



# **National Action Plan and Nordic Co-operation on Radon**

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# Regulation background of Radon Action Plan (RAP)

- Radiation Act (859/2018, 159 §)
  - Ministry of Social Affairs and Health will prepare
- Governmental Decree on ionizing radiation (1034/2018 54 §, Annex 6)
  - RAP includes radon exposure in dwellings, buildings with public access and workplaces due to ground and bedrock, building materials and household water
  - Updated every 5 year

# RAP Content (1034/2018, Annex 6)

1. Long-term goals for radon exposure associated lung cancer reduction
2. Reference levels
3. Measuring
4. Mapping of indoor radon concentrations
5. Identification of buildings and areas with high radon concentrations
6. Remediation and prevention of high indoor radon concentrations
7. Risk communication

# Process

- 2017: Stakeholder involvement and hearing
- 2018: Steering group of national authorities involved in radon regulation established
- 2019: Radon Action Plan will be published

# Steering group of national authorities involved in radon regulation

## Representatives

- Ministry of Social Affairs and Health (chair and the responsible body)
  - Health Protection, Environmental Health (governmental & regional)
  - Occupational Safety and Health (governmental & regional)
  - STUK (secretary)
  - National Supervisory Authority for Welfare and Health (Valvira)
- Ministry of Environment
- Association of Finnish Local and Regional Authorities

# Regulatory control of radon exposure

## New buildings

Local building control /Ministry of Environment

## Homes and buildings with public access

Local health protection authority /Ministry of Social Affairs and Health

## Workplaces

STUK (+Occupational safety and health authority)

