

# Environmental Scan of Radon Law and Policy: Best Practices in Canada and the European Union

Presentation via webinar to:

Canadian Association of Radon Scientists and Technologists (CARST)

February 5, 2019

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Environmental Law  
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# Introduction and Scope

**Purpose: To assist Health Canada understand barriers and strategic opportunities to more effectively deliver the National Radon Program**

- CELA and CAREX research team
  - Update of work done in 2014
- Very large scope
  - All buildings, thus many areas of law and policy
  - Shared jurisdiction – FPT (+ municipal)
  - European scan (EU + 6 countries) (US not included)
- Initially scoped out: OHS and \$ incentives but scoped back in
  - OHS: New info re effective dose
  - Tax credits/grants: European examples
- Detailed summary included; focus today on summary and recommendations

<https://www.cela.ca/publications/environmental-scan-radon-law-and-policy-best-practices-canada-and-european-union>

# National Radon Program vs EU Basic Safety Standards Directive

## National Radon Program

### Guidance/Advice

- Nat'l Building Code
- Mitigation strategies

### Research

- Testing and mapping
- Opinion polling

### Training and Education

- C-NRPP
- Public outreach and education

## EU Directive

### Requirements (some discretion) of member states:

- Address radon in workplaces, public and private buildings (300 Bq/m<sup>3</sup> with no exceptions for the latter)
- Develop Radon Action Plan (ID buildings where exceeded and encourage reduction, ID higher risk buildings, and assign responsibilities); includes duty to act
- Local and national info about exposure and risk
- Create system of enforcement

# Canadian federation vs European Union

- Clear differences
- Canadian government cannot similarly require P/T action
- Scope remains for Cdn govt to provide:
  - Comprehensive policy guidance
  - Encourage and enable a more comprehensive and coordinated pan-Canadian radon strategy

## Recommendation:

### A bolder National Radon Program

- Adaptation of EU model
- Expand current focus on research, education/outreach
- Provide increased direction/advice/toolkits (add federal tax credit/grants)
- Recommend P/T Action Plans to capture multiple areas of P/T jurisdiction

# Canada Labour Code radon provisions still excessively out of date

- Only federal area of radon limits with any legal force
- Based on over 20-year-old science - still at 800 Bq/m<sup>3</sup>
- Commitments since 2013 to revise
- None of EU or Eur. countries surveyed are as out-of-date
  - most are at 300 Bq/m<sup>3</sup>, some are at 200 Bq/m<sup>3</sup>, some have action limits of 400 Bq/m<sup>3</sup>
- Delay undermines federal credibility

## Recommendation:

- Update it

# Cost of radon mitigation remains a key barrier

- Despite great efforts: response is often indifference/avoidance
- Norway, Sweden, Switzerland and UK – uses either spending or taxation powers to help with mitigation
- Logical next step for fed'l govt - \$\$\$
- Sends a powerful signal to take problem seriously
- Help with significant cost

## **Recommendation:**

### **Federal tax credit or grant program**

- Positive or neutral impact on federal finances, net positive benefit to P/T (tax revenue and health care savings)
- Essential to integrate with energy efficiency programs

# Testing and mapping efforts

## Canada vs Europe

- Cross-Canada survey valuable and used by some provinces and municipalities to support policy dev't and planning
- EU Directive – requires member states to test and map as part of Radon Action Plans
- European countries:
  - legal requirements or strong incentives for residential and/or workplace testing
  - often with strong municipal involvement
  - often extra efforts in radon-prone regions
  - much more extensive testing and mapping efforts

# Evaluation of the C-NRPP

## Limited survey of C-NRPP-certified professionals from 5 provinces

- C-NRPP praised by all, but:
- Lack of legal obligations undermine radon efforts
  - C-NRPP trained and certified prof'ls not mandatory for radon mitigation
  - No requirement for post-construction radon measurement under any provincial building codes
  - Related: lack of training among builders, building and home inspectors to ensure proper installation during construction or home inspections; also a lack of knowledge and training among realtors

## Europe:

- Assessing building code changes - Existing work in four countries or planned in Radon Action Plans

