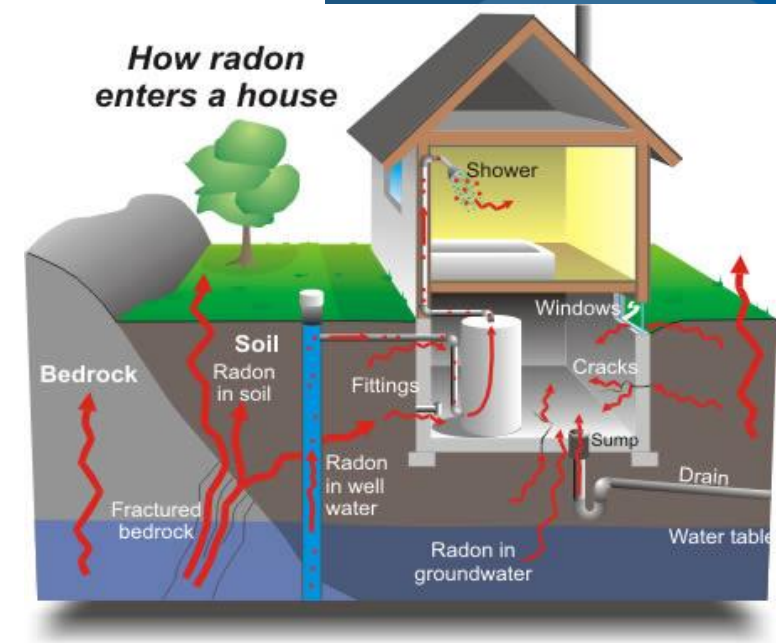


Progress of the Task Group on Radon and Soil Gas Mitigation

Presented by: Corey Carson, P. Eng., Codes Canada

April 14, 2023



Outline

Previous Work for the NBC 2010

Task Group on Radon and Soil Gas Mitigation (TG Radon)

Current Status

Previous Work for the NBC 2010

- Work of the JTG on Protection Against Radon Ingress
 - Removal of exemptions for where soil gas is not deemed to be a problem
 - Mandatory overlapping of soil gas barrier sheeting
 - Airtight sump pits
 - Expansion and clarification of the provisions for capped rough-ins
 - Removal of reference to 800 Bq/m³ radon limit
 - Removal of the requirement for makeup air

TG Radon: New TG Membership

- Chair is expert in HVAC and radon installation*
- Housing director at Federation of Saskatchewan Indian Nations*
- 2 Regulators
- Radon researcher
- Builder from BC
- Radon mitigator (CARST Board of Directors)

* = Member of the Standing Committee on Housing and Small Buildings (SC-HSB)

TG Radon: Mandate

- Review current construction practices and performance expectations
- Review unintended consequences or radon requirements
- Review code change requests for
 - Passive stack radon mitigation
 - Active stack radon mitigation
 - Adoption of CAN/CGSB-149.11-2019

TG Radon: Mandate

- Review current construction practices and performance expectations
- **Review unintended consequences of radon requirements**
- Review code change requests for
 - Passive stack radon mitigation
 - Active stack radon mitigation
 - Adoption of CAN/CGSB-149.11-2019

TG Radon: Mandate

- Review current construction practices and performance expectations
- Review unintended consequences of radon requirements
- **Review code change requests for**
 - **Passive stack radon mitigation**
 - Active stack radon mitigation
 - Adoption of CAN/CGSB-149.11-2019

TG Radon: Mandate

- Review current construction practices and performance expectations
- Review unintended consequences of radon requirements
- **Review code change requests for**
 - Passive stack radon mitigation
 - **Active stack radon mitigation**
 - Adoption of CAN/CGSB-149.11-2019

