eight international organizations sponsor the BSS.

What actions are required?



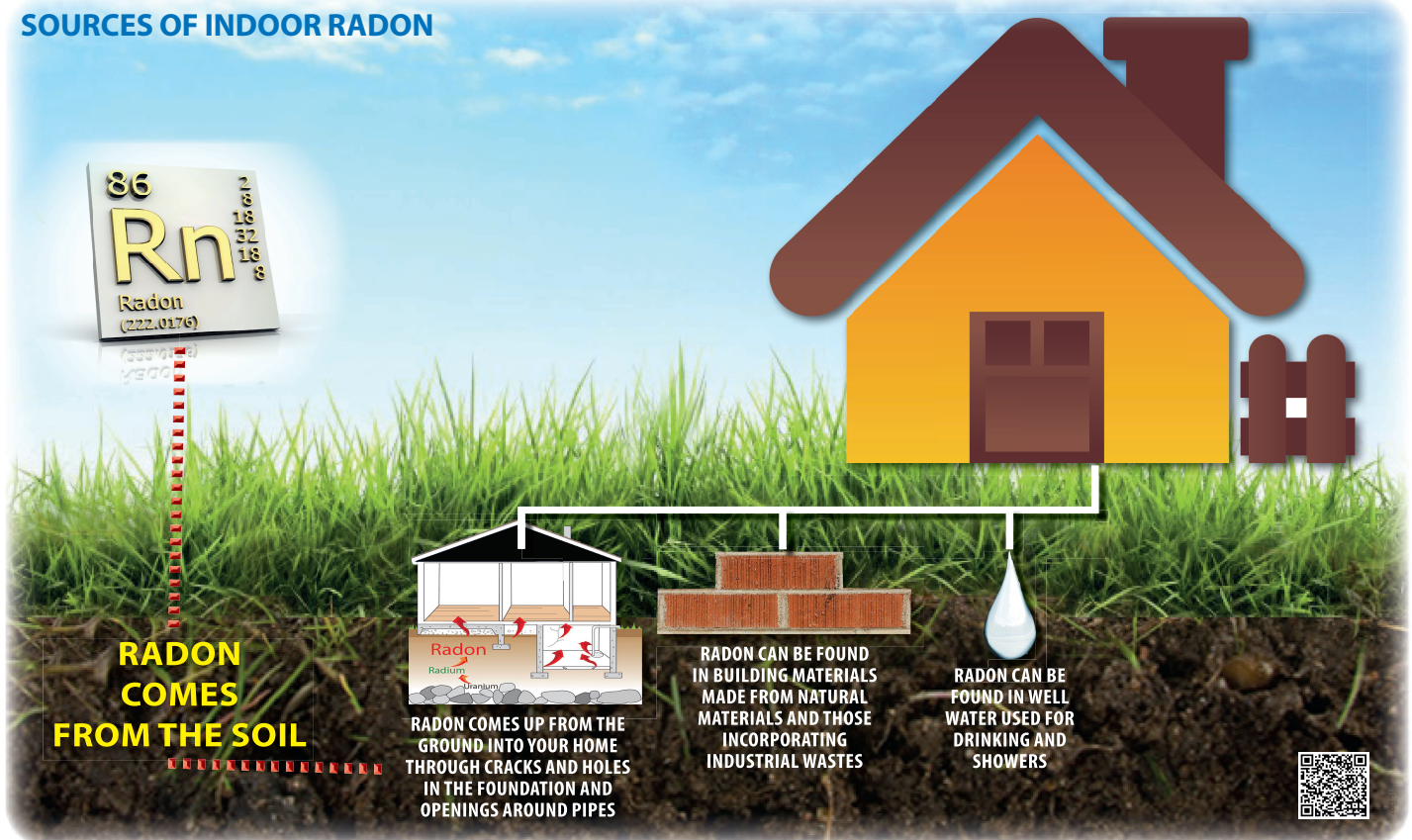
The governments need to develop and implement national policies to reduce the risks from radon, and encourage national authorities responsible for radiation protection, public health and the building industry to work together.

National authorities need to establish and carry out radon measurement and research programmes.

National authorities need to integrate programmes to reduce radon levels with those for energy efficiency and indoor air quality.

National authorities need to provide relevant information to target groups - the public, local stakeholders, decision-makers and building professionals.

SOURCES OF INDOOR RADON



RESOURCES

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, No. GSR Part 3

http://www-pub.iaea.org/MTCD/publications/PDF/Pub1578_web-57265295.pdf

WHO Handbook on Indoor Radon

http://whqlibdoc.who.int/publications/2009/9789241547673_eng.pdf

Protection of the Public against Exposure Indoors due to Radon and Other Natural Sources of Radiation, IAEA Safety Standards Series No. SSG-32

<http://www-pub.iaea.org/MTCD/publications/PDF/Pub1651Web-62473672.pdf>