## Radioactivity in household water

< **quality requirement**

Local health protection authority

> **quality requirement**

STUK

## Radioactivity in building materials, underground mines and quarries, waste containing radioactive materials

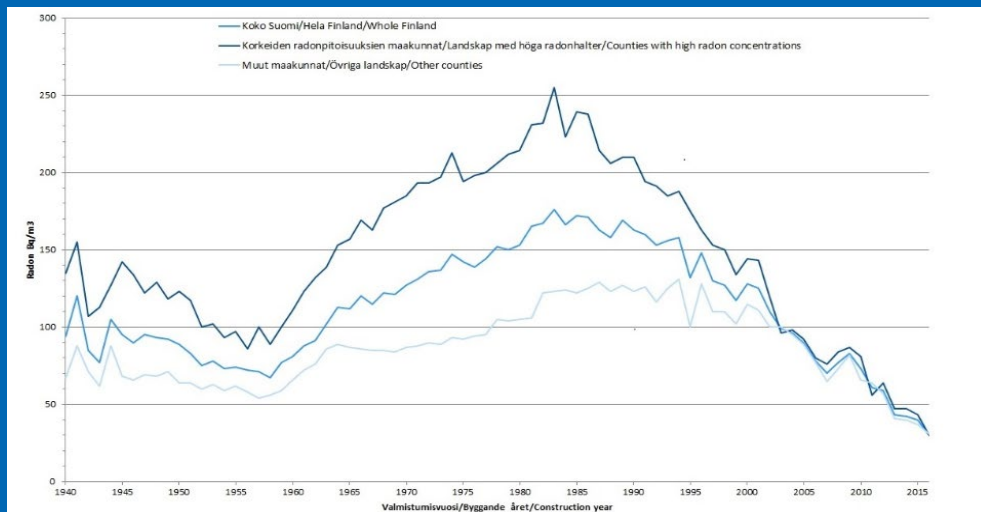
STUK



SÄTEILYTURVAKESKUS  
STRÅLSÄKERHETSCENTRALEN  
RADIATION AND NUCLEAR SAFETY AUTHORITY

****DRAFT****GOALS	HOW?	SOURCES OF INDICATORS
Lung cancer due to radon ↓	<ul style="list-style-type: none"> <li>• <b>Radon exposure and smoking</b> ↓</li> </ul>	<ul style="list-style-type: none"> <li>• Radon exposure: the national radon database and surveys</li> <li>• Smoking habits: nationwide surveys</li> <li>• Lung cancer: the Cancer Registry</li> </ul>
Radon exposure ↓	<ul style="list-style-type: none"> <li>• Radon mitigation in new buildings</li> <li>• Remediation of existing buildings with high radon concentrations</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys</li> <li>• Targeted regulatory control campaigns</li> </ul>
Indoor radon concentrations will be better known	<ul style="list-style-type: none"> <li>• More measurements in dwellings</li> <li>• Workplaces and places with public access will be measured as stated in the Radiation Act</li> <li>• Comprehensive data included in the national radon database</li> </ul>	<ul style="list-style-type: none"> <li>• Indicators from the regulatory control of radon</li> <li>• Representativeness of entries in the national radon database</li> </ul>
Radon risk awareness ↑	<ul style="list-style-type: none"> <li>• Effective and active communication to/ with all stakeholders and target groups</li> </ul>	<ul style="list-style-type: none"> <li>• Surveys</li> </ul>

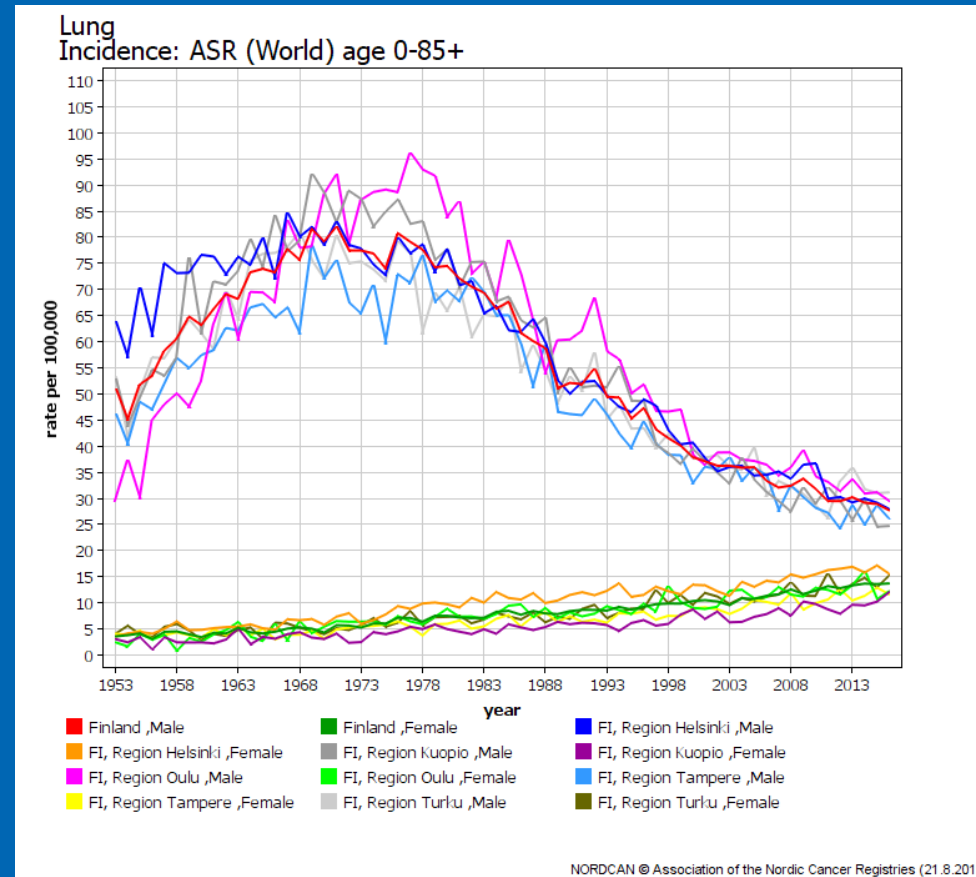
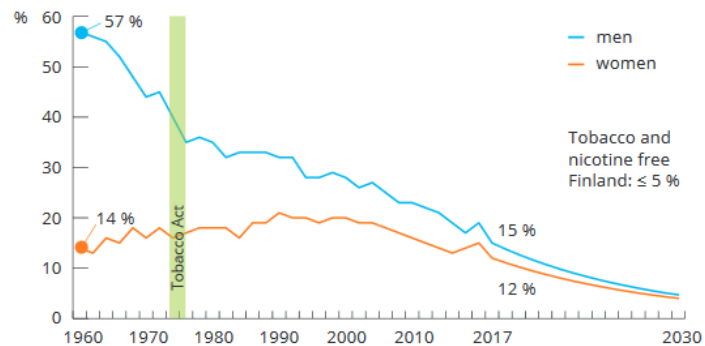
# 1. Long-term goals for radon exposure associated lung cancer reduction



**The use of tobacco products is declining**  
 In 2017, 13 % of Finnish adult population smoked daily:  
 15 % of men and 12 % of women.