TG Radon: Mandate

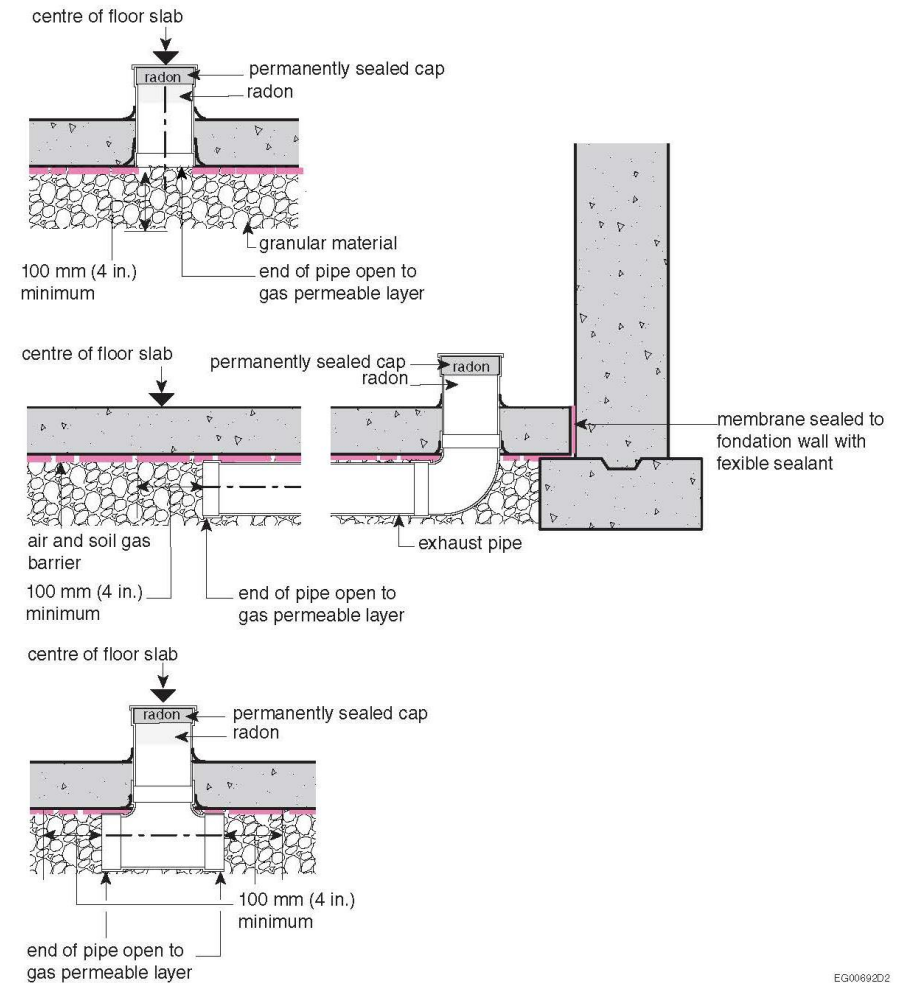
- Review current construction practices and performance expectations
- Review unintended consequences of radon requirements
- **Review code change requests for**
 - Passive stack radon mitigation
 - Active stack radon mitigation
 - **Adoption of CAN/CGSB-149.11-2019**

TG Radon: Current Status

- Unintended consequences
- Active soil depressurization
- Request to adopt CAN/CGSB-149.11-2019
- Passive stack radon mitigation
- Ballast in heating crawlspaces

Current Status: Unintended Consequences

- Errors in diagrams for NBC 2015 Note A-9.13.4.3.(2)(b) & 3(b)(i)
 - Solved with errata to NBC 2020



Current Status: Active Soil Depressurization

- CCR 1026: Active Soil Depressurization System
 - TG-Radon: Recommended to be rejected
 - SC-HSB: Agreed to reject CCR

