



# Radon Vapor Intrusion Screening Level (RVISL) Calculator



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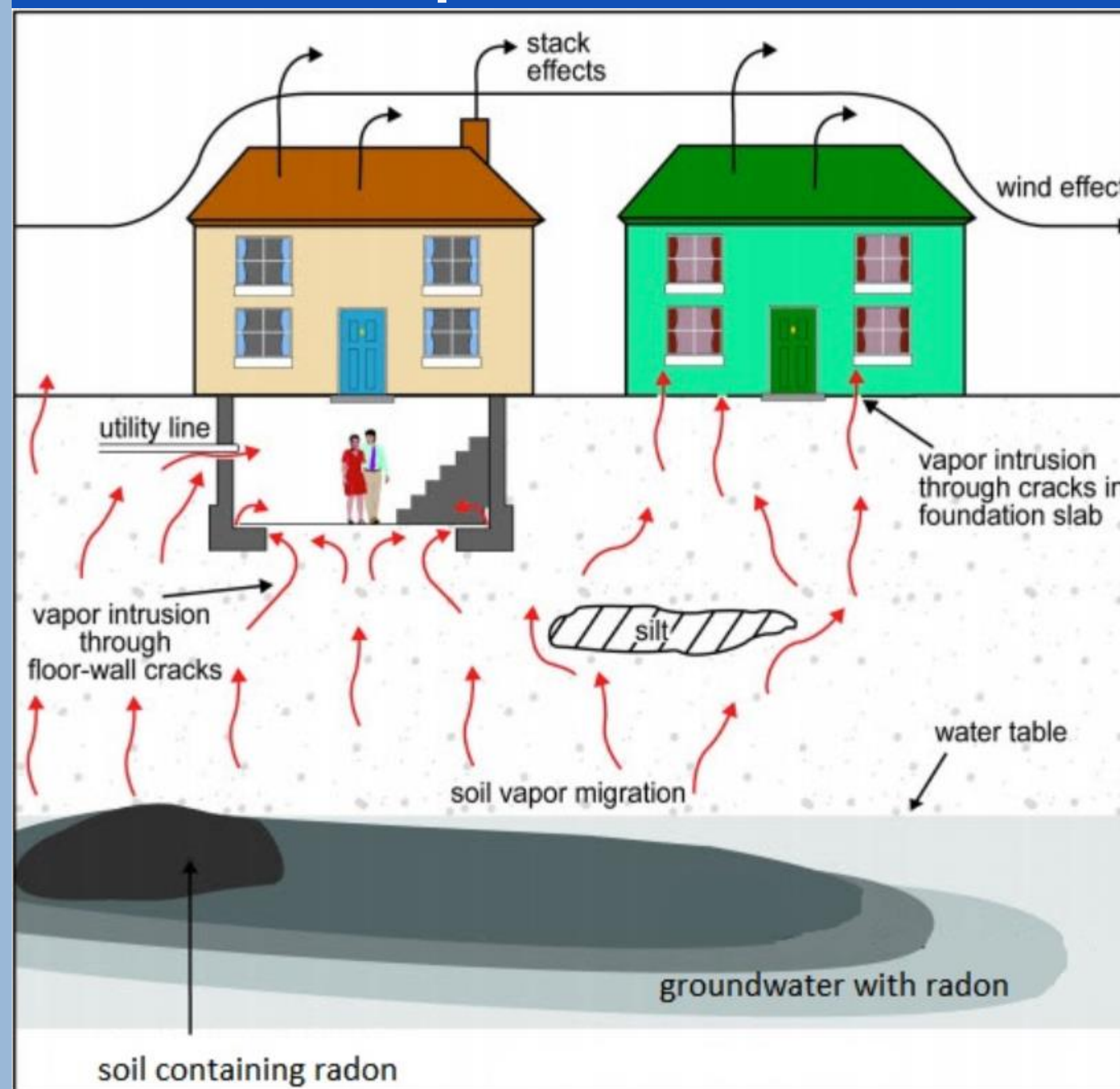
Office of Superfund Remediation and Technology Innovation, US Environmental Protection Agency

RVISL: <http://epa-visl.ornl.gov/radionuclides>

## RVISL Calculator

- Calculates risk-based or dose-based **radon vapor intrusion screening levels (RVISLs)** for use in **radiation risk assessments** for radon caused by soil or groundwater contamination is entering into a building.
- Calculates cleanup concentrations based on a target cancer risk (default of  $1 \times 10^{-6}$ ) or a target dose (default of 1 millirem per year).
- Also may be used to show compliance with UMTRCA indoor radon standard of 0.02 Working Levels (WL) of radon progeny and state indoor standards expressed in pCi/l.
- Not cleanup standards – used for site screening and initial cleanup goals.
- Applicable for residential and, indoor worker exposure scenarios.

