

# Current state of radon action plans in the EU



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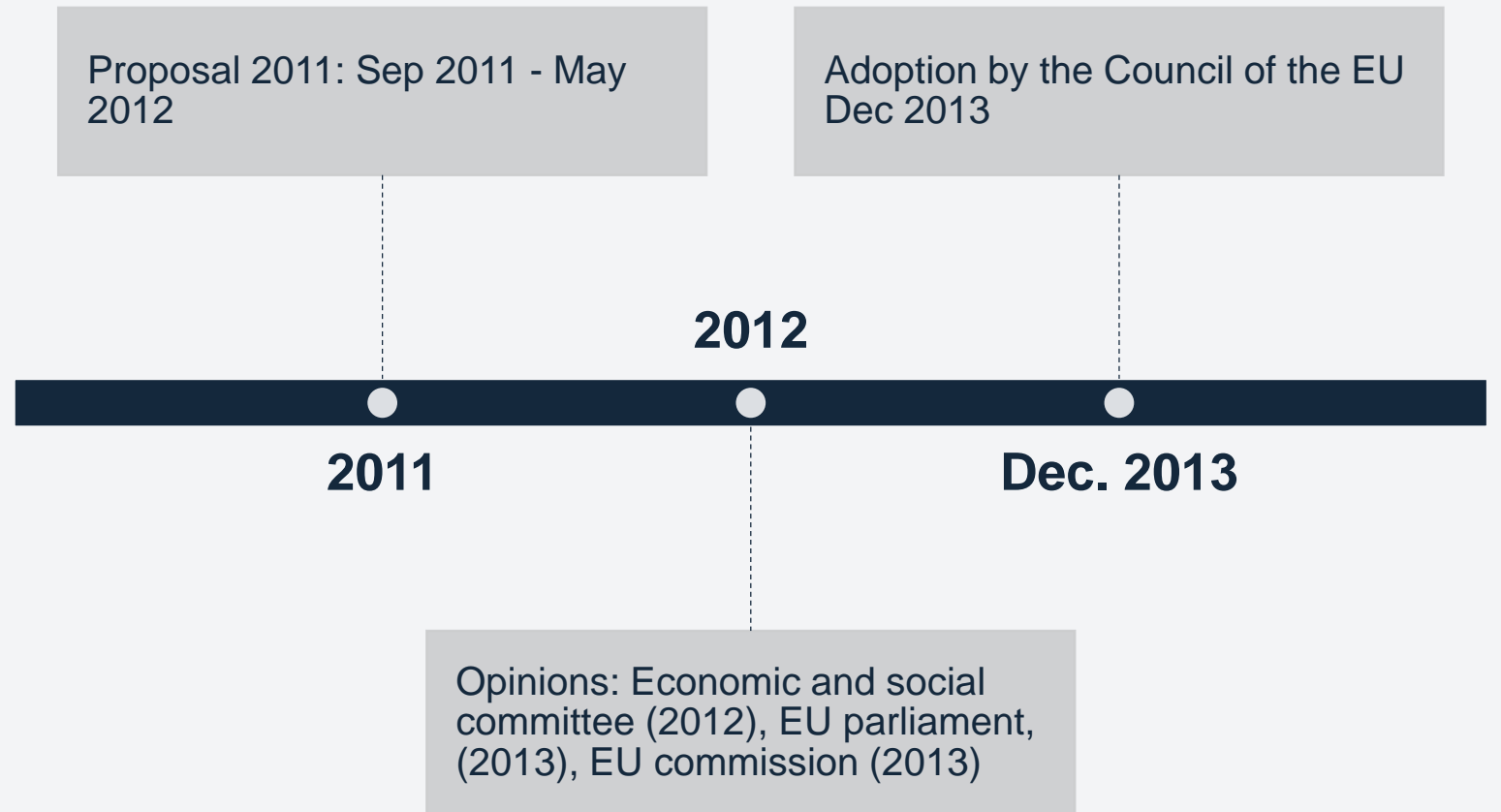
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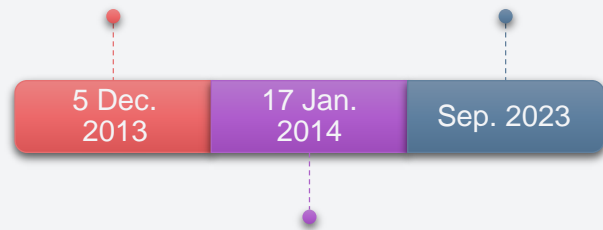


# Steps to develop the new EU Directive



# 10 years anniversary !

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Contents

*II Non-legislative acts*

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DIRECTIVES

- \* **Council Directive 2013/59/Euratom of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom, 90/641/Euratom, 96/29/Euratom, 97/43/Euratom and 2003/122/Euratom** 1