## Daily smoking in 20-64-year-olds in Finland 1950-2017

Source:  
 National  
 Institute for  
 Health and  
 Welfare (THL),  
 Finland.



NORDCAN © Association of the Nordic Cancer Registries (21.8.2019)



## 2. Reference levels:

- 200 & 300 Bq/m<sup>3</sup>
- 500 000 Bq h/m<sup>3</sup>/yr

## 3. Measuring:

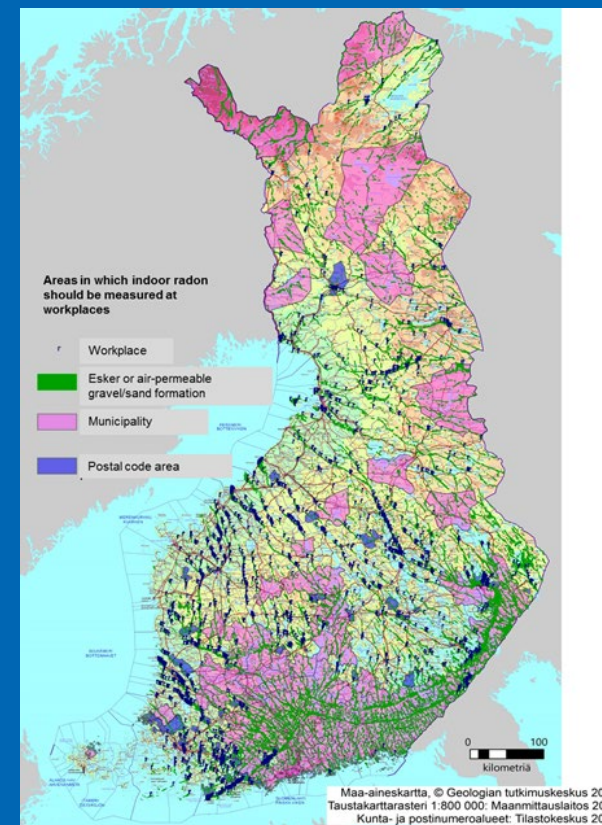
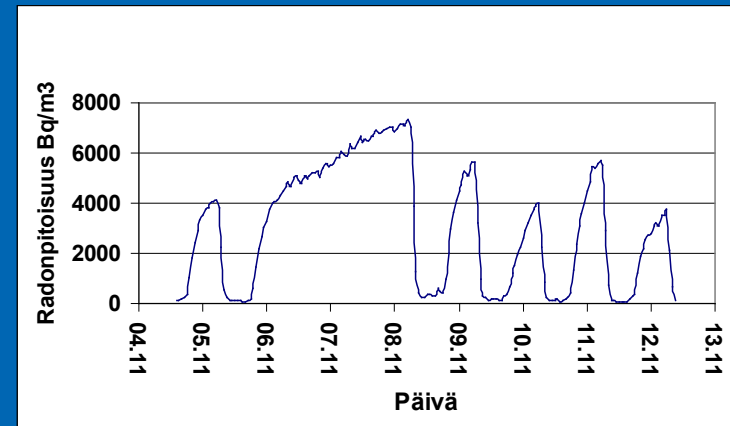
- September-May
- $\geq 2$  months alpha track detectors
- 7-days continuous monitors for workinghours, etc.
- number & location of measurements

## 4. Mapping of indoor radon concentrations

- National radon database (next slide)
- Presentation /Turtiainen, Poster /Mänttari