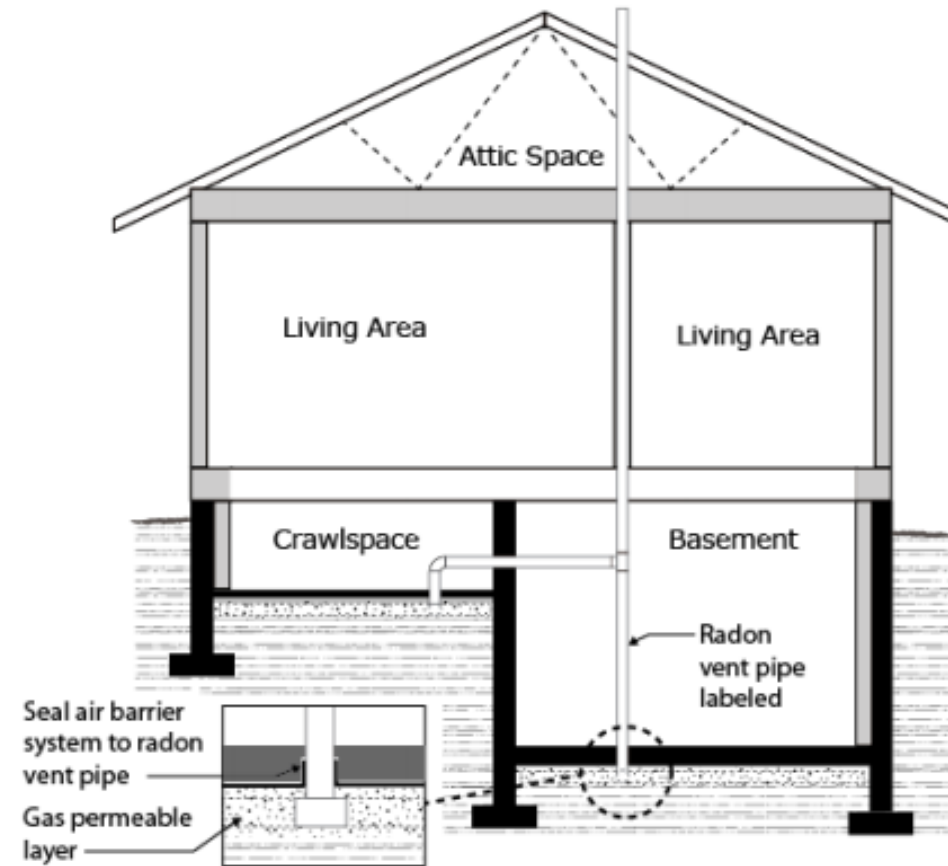


Current Status: Adoption of CAN/CGSB-149.11-2019

- TG Recommendation:
 - Request research on differences between 6mil and 10mil poly in practical applications
 - Wait for updated version of standard to be published

Current Status: Passive Stack Radon Mitigation

- TG initial recommendation:
 - Passive vertical radon stack in all Part 9 dwelling units in contact with the ground



Current Status: Passive Stack Radon Mitigation (cont.)