EN

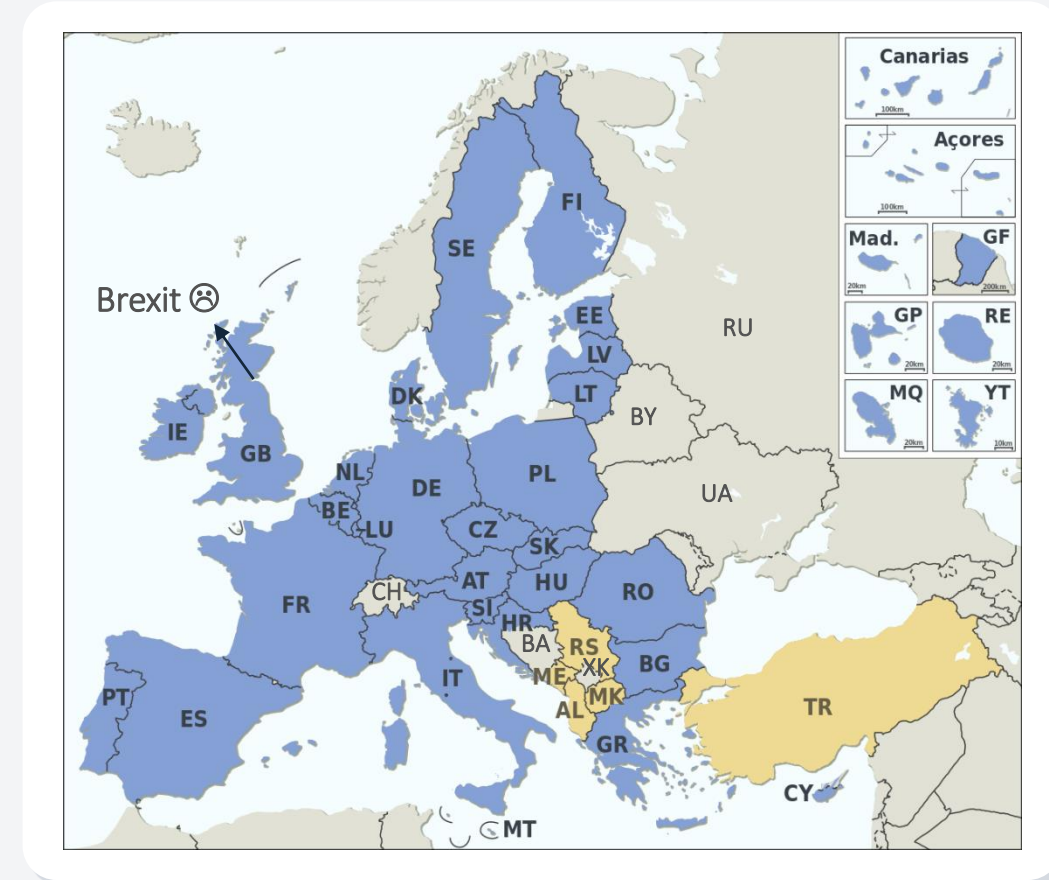
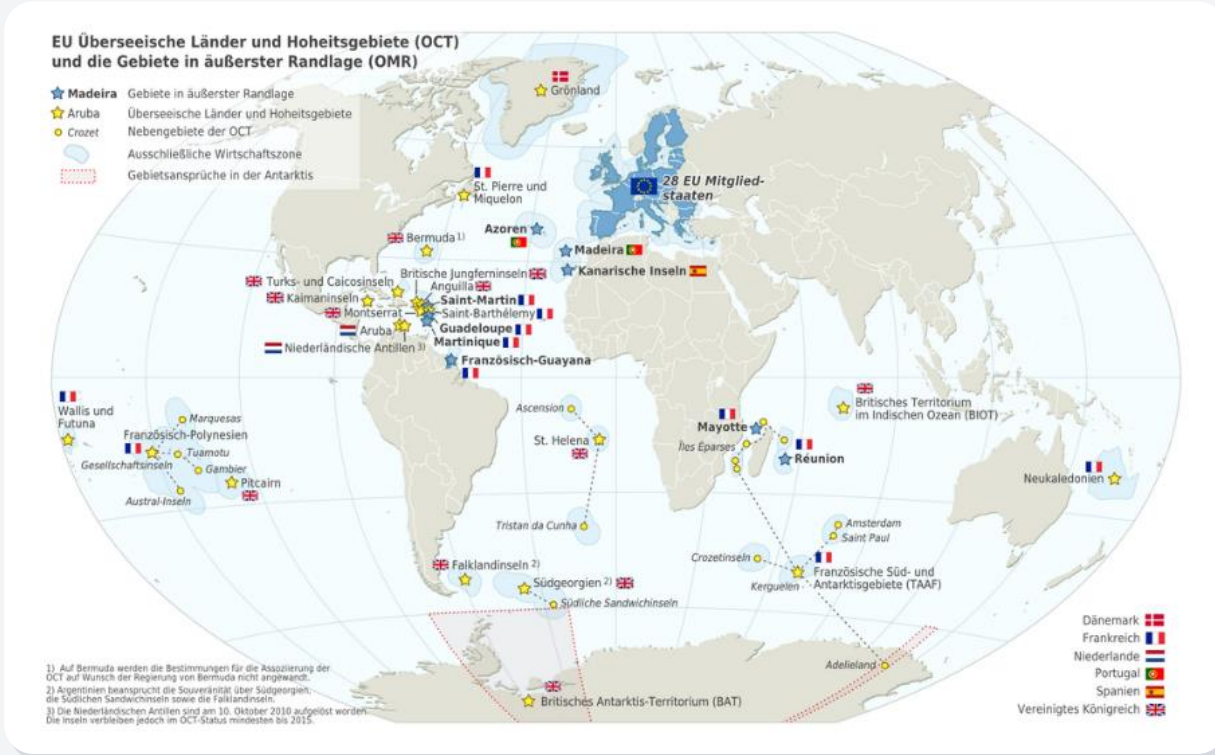
Acts whose titles are printed in light type are those relating to day-to-day management of agricultural matters, and are generally valid for a limited period.