## 5. Identification of buildings and areas with high radon concentrations

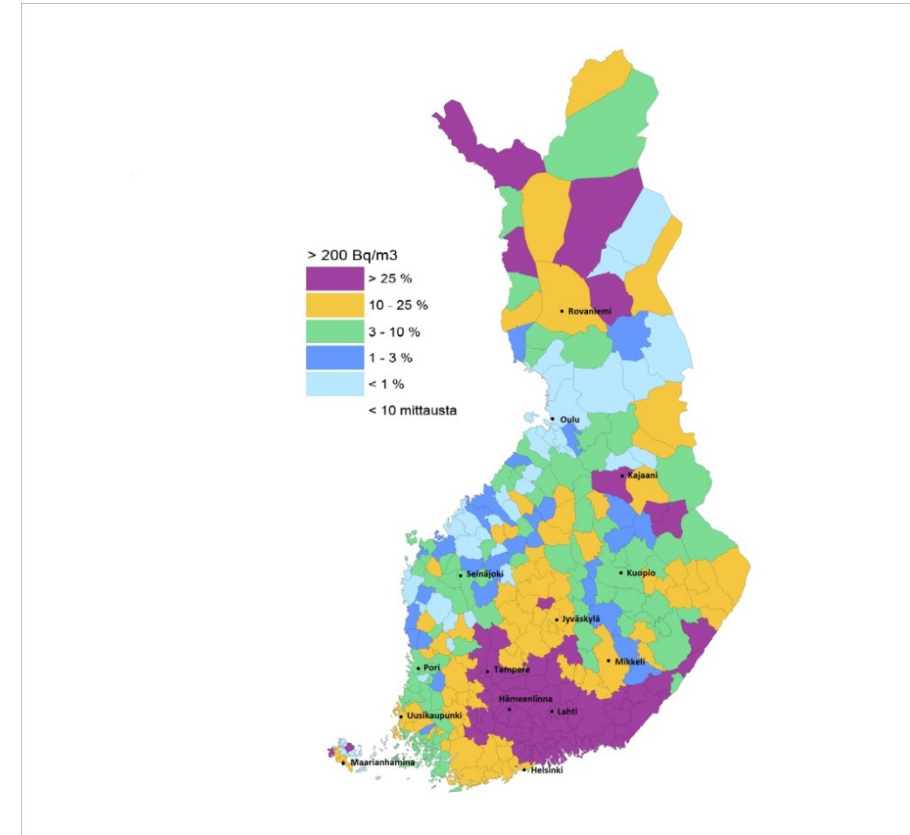
- Poster /Mänttari



## 4. Mapping: National radon database /Radiation Act 19 §

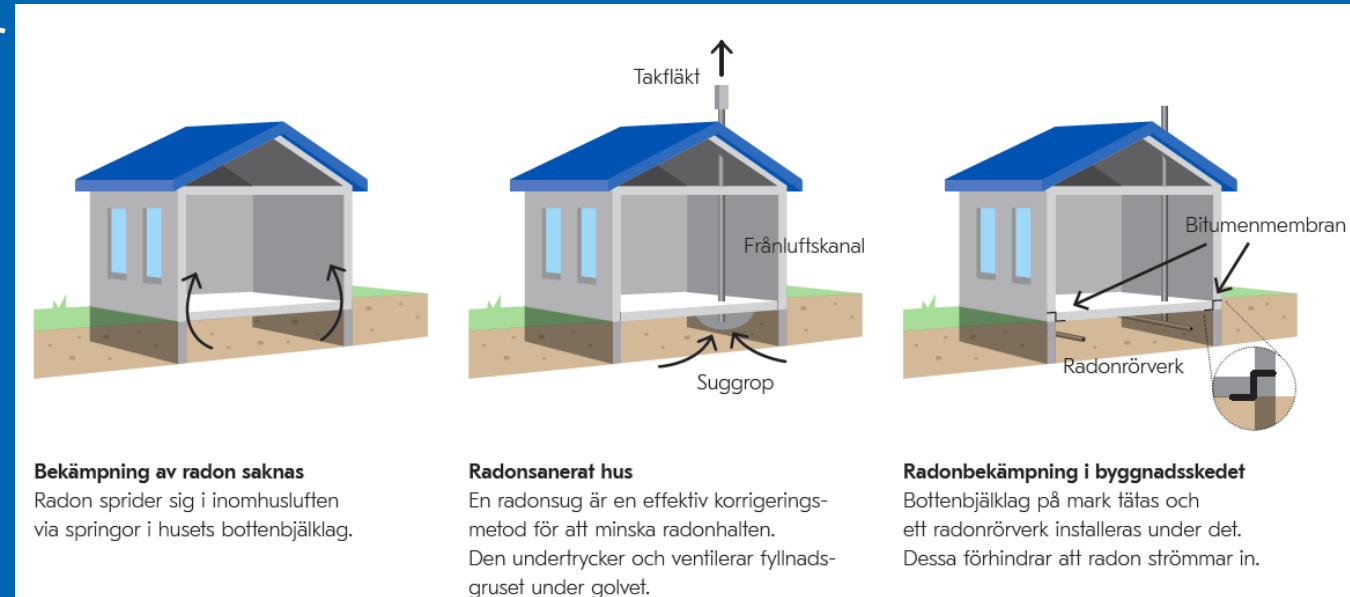
Radon concentrations in dwellings, public buildings and workplaces