# Research and Training; Evaluation

## Recommendations:

- Coordinate pan-Canadian collection of all test results (Swiss example) for more robust mapping of radon-prone areas (while respecting privacy)
- Test post-construction homes to assess Bldg Code effectiveness including installation issues (properly done? implications?); publicize results widely
- Complement C-NRPP with training programs for builders, building and home inspectors, realtors
- First Nations: address radon during housing negotiations; conduct additional, specialized legal research

# F/P/T Radiation Protection Committee

## Could do more:

- Mandate: advance harmonization of radiation protection practices and standards across Canada, but:
  - OHS and PH inspectors inconsistently recognize radon (either in NORM Guidelines or as a PH risk)
  - Inconsistent or non-existent training about radon among builders, building inspectors, home inspectors, real estate agents
- FPTRPC - Uniquely constituted to convene P/T officials and affected stakeholders to assist federal government in facilitating pan-Canadian best practices
  - P/T Radon Action Plans
  - Training programs for building industry and inspectors

# Provincial/Territorial Actions

## Most jurisdiction over radon rests at P/T level:

- Building Codes
- Occupational health and safety (OHS)
- Real estate transactions and home warranty programs
- Occupier's liability
- Residential tenancies
- Child care and schools
- Public health

# P/T Building Codes

## P/T Updates to National Building Code:

- All but Ontario and Quebec
- Ontario most out-of-date but proposing updates (incl. addition of mandatory post-construction testing)
- Quebec incomplete; retains 800 Bq/m<sup>3</sup> ref'ce level
  - Municipal leadership in this policy vacuum
- We need to learn from experience
  - BC - en. effic. increases radon levels
  - Winnipeg – problems with implementation
  - Calgary – “furnace driven radon pump”
  - Europe:
    - Sweden, Switzerland, Finland, Denmark – research and follow-up surveys on impact of code changes; data used to determine where further action needed

# Building Codes

## **Recommendations (Federal govt and FPT RPC):**

- Continue to encourage P/T and municipal radon testing esp. in radon-prone regions
- Pilot programs for post-construction radon testing to evaluate impact and effectiveness of Provincial Codes
- Draft model language for P/T building codes to require post-construction radon measurement
  - Include mandatory involvement of C-NRPP trained and certified prof'ls for mitigation
- **Recommendations to P/T:** Update outdated codes; assess code changes; require post-construction radon test; mitigation by C-NRPP professionals

# Occupational Health and Safety

- New research on “effective dose” suggests a doubling of estimated risk
- General duty clauses, indoor air quality/ventilation, radiation regulation
  - Only ON links general duty clause to NORM Guidelines
  - OHS Regulations in Yukon with reference to radon but action only when reaches very high level
- Worker’s compensation claims possible via general duty clauses; confusion reigns about applicability and compensation board training is needed
- Europe:
  - All countries surveyed have programs for radon testing and mitigation in workplaces (most at either 200 or 300 Bq/m<sup>3</sup>)
  - Switzerland: mitigation must be by authorized providers

# Occupational Health and Safety

## **Recommendations (Federal govt and FPT RPC):**

- As above: update *Canada Labour Code* radon limit
- Include consideration of “effective dose” during review of NORM Guidelines (consultation held in Fall of 2018)

## **Recommendations to P/T:**

- Update P/T OHS laws
  - make clear link to NORM Guidelines (as in Ontario)
  - Mitigation by C-NRPP professionals
  - clear language that radon-induced cancer is occupational disease for compensation purposes (as in BC)

# Real estate transactions and home warranty programs

- “Buyer beware” prevails
- Law distinguishes between duty to disclose vs duty to investigate (or test)
- Various tools exist to build radon into routine real estate practices
  - Mandated testing
  - Contingency clauses and bonds
  - Home warranties
  - Notice on title
  - Third-party certification

# Real estate transactions and home warranty programs

## Recommendations (Federal govt and FPT RPC):

- Profile existing leadership (AB, NB)
- Create Best Practices Toolkit for real estate transactions
  - Modernization of forms and property disclosure statements
  - Clarify and improve legal uncertainty in generalized language (“free from defects of materials and labour”)
  - Contingency clauses and radon bonds (CARST toolkit; UK)
- Advance home warranty programs with insurance industry
  - Tarion-type approach in all P/T (Ontario model)

## Recommendations to P/T:

- Mandate radon testing during real estate transactions via changes to ppty disclosure docs; update home warranty laws.