The titles of all other Acts are printed in bold type and preceded by an asterisk.

[Top](#)

# Directive EURATOM BSS

## Euratom Basic Safety Standards: Implementation



EU:  
4,5 mill. km<sup>2</sup>, 511 mill. pop, GDP 15·10<sup>12</sup> €  
Source: Eurostats 2017

Yellow: candidate countries  
Source: [https://de.wikipedia.org/wiki/Europäische\\_Union](https://de.wikipedia.org/wiki/Europäische_Union);  
modified

# 16 PEACE, JUSTICE AND STRONG INSTITUTIONS



**EU Directive 59/2013:** 300 Bq m<sup>-3</sup>

**Strong institutions** – supervision –  
regulatory control: workplaces, rental  
apartments, public buildings

Authorities need reliable and **accredited**  
measurement results: decisions that involve  
mitigations

# The new directive

## Euratom Basic Safety Standards

Better protection for public and workplaces



# National transposition

Collapse all / Expand all	Transposition deadline(s)	Number of measures
+ Belgium	06/02/2018	62
+ Bulgaria	06/02/2018	28
+ Czechia	06/02/2018	107
+ Denmark	01/01/1001, 06/02/2018	70
+ Germany	01/01/1001, 06/02/2018	24
+ Estonia	06/02/2018	7
+ Ireland	06/02/2018	4
+ Greece	06/02/2018	12
+ Spain	06/02/2018	15
+ France	01/01/1001, 06/02/2018	258
+ Croatia	06/02/2018	36
+ Italy	06/02/2018	2
+ Cyprus	06/02/2018	15

+ Latvia	06/02/2018	26
+ Lithuania	01/01/1001, 06/02/2018	96
+ Luxembourg	06/02/2018	2
+ Hungary	06/02/2018	107
+ Malta	06/02/2018	4
+ Netherlands	06/02/2018	5
+ Austria	01/01/1001, 06/02/2018	50
+ Poland	06/02/2018	53
+ Portugal	06/02/2018	13
+ Romania	06/02/2018	75
+ Slovenia	06/02/2018	30
+ Slovakia	01/01/1001, 06/02/2018	34
+ Finland	06/02/2018	26
+ Sweden	06/02/2018	39
+ United Kingdom *	06/02/2018	63

\* Member State until 31.01.2020

<https://eur-lex.europa.eu/legal-content/EN/NIM/?uri=CELEX:32013L0059>

# Evaluation of the implementation of RAP's

## EU-RAP final workshop

Protecting EU citizens from radon: implementation of radon action plans



**Protecting EU citizens from radon:  
implementation of radon action plans**

20.09.2022 from 11.00 (CET) to 21.09.2022 to 15.00 (CET)  
Brussels airport conference centre, departure building, 4<sup>th</sup> floor, Brussels, BE

Registration: <https://form.jotform.com/211864782463968>

Contacts & information:  
dr. Meritxell Martell, [meritxell.martell@merience.eu](mailto:meritxell.martell@merience.eu) & dr. Tanja Perko, [tperko@sckcen.be](mailto:tperko@sckcen.be)

**EU-RAP final workshop** to present, discuss and share experiences on the implementation of the national radon action plans in EU MS and the UK.

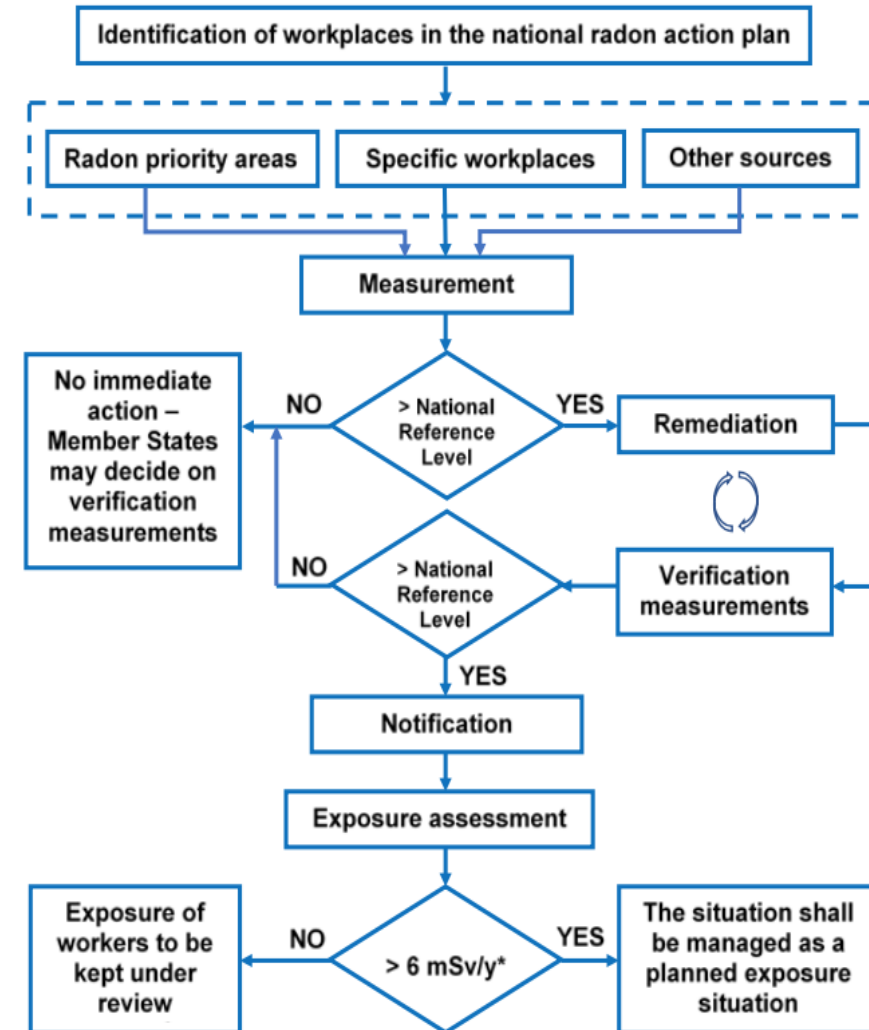
The EU-RAP study: "Review and evaluation of national radon action plans established in EU Member States according to the requirements in Council Directive 2013/59/Euratom -the BSS Directive - focusing on the practical implementation of the actions defined in these action plans" receives support by EC, DG Energy, Ref. Area (2020)496502