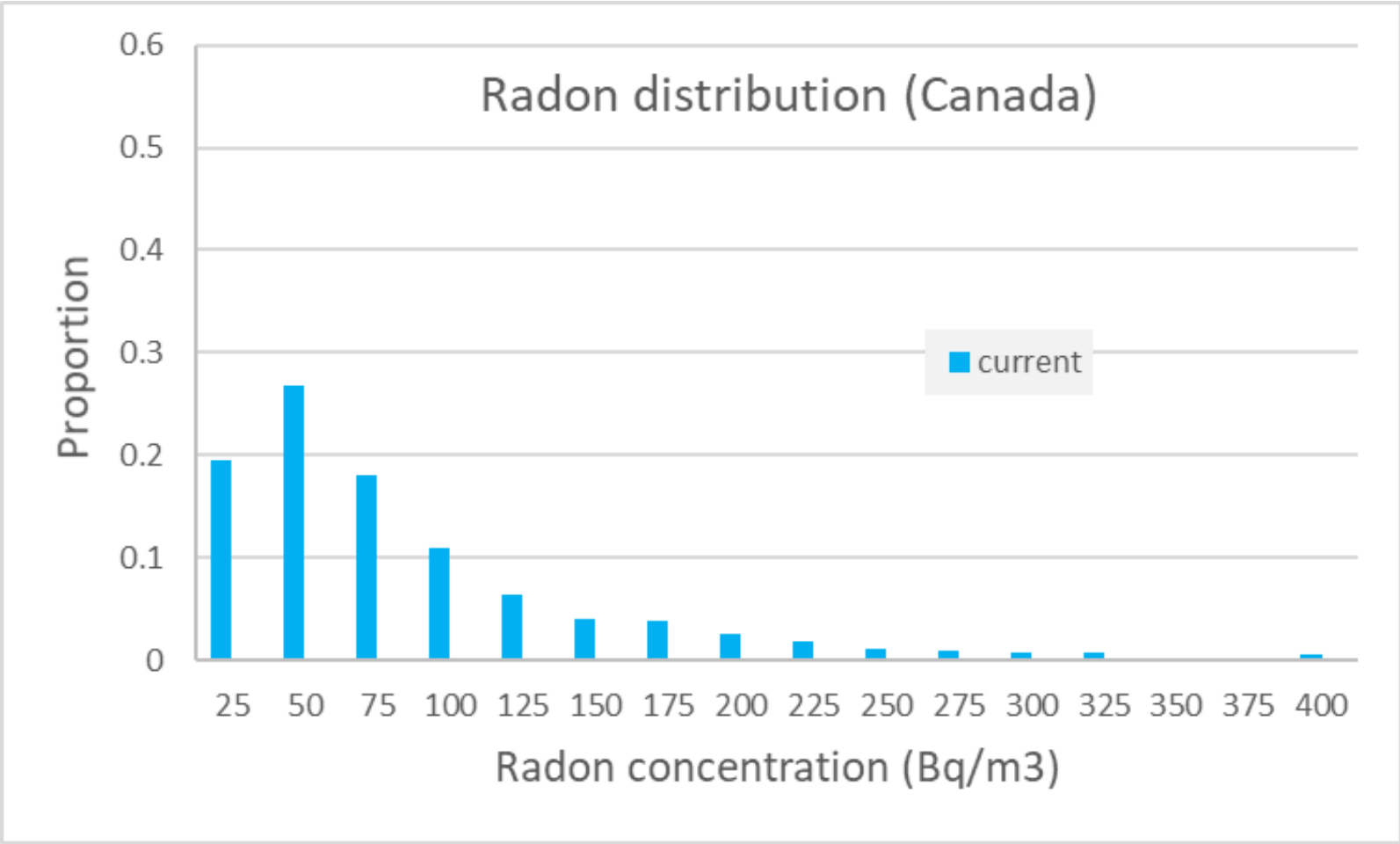
- SC-HSB initial recommendations:
 - Recommendation to add exemption for ground floor entries to upper storey dwelling units
 - Consider a side wall vent option

Current Status: Passive Stack Radon Mitigation (cont.)