## Conceptual Site Model

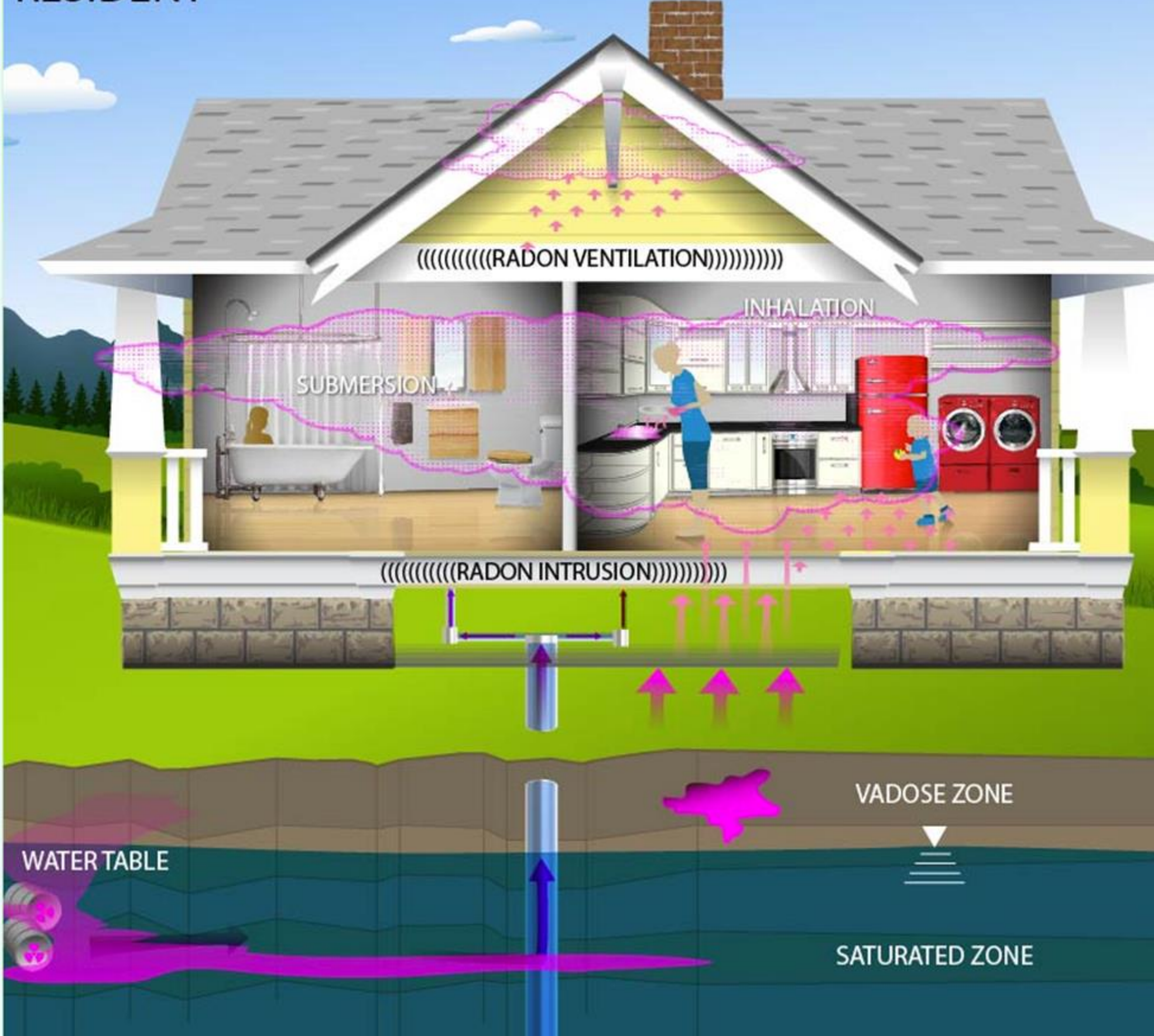


## Using the Calculator

- Select WL/risk/dose:** WL, risk or dose-based run as option. With each choice, select target WL, risk or dose level for SL's.
- Select scenario:** 2 exposure scenarios (resident, indoor worker). All exposure pathways demonstrated below within two exposure scenarios.
- Select predict concentrations and risk/dose:** predict indoor air concentrations, and risk/dose, from concentrations in measured media (soil gas, ground water, indoor air)
- Select Site Info type:** use default parameters or site-specific. Defaults useful for initial site assessments. If data is collected, may use site-specific data to set more accurate cleanup goals.
- Select units:** units of activity in pCi or Bq.
- Select WL:** select whether to compare results with the UMTRCA indoor radon standard of 0.02 Working Levels of radon progeny
- Select groundwater temperature:** revise the groundwater temperature.
- Select attenuation factor:** revise the attenuation factor for the subslab or groundwater.