<https://www.sckcen.be/en/events-courses/eu-rap-final-workshop>



# Regulatory control: decision making process



\* or a corresponding time-integrated radon exposure value

# ANNEX XVIII Items RAP's

## ANNEX XVIII

### List of items to be considered in preparing the national action plan to address long-term risks from radon exposures as referred to in Articles 54, 74 and 103

- (1) Strategy for conducting surveys of indoor radon concentrations or soil gas concentrations for the purpose of estimating the distribution of indoor radon concentrations, for the management of measurement data and for the establishment of other relevant parameters (such as soil and rock types, permeability and radium-226 content of rock or soil).
- (2) Approach, data and criteria used for the delineation of areas or for the definition of other parameters that can be used as specific indicators of situations with potentially high exposure to radon.
- (3) Identification of types of workplaces and buildings with public access, such as schools, underground workplaces, and those in certain areas, where measurements are required, on the basis of a risk assessment, considering for instance occupancy hours.
- (4) The basis for the establishment of reference levels for dwellings and workplaces. If applicable, the basis for the establishment of different reference levels for different uses of buildings (dwellings, buildings with public access, workplaces) as well as for existing and for new buildings.
- (5) Assignment of responsibilities (governmental and non-governmental), coordination mechanisms and available resources for implementation of the action plan.
- (6) Strategy for reducing radon exposure in dwellings and for giving priority to addressing the situations identified under point 2.
- (7) Strategies for facilitating post construction remedial action.
- (8) Strategy, including methods and tools, for preventing radon ingress in new buildings, including identification of building materials with significant radon exhalation.
- (9) Schedules for reviews of the action plan.
- (10) Strategy for communication to increase public awareness and inform local decision makers, employers and employees of the risks of radon, including in relation to smoking.
- (11) Guidance on methods and tools for measurements and remedial measures. Criteria for the accreditation of measurement and remediation services shall also be considered.
- (12) Where appropriate, provision of financial support for radon surveys and for remedial measures, in particular for private dwellings with very high radon concentrations.
- (13) Long-term goals in terms of reducing lung cancer risk attributable to radon exposure (for smokers and non-smokers).
- (14) Where appropriate, consideration of other related issues and corresponding programmes such as programmes on energy saving and indoor air quality.

# Radon measurements workplaces



## Responsibility

Employer



## Typical workplaces

Ground floor or basements RPA

Underground

Water treatment plants

Workplaces with building  
materials high Rn Exh



## RPAs

Radon Priority Areas

# Measurement protocols

## Who is responsible

- Competent national authority

## Reference

- ISO standard 11665-4:2012
- ISO standard 17025

## Additional

- Verification measurements
- Personal monitoring
- Approval of measurement services

