

P.O. Box 1587  
Skippack, PA 19474-1587  
Phone: 610-C2A-CARE (610-222-2273)  
Fax: 610-222-2272

DEP & NEHA Certified

P.A. Cert. # 2586

Fully Insured



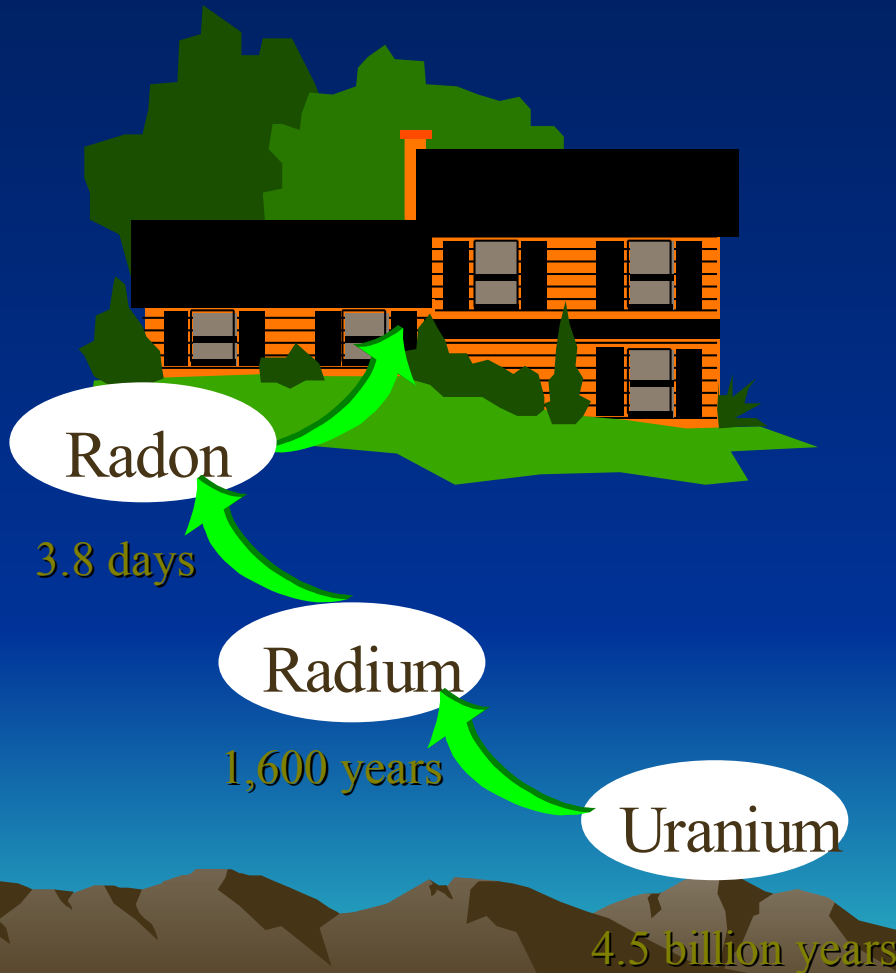
**RADON**  
Is Your Family at Risk?

# Radon

- Found all over the U.S.
- Radon is a naturally occurring radioactive gas without color, odor, or taste that comes from the radioactive decay of uranium in soil, rock, and groundwater.
- It emits ionizing radiation during its radioactive decay to several radioactive isotopes known as radon decay products.



