Radon Action Plans in European Member States and the UK

Transposition, Accountability and Assessment

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The EU-RAP study: “Review and evaluation of national radon action plans established in EU Member States according to the requirements in Council Directive 2013/59/Euratom – the BSS Directive – focusing on the practical implementation of the actions defined in these action plans” receives support by EC, DG Energy. Ref. Ares (2020)2496502
Introduction

Governing radon through Radon Action Plans (RAPs)

“Exposure to radon gas can cause adverse health outcomes, including lung cancer” (WHO 2021)

• Radon’s adverse health effects require adequate governance
  → 2013 Basic Safety Standards (BSS) Directive as important European policy instrument
    • Extending radiation protection practices to contexts of radon, thoron and NORM
    • Focus on exposure of workers and members of the public to indoor radon
    • One of requirements for MS: establish national radon action plans
Introduction

Governing radon through Radon Action Plans (RAPs)

Radon Action Plans:
Focus on addressing long-term risks from radon exposures in dwellings, buildings with public access and workplaces for any source of radon ingress, whether from soil, building materials or water

To be considered:

1. Strategy for conducting surveys of indoor radon concentrations or soil gas concentrations
2. Approach, data and criteria used for the delineation of areas
3. Identification of types of workplaces and buildings with public access [...] where measurements are required
4. The basis for the establishment of reference levels for dwellings and workplaces
5. Assignment of responsibilities [...], coordination mechanisms and available resources for implementation of the action plan
6. Strategy for reducing radon exposure in dwellings
7. Strategies for facilitating post construction remedial action
8. Strategy, including methods and tools, for preventing radon ingress in new buildings
9. Schedules for reviews of the action plan.
10. Strategy for communication
11. Guidance on methods and tools for measurements and remedial measures
12. Where appropriate, provision of financial support for radon surveys and for remedial measures
13. Long-term goals in terms of reducing lung cancer risk attributable to radon exposure
14. Where appropriate, consideration of other related issues and corresponding programmes

→ (how) have Member States developed and implemented these elements in their national contexts?
The EU RAP Project
Assessing the development and implementation of national RAPs

Objectives:

- To collect, review and **assess national radon action plans** in all EU MS and the UK according to the requirements laid down in the BSS Directive with a particular **focus on the practical implementation** of the actions defined in these action plans.
- To identify **good practices** to address radon related issues together with experts, regulators, local authorities and other stakeholders from EU MS and the UK.

Four complementary tasks:

1. Collection of RAPs, authorities’ identification and relationship
2. Analysis of national RAPs
3. Comparative horizontal analysis
4. Final workshop
**Task 1. Collection of RAPs, authorities’ identification and relationship**

- Document analysis
- Internet search
- Snowball technique
- Email
- Phone calls
- Participation in radon-related events

**Task 2. Analysis of national RAPs**

- On-line survey
- Group interviews

**Task 3. Comparative horizontal analysis**

- Comparative analysis
- Regional workshops

**Task 4. Final workshop**

**Method**

Key: Continuous feedback and interaction with (inter)national stakeholders and experts

- Group interviews with individual countries
- Regional workshops
- Final Workshop
- Reference Group (with members from IAEA, HERCA, UNSCEAR, Lung Cancer Europe,...)
Radon action plans (like any other program or project) require:

- Assignment of **responsibilities, roles** and relations of **cooperation**

- **Resources**

- **Review** of the plan and its objectives

BSS Directive ANNEX XVIII:

§5 Assignment of responsibilities [...], coordination mechanisms and available resources for implementation of the action plan

§9 Schedules for reviews of the action plan

§12 Provision of financial support for radon surveys and for remedial measures

**RQ:** Whether and how responsibilities, coordination mechanisms, resources and review processes are incorporated and implemented in/through the radon action plans of EU Members States + the UK
Status of radon action plans in EU MS and the UK (May, 2022)

By May 2022:

• RAP approved in 23 countries

• ‘Draft document’ in 3 countries (ES, IT, PT)

• No dedicated RAP in 2 countries (but radon actions are taken) (LI, LT)
Responsibilities and coordination (I)

Who ‘owns’ the RAP? Who has final responsibility?