# Dose

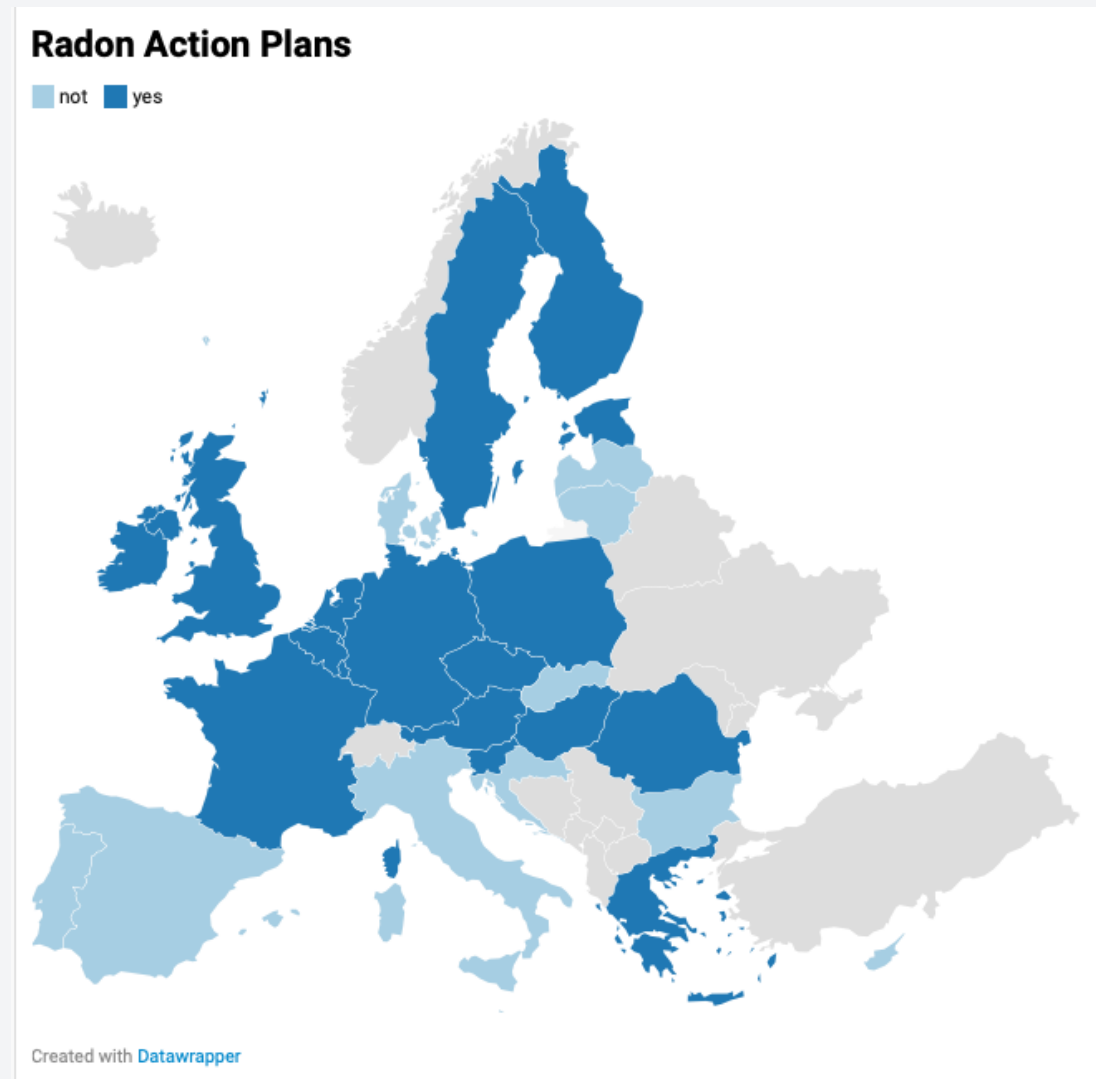


Page 5: ...Member States should ensure that these workplaces are notified and that, in cases where the exposure of workers is liable to exceed an effective dose of **6 mSv per year** ..., they are managed as a planned exposure situation

Art 35 (2): For **workplaces** specified in Article 54(3), and where the exposure of workers is liable to exceed an effective dose of 6 mSv per year

Art 54 (3): In areas within **workplaces**, where the radon concentration ... continues to exceed the national reference level, despite the action taken in accordance with the principle of optimisation as set out in Chapter III, Member States shall require this situation to be notified in accordance with Article 25(2) and Article 35(2) shall apply