# Uranium is the source for Radon –222 (radon)



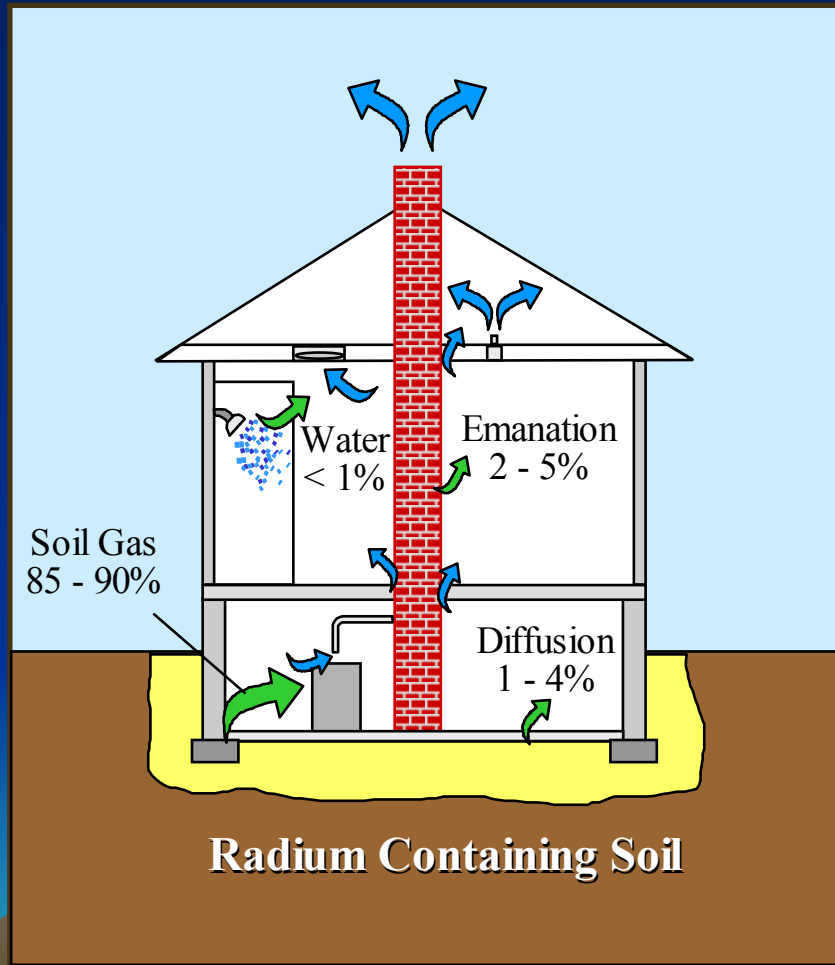
- *Radon is a gas*
- *It is naturally occurring*
- *You can not see or smell it*
- *It enters buildings from the soil beneath them*

# Common Radon entry points

Radon gets into the indoor air primarily from soil under homes and other buildings.