# Existing homes: paying for mitigation

Tool kit for municipalities, utilities and financial institutions

## Recommendations (Federal govt and FPT RPC):

- Borrow from/integrate with home energy efficiency sector:
  - On-bill financing
  - Low or zero-interest loans
  - Direct subsidy/grants, esp. for low-income/housing cooperatives, social housing or private sector purpose-built rentals
- Reinforce the need to address radon when tightening the building envelope for energy efficiency

# Residential tenancies

- No provisions in P/T law to protect tenants from radon (testing/mitigation)
- Maintenance and quiet enjoyment provisions:
  - Limited case law (may be comparable to 2<sup>nd</sup> hand smoke)
  - Dependent on PH inspectors to investigate
- Social housing – CAREX currently reviewing

## Europe:

- Norway – require LL to test
- UK – require LL to test; fines if don't. T can request test. LL must mitigate levels above 200 Bq/m<sup>3</sup>

# Residential tenancies

## **Recommendations (Federal govt and FPT RPC):**

- Create Best Practices Toolkit for radon in tenancies
  - Model language for P/T law to mandate radon testing and mitigation
  - Model education program for training inspectors
  - Model educational/outreach package for tenants including free test kits

## **Recommendations to P/T:**

- Mandate in residential tenancy law radon testing and mitigation where find above-guideline levels
- Expand training programs for inspectors and educational programs for tenants; provide free radon test kits

# P/T rules for child care, schools, public health

## Child care, schools

- Akin to OHS law – general safety provisions; none are radon-specific
- Extensive radon testing in some P/T; very little in others
- Europe: most of countries surveyed had RAPs to test schools and child care facilities

## Public health

- Authority to respond to health hazards; often delegated with complaint-driven inspections
- Progress in Ontario – OPHS direct local BOH to educate public and develop public awareness and mitigation strategies
- Alberta (radon in tenancies) and BC (child care testing)

# P/T rules for child care, schools, public health

## **Recommendations (Federal govt and FPT RPC):**

Create Best Practices Toolkit

- Model language for P/T law: mandate radon testing and mitigation in schools and child care facilities
- Model language for public health statutes/policy
- Model education program for training inspectors (school and CPD - workshops/posters for annual conf'es, webinars, etc.)

## **Recommendations to P/T:**

- Mandate in laws governing safety in schools and child care facilities radon testing and mitigation where find above-guideline levels
- Amend public health statutes/policy to specifically address radon
- Expand training programs for inspectors

# Facilitating pan-Canadian best practices

## Tool kits for municipalities

### Recommendation:

- Lay out legal basis for municipal role in addressing radon
- Describe best practices
  - Feature municipal leadership/innovation
- Multiple areas to address:
  - Building Codes; tenancy maintenance bylaws; coordination across depts (ppty stds and PH) and community groups (tenancy orgs); during diverse inspections (schools, child care, new construction, etc.)
- Training materials
  - (workshops/posters for annual conferences, lunch 'n learn webinars, etc.)
- Profiles of municipal leadership

# Federal role and FPTRPC role

## Summing up:

- Gather up future actions under bolder National Radon Program
- Achieve a more comprehensive, pan-Canadian approach
- Direct federal role:
  - Regulation; tax credits/grants for mitigation
- Expand, with increased role of FPTRPC, beyond research, training and education:
  - Model and enable more comprehensive and where necessary coordinated pan-Canadian radon strategy
- Profiles of European leadership (comparable to provinces)
- Provincial health care savings and cancer prevention (and likely net revenues from activity in mitigation industry)

# Thanks to:

- Kelley Bush, Deborah Quayle and other NRP staff, Health Canada
- Noah Quastel and Anne-Marie Nicol, CAREX Canada
- Morten Siersbaek, CELA
- Pam Warkentin, CARST and C-NRPP

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