# Examples of RAPs



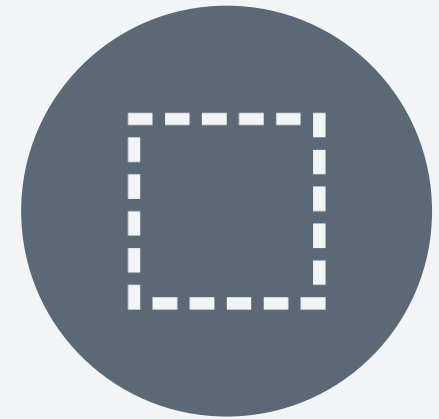
# Some info



INFO FROM 17  
COUNTRIES



16 EU + UK



6 AVAILABLE IN EN

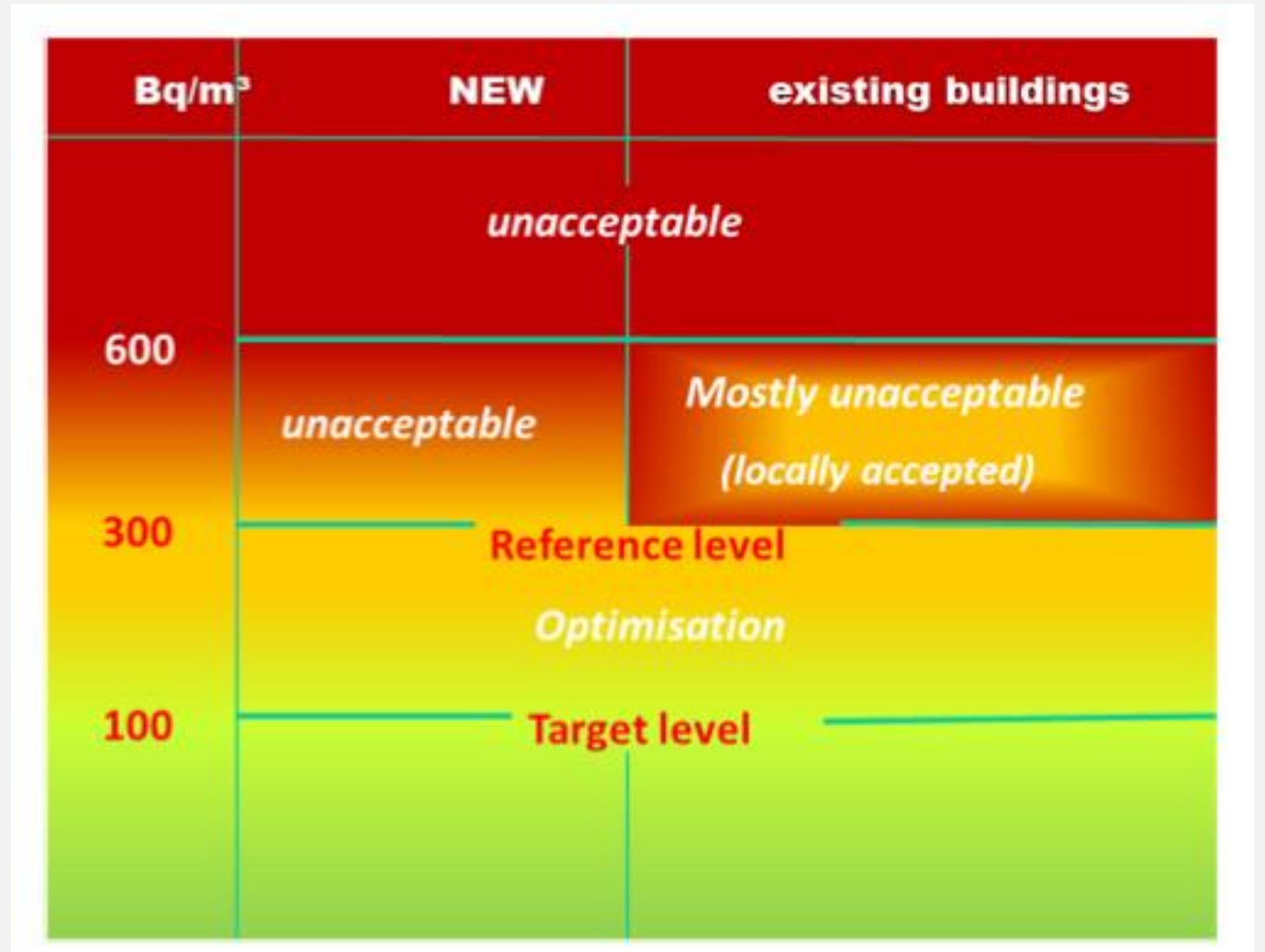
# Radon data RAPs

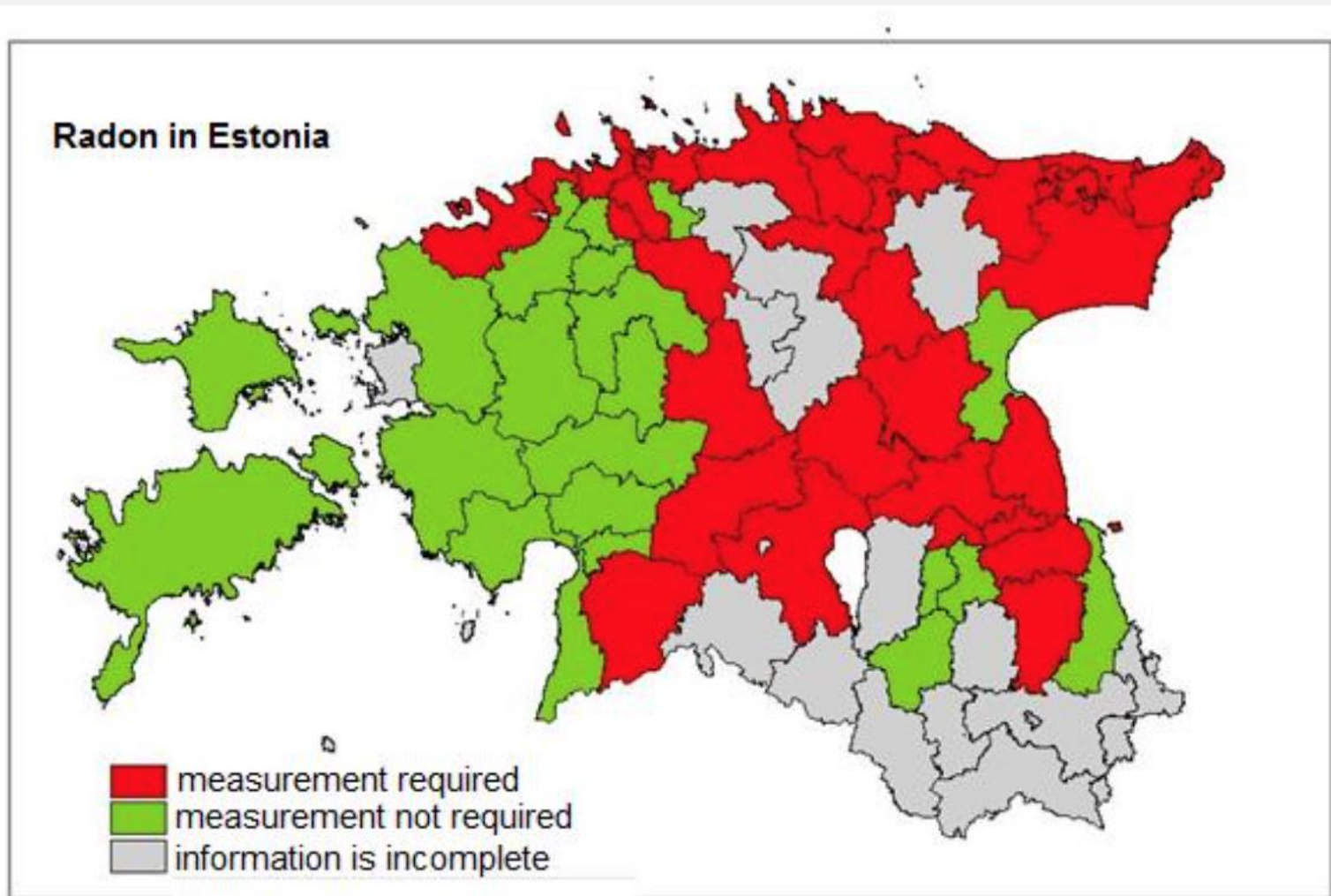
Country	RAP	RL	Period	Authority	RPAs	DCF
Austria	yes	300		Min. Environment		
Belgium	yes	300	2020-2025	FANC	5% > RL	ICRP 137
Czech Republic	yes	300		SUJB	30% > RL	
Estonia	yes	200-300	2018-2021	Min. Environment		
Finland	yes	200-300		Min. Soc and health	10% > RL	ICRP 137
France	yes	300	2020-2024	IRSN	3 cat. Municipalities	ICRP 137
Germany	yes	300		Min. Environment		
Greece	yes					
Hungary	yes					
Ireland	yes	200-300	2019-2024	Inter-agency group		
Luxembourg	yes					
Netherlands	yes	100				
Poland	yes	300		Polish Atomic Agency and Chief Sanitary Inspectorate		
Romania	yes			Inter-agency group		
Slovenia	yes	300	2018-2028	Min. Health	2 areas	ICP 137
Sweden	yes	200		Inter-agency group/SSM	Not	
UK	yes	200-300	2018-2023	Inter-agency group	1% RAL	