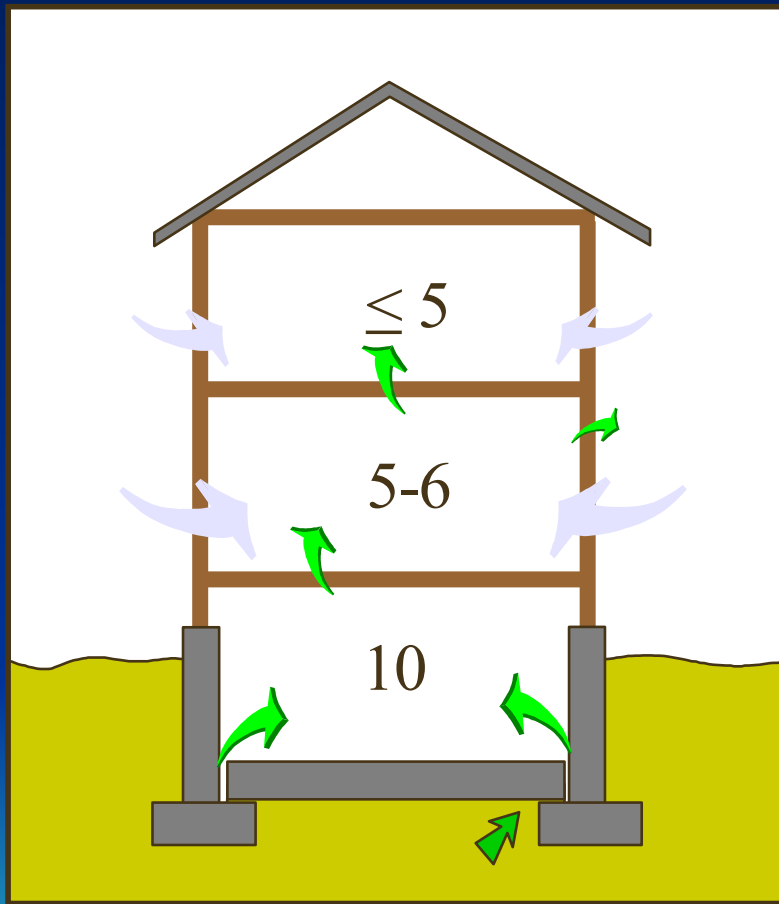


# Average Contributions From Radon Sources In U.S. Homes



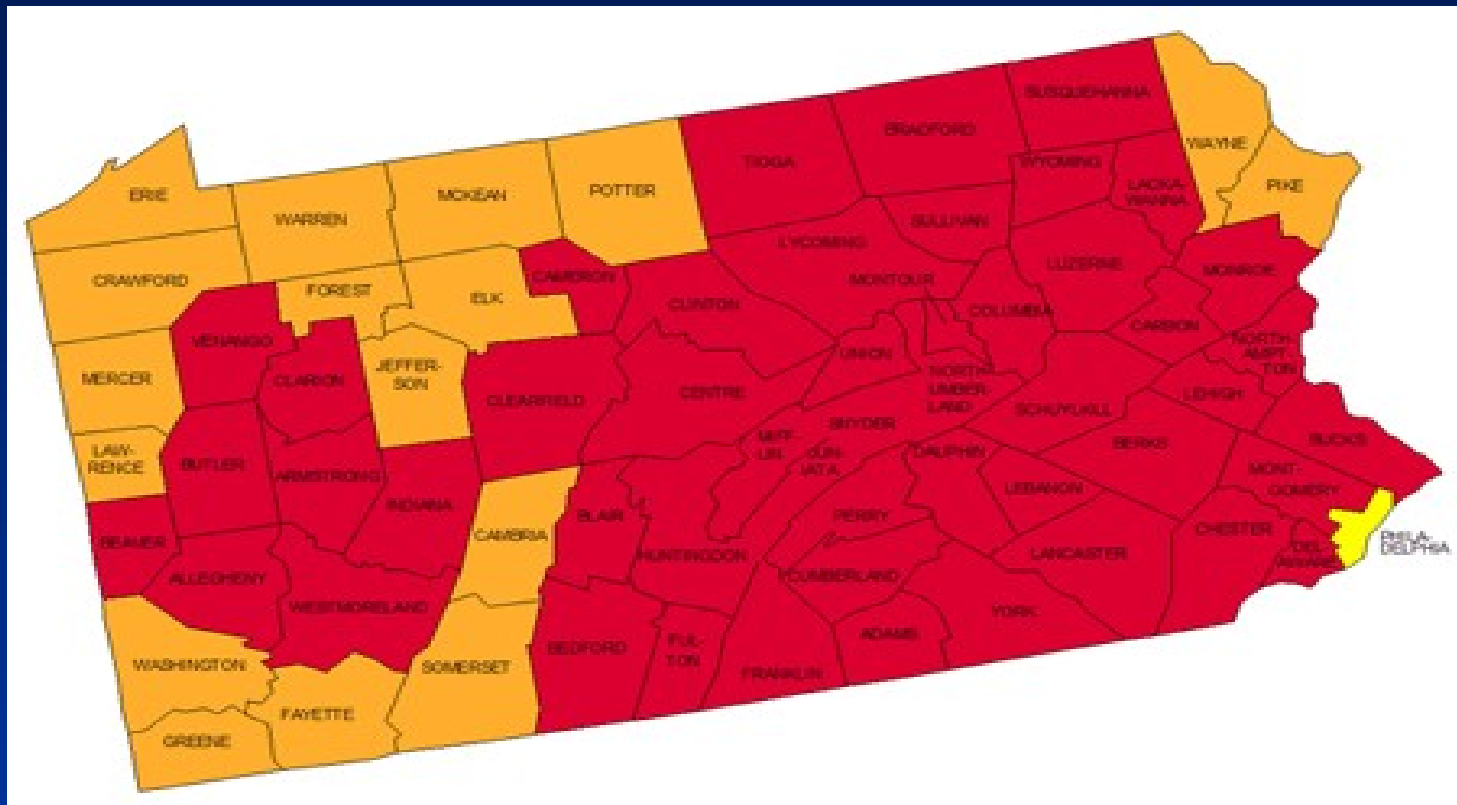
- The movement of soil gas into a home is the predominant entry route.
- These are averages - a particular home can be different!




# Radon Gas Spatial Distribution



- Radon enters from beneath foundation and travels upward.
  - Diluted with outdoor air infiltrating building
- If radon is less than 4 pCi/L in lower level, one can say with reasonable confidence that upper floors are also less than 4 pCi/L.