- Nuclear safety authorities (e.g. in Belgium, France, Croatia, ...)
- Specific ministries (e.g. Ministry of Labour, Welfare and Social Insurance in Cyprus, Ministry of Social Affairs and Health in Finland, Ministry of Health in Italy)

In most countries, radon relates to activities/responsibilities of many institutional actors

→ Range of mechanisms for collaboration, e.g.:
  
  - In small amount of countries (<5) no mechanism described in RAP
  - Regular meeting with particular stakeholders (e.g. meeting with local employers in Belgium)
  - Groups or committees, bringing together representatives from different ministries, radiation protection institutes/authorities, regional authorities, radon professionals, etc.

*Good practice: formalizing collaborations between ministries through signed agreements (cfr. Ireland)*
Responsibilities and coordination (II)

- Often missing in coordinating mechanisms: local actors → arguably key in radon governance

- Trans/inter-national coordination? → e.g. collaboration of Nordic countries

- Timing of collaboration: ad hoc or fixed moments?

- Importance of key department/person in coordinating RAP → potential benefits, but also adds to vulnerability

- Collaboration sometimes perceived as challenging due to
  - lack of resources
  - complexity of identifying/maintaining right contacts, dispersion of competences and expertise
  - shifting priorities (e.g. impact of COVID on authorities’ agendas)
### Engagement with stakeholders in development and implementation of RAP

#### INFORM

- **STRATEGY DEVELOPMENT**
  - Most authorities provide stakeholders with information on the RAP
    - e.g. Austria, Slovenia, Cyprus

- **IMPLEMENTATION**
  - Many awareness raising activities

#### CONSULT

- **STRATEGY DEVELOPMENT**
  - Some countries consult and obtain stakeholder feedback on the RAP
    - e.g. Hungary

- **IMPLEMENTATION**
  - Development of measurement or remediation protocols with stakeholders
    - e.g. Portugal

#### INVOLVE

- **STRATEGY DEVELOPMENT**
  - A few countries work directly with stakeholders or partner with them (associations of professionals, experts, regions, provinces, etc) throughout the development of RAP.
    - e.g. France, Italy, United Kingdom

- **IMPLEMENTATION**
  - Some countries define in the RAP stakeholders responsible for implementation – mostly regional/local level (e.g. Spain).

#### COLLABORATE

- **IMPLEMENTATION**
  - These higher levels of engagement will be necessary for an efficient implementation, as radon actions touch many different spheres of society.

#### EMPOWER

- **STRATEGY DEVELOPMENT**
  - EPA provides secretariat of an Inter-Agency Group to empower stakeholders for decision-making.
    - e.g. Ireland
• RAP human resources: depending on size of country and relevance of radon issue, ranging from 2 or 3 people, to 15+ (scattered across departments and organizations, often part-time)

• Most countries provide some form of financial support for radon testing and/or remediation:
  • Free radon testing (in radon prone areas)
  • % of remediation cost (e.g. Luxembourg)
  • Tax deductions (e.g. Finland)
→ Budget allocated through national, regional or local authorities, sometimes in context of other programs (e.g. energy saving)

→ Quite wide range in prices/costs: e.g. from 0 up to 100 euros for testing, or from rather low (1000-3000 euros) estimated remediation costs of dwellings, up to 7000-8000 euros

→ Does financial support increase behavior change? Several countries are conducting studies on effectiveness (e.g. Germany)
• Review schedule?
  ➔ mostly every 5 years, although some set shorter (e.g. Estonia – 2 years) or longer periods (e.g. Netherlands - 10 years)
  ➔ First review(s) coming this/next year (e.g. Bulgaria)
  ➔ Some add ‘when needed’ (but what is considered as need, and who signals this?)

• Who reviews?
  ➔ often, the ‘owner’ of the RAP also acts as reviewer: benefits (in-depth knowledge) and drawbacks (sufficient distance?)
  ➔ External review needed/desirable?
(How) are responsibilities, coordination mechanisms, resources and review processes incorporated and implemented in/through the radon action plans of EU Members States + the UK?

- Coordinating mechanisms mostly in place, but confronted with several challenges (e.g. resource and agenda prioritization, bottlenecks, timing)
- Engagement with stakeholders is key during the development of RAP for an efficient implementation
- Funding foreseen in context of RAP implementation, but mechanisms and costs vary
- Review mechanisms partly defined, but who decides?
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THANK YOU!

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