- *Data from STUK's laboratory (all) and radon measurement companies (only workplaces)*
- *About 210 000 measurements in 145 000 dwellings*
- *About 55 000 measurements in 10 000 workplaces*



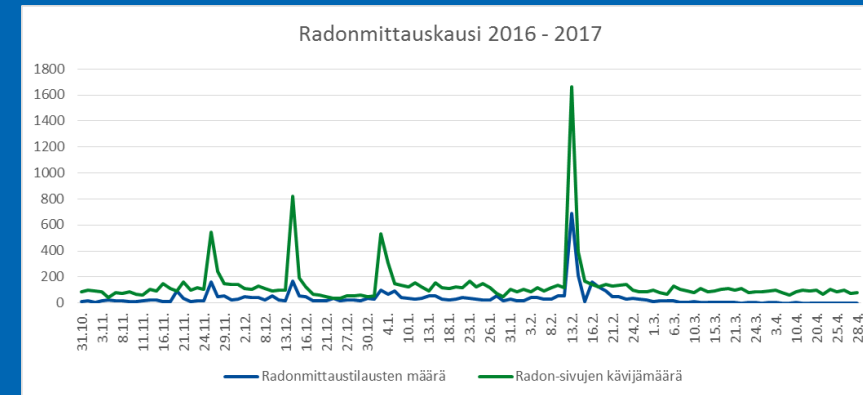
## 6. Remediation and prevention of high indoor radon concentrations

– Presentations/Holmgren



## 7. Risk communication

– Poster /Kojo



# Nordic-NAT Mandate (11.6.2019)

1. To **identify common topics of interest** for further work at the Nordic level and **develop relevant projects, documents and statements**.
2. To harmonize and promote **Nordic views** and positions internationally, when appropriate.
3. To provide a forum for **exchanging experience** in order to facilitate the future implementation and maintenance of **more efficient regulatory framework**, as well as **information to the public**.
4. To facilitate the sharing of expensive and high maintenance **laboratory infrastructure**, such as reference instruments and atmospheres, as well as sharing observations on **new measurement techniques and instruments**.

## Nordic-Nat Work programme



Nordic Working Group on Natural Ionising Radiation (Nordic-Nat)



Project name	Background and objective	Outcome/product
Overview of radon management in the Nordic countries.	<p><u>Objective</u></p> <p>Provide an overview of action and reference levels in dwellings, workplaces and other buildings as well as the annual average radon concentration in the different kind of buildings.</p>	Questionnaire and report
Overview of regulatory control of NORM industry in Nordic countries	<p><u>Objective</u></p> <p>To get an overview of regulatory control of NORM industry in Nordic countries</p> <ul style="list-style-type: none"> <li>• Industrial processes of concern from regulatory point of view</li> <li>• Comparison of legislation and regulatory framework</li> <li>• Overview of waste streams for NORM and disposal practice</li> </ul> <p>The long term objective could be harmonization of good regulatory practice where possible and identification of the topics for potential joint projects or collaboration</p>	<p><u>Short term (2019)</u></p> <p>Draft report to be ready for next meeting early 2020</p>
The use of small electronical devices	<p><u>Background</u></p> <p>The use of small electronic devices is becoming more and more widespread. These devices are relatively cheap and thus most people can afford to buy them. However, the challenge lies in ensuring that people use them in a correct manner.</p> <p><u>Objective</u></p> <p>Provide an overview of state of the art on small electronic devices</p>	<p><u>Short term (2019)</u></p> <p>Overview Report</p> <p><u>Long term</u></p> <p>Possibly a Nordic statement or common guidelines</p>