# Pennsylvania's Radon Zones



|  |   |                           |
|--|---|---------------------------|
|  | <p>Zone 3 counties have a predicted average indoor radon screening level less than 2 pCi/L (yellow zones)</p>                         | <p>Low Potential</p>      |
|  | <p>Zone 2 counties have a predicted average indoor radon screening level between 2 and 4 pCi/L (orange zones)</p>                     | <p>Moderate Potential</p> |
|  | <p>Zone 1 counties have a predicted average indoor radon screening level greater than 4 pCi/L (pico curies per liter) (red zones)</p> | <p>Highest Potential</p>  |

# Radon Health Effects

- Radon is a known human lung carcinogen and is the largest source of radiation exposure and risk to the general public.
- *Radon* is the number one cause of lung cancer among non-smokers, according to EPA estimates.
- Radon is the second leading cause of lung cancer.
- Radon is responsible for about 21,000 lung cancer deaths every year. About 2,900 of these deaths occur among people who have never smoked.



# Residential Radon Exposure – A Leading Environmental Health Risk:

National and International Public Health Agencies support the contention that radon is a leading environmental health risk!



# LUNG CANCER DEATHS Per Year

Estimated **163,510** Lung Cancer  
Deaths in 2005\*

\*CA: A Journal for Clinicians - 2005

Attributed to Radon

Approximately **21,000** EPA  
2003

# Should we be concerned about radon-induced lung cancer given that the risk pales in comparison to the risk posed by smoking?

• **Radon** is the number one cause of lung cancer among non-smokers, according to EPA estimates. Overall, radon is the second leading cause of lung cancer. Radon is responsible for about 21,000 lung cancer deaths every year. About 2,900 of these deaths occur among people who have never smoked.



# EPA & Surgeon General Recommend

Take action if a home is at or  
above 4.0 pCi/L

(year long average)

**4.0 pCi/L EPA ACTION LEVEL**

Average indoor: 1.3 – 1.4 pCi/L

Average outdoor: 0.4 pCi/L

# Remediation (Mitigation) is an option.

- Techniques have been developed to reliably reduce radon to less than 4.0 pCi/L.
- Almost all systems can be installed in one day by a qualified contractor.
- The repairs take 24 hours to take effect before retesting can occur.
- EPA, DEP, & state offices maintain lists of qualified contractors.



# Radon Mitigation

- Active Soil Depressurization (ASD) is the most common approach.
  - *Employs a method for creating a vacuum beneath the foundation greater in strength than the vacuum applied to the soil by the building.*
- Caulking and Sealing is not a stand-alone technique.
- Ventilation approaches have proven more costly and less effective.



# Sub-Slab Depressurization (SSD)



- 4" hole is cut through the concrete slab.
- Pit is dug.
- PVC piping is inserted.
- Piping is routed to exterior of house or to the attic.
- Inline suction fan installed.
- Radon gases vented above roof line.



# Sub-Membrane Depressurization



- Most common in homes with dirt crawl spaces.
- Plastic sheeting covers dirt floors.
- All seams and openings sealed with adhesive.
- PVC pipe inserted to create suction under plastic.
- Radon gases exhausted to exterior of home.

# Sump / Drain Tile Depressurization



- Sump pump is sealed.
- PVC pipe inserted into sump basin.
- Suction applied to sump basin.

# Passive System Conversion



- Existing PVC pipe is cut.
- Suction fan is installed.
- Electric is ran.

**Why Choose**



?

**EXPERIENCED, LICENSED & CERTIFIED Radon Mitigation Contractor.**

- **Free on-site walkthrough with a Certified and Licensed Radon specialist.**
- **Provide testing, review testing guidelines and measurement results, and determine if additional measurements are needed;**
- **Evaluate the radon problem, provide written proposal on how radon levels will be lowered;**

# Why Choose



?

- Design a specifically tailored, radon-reduction system considering aesthetics as well as function;
- Install the system according to the “**Radon Mitigation Standards**”, state and local codes;
- Confirm the finished system effectively reduces radon concentrations to acceptable levels by providing a **FREE** follow-up Radon test;
- Complete the system installation with care for personal property and minimal disruption.

P.O. Box 1587  
Skippack, PA 19474-1587  
Phone: 610-C2A-CARE (610-222-2273)  
Fax: 610-222-2272

DEP & NEHA Certified

P.A. Cert. # 2586

Fully Insured



Let us provide you and your family  
with some peace of mind and solve  
your **Radon** problem.