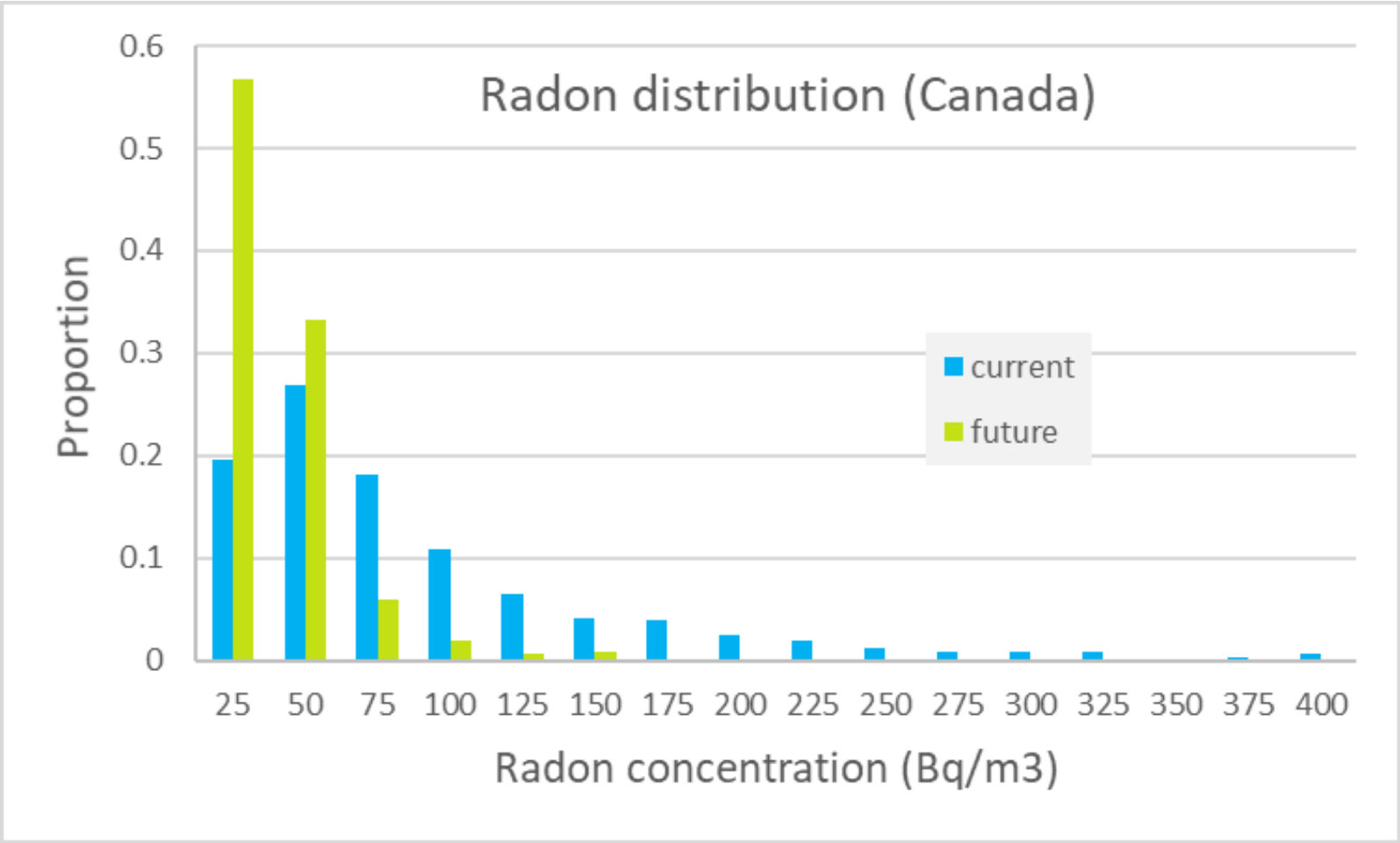
- TG recommendations following SC-HSB discussion:
 - Recommended less than 10% floor area of an upper storey dwelling unit to be in contact with the ground for exemption
 - Side wall vent would need to be activated to meet minimum performance requirements of passive vertical radon stack



Current Status: Passive Stack Radon Mitigation (cont.)



Current Status: Passive Stack Radon Mitigation (cont.)



Current Status: Passive Stack Radon Mitigation (cont.)

- Addressing concerns over possible depressurization from Code requirements for an active side wall vent:
 - Deemed only a concern for spillage susceptible appliances
 - Errata to radon rough I diagrams in NBC 2020
 - Limit fan speed to 14 to 28 l/s
 - Airflow measurements would be required at the exhaust point

Current Status: Ballast in Heated Crawl Spaces

TG Recommendation

- 50mm of course clean granular for ballast over air barriers not covered by concrete

Thank You

Contact: Corey Carson
corey.carson@nrc-cnrc.gc.ca



CBHCC
Canadian Board for Harmonized
Construction Codes