# Belgium

*The use of the reference level as a tool for optimisation of the radiation protection.*





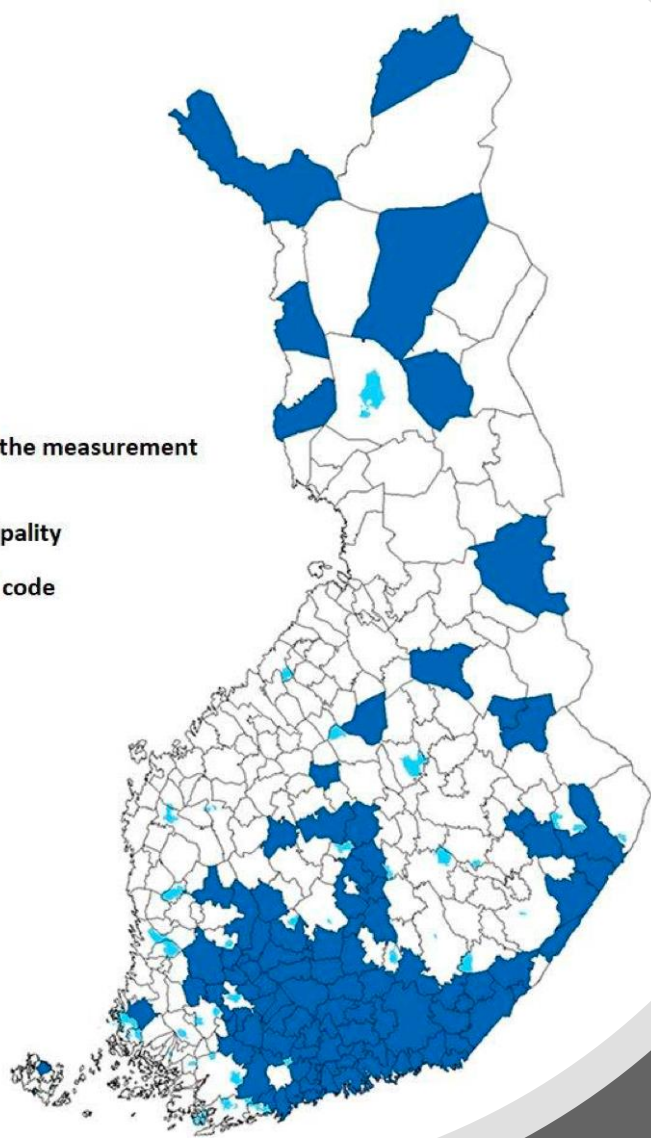
# Estonia

*Map of prioritised radon risk areas of Estonian administrative units (as at 2018)*

# Finland

Approximately one third of the lung cancers caused by radon in Finland result from low radon concentrations of less than 100 Bq/m<sup>3</sup>. Reducing radon exposure to below 100 Bq/m<sup>3</sup> is a good target if it is reasonably possible.