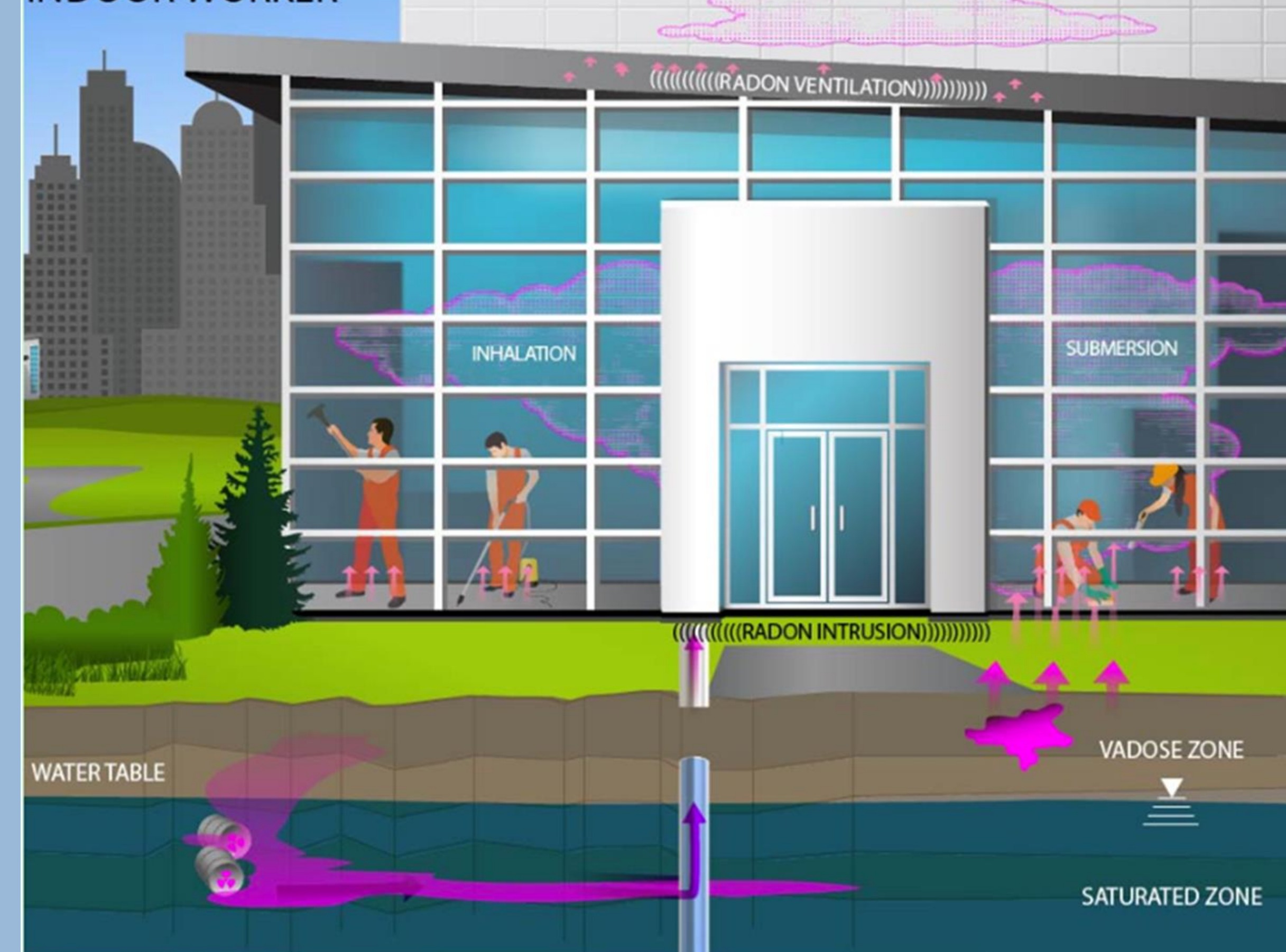
## Radon Intrusion Exposure to Resident

RESIDENT



## Radon Intrusion Exposure to Indoor Worker

INDOOR WORKER



## As Building Air Exchange Rate Increases Radon Progeny Decrease