Areas subject to the measurement obligation

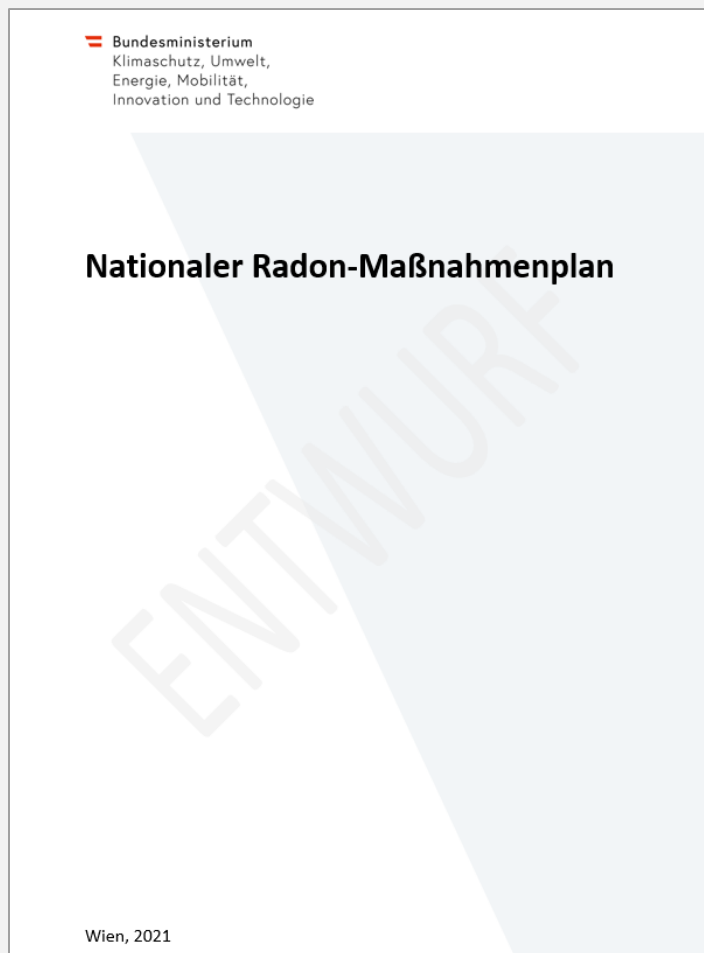




Dr. Valeria Gruber, AGES  
(Austria)

# Austria

## Topics/fields



**Evaluation** of radon risk of the Austrian Population

**Radon protection** of new and existing buildings

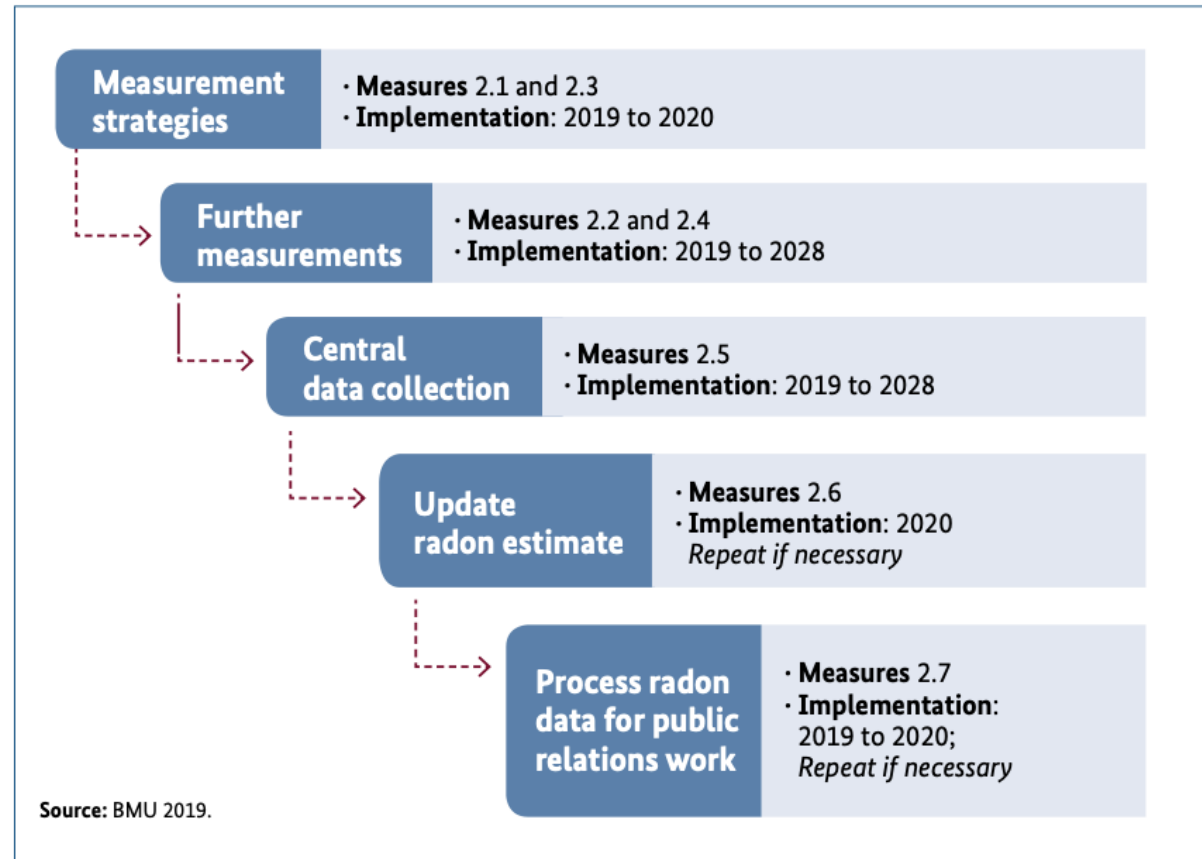
**Radon protection** in workplaces and buildings with public access

**Radon protection** in education and training

**To increase** Rn awareness

Possible **connection and synergies** of radon protection with other relevant topics

**Evaluation and adaption** of legal documents and standards





# Radon: working together

Public

Authorities

Radon

Industry

Research


# Thank you for your attention

## radonova

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