

# Gunn-Berit (GB) Neergård

---

Entrepreneurial Nurse  
Founder of GEM Radon Detectors  
Twitter: @Helsepleieren

# RISK COMMUNICATION

---

How Politics May Affect the Health Awareness and  
Behaviour of a Population,  
Reducing Radon Induced Cancer in Norway

How can we turn radon into smoke?

# People say that smokers are weak

---

But try to stand and smoke outside,  
when the temperature is -20 C!

# WHAT YOU NEED TO KNOW ABOUT NORWAY

---

Population = 5.100.000 Norwegians

National oil fund = 6.985 billion NOK

Ranked #1 at the Human Development Index by the UN  
11 out of the past 13 years

# NORWEGIANS AND OUR LUNGS

---

Approximately 5.100.000 people

3000 get lung cancer every year

300 lung cancer deaths a year due to radon exposure

22% of all cancer deaths are due to lung cancer

# NORWEGIANS AND OUR RADON GAS

---

Among the highest levels of indoor radon concentration  
Radon is mentioned as a risk factor  
Norwegian Radiation Protection Authority  
Increasing number of radon measurements  
No one really knows what radon gas is!



The problem is not the problem.  
The problem is your attitude about the problem.



# ATTITUDE AS A PROBLEM

---

Public attitude vs individual attitude

# SUCCESSFUL PUBLIC ATTITUDE

---

VACCINATION

CLIMATE CHANGE

(at least it looks like we're getting there)

AND TOBACCO

# ATTITUDE TOWARDS TOBACCO

---

100 years ago: smoking was seen as obscene and promiscuous. Moral condemnation of cigarettes.

1950: Mass production -> modernity. The book of "Etiquette": It was rude to ask to eat smoke-free, even in their own homes

2015: Stigmatized and discriminated

# WHAT WE DO TO REDUCE SMOKING

---

- Advertising is banned
- Health warnings
- Labeling duty
- Age limit was raised
- "Tobacco Act"
- Increased taxes
- Information

# REDUCE SMOKING / REDUCE RADON

---

- Advertisement is banned
- Health warnings
- Labeling duty
- Age limit was raised
- Increased taxes
- "Tobacco Act"
- Information
- 
- 
- 
- 
- Radiation laws and regulations
- Information

# TWO STRATEGIC, GOVERNMENTAL GOALS

---

All dwellings should have less radon than the limit of 200 Bq/m<sup>3</sup>.

Lower the radon concentration as low as possible, also below action level.

The strategy is continuing for 5 more years.

# LIVE, WORK, PLAY

---

You should reduce any radon level over 100 Bq/m<sup>3</sup>.

The radon level in living rooms should always be lower than the limit of 200 Bq/m<sup>3</sup>.

For rental apartments, kindergartens and schools, the action level of 100 Bq/m<sup>3</sup> and the maximum limit of 200 Bq/m<sup>3</sup> is regulated by law.

# BUILDING NEW HOUSES

---

All new houses are built with a “radon barrier”

Mitigation system in the foundation is required, and should be activated when the radon level is more than the action level of 100 Bq/m<sup>3</sup>



# HOW TO DO MEASUREMENTS IN NORWAY

---

- At least two months
  - At least two rooms and in every floor
  - Period Factor
- |                         |      |
|-------------------------|------|
| 15. October-31. October | 1    |
| 1. November-31. March   | 0,75 |
| 1. April-15. April      | 1    |

# EXPECT “YES” TO THESE QUESTIONS

---

Do you offer radon measurements that follow the “Statens strålevern”s procedures for measurements of radon in residents?

Do you offer long term measurement over at least two months?

Does it include a guidance of how to place the measurement device in the home?

Do you sell radon measurement services that are calibrated?

Do you use accredited measurement labs or can you document that your equipment has approved results in international measurement comparisons?

Will I receive a measurement report after completed measurement?

# TO SUM UP ...

---

- Norway has high levels of radon
- Norway is ranked #1 at the HDI, and have the possibility to prioritize actions towards radon
- The attitude is the problem, but the attitude can change. Risk communication of tobacco = success story in Norway
- Two national goals: Less than 200 Bq, as low as possible
- What is done today: Laws and regulation
- What could be done to achieve a better risk communication: Information, health warnings and fees

# LITERATURE

---

- Official journal of the European Union, COUNCIL DIRECTIVE 2013/59/EURATOM of 5 December 2013: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013L0059&from=EN>
- Statens Strålevern, procedure to measure radon in dwellings: <http://www.nrpa.no/dav/e33cd9ffab.pdf>
- Statens Strålevern, radon: <http://www.nrpa.no/dav/e33cd9ffab.pdf>
- Year report, Statens Strålevern: [http://ipaper.ipapercms.dk/StatensStrlevern/arsmelding\\_2014\\_Statens\\_stralevern/](http://ipaper.ipapercms.dk/StatensStrlevern/arsmelding_2014_Statens_stralevern/)
- Norwegian Oilfund: <http://www.nbim.no/fondet/markedsverdi/>
- Stortingsmelding 19, Folkehelsemeldingen (Public health directive): <https://www.regjeringen.no/nb/dokumenter/meld.-st.-19-2014-2015/id2402807/?docId=STM201420150019000DDDEPIS&ch=1&q=>
- The world cancer day: Numbers about cancer in Norway kreftdag / Institute of populationbased cancer research : <http://www.kreftregisteret.no/no/Generelt/Nyheter/Verdens-Kreftdag-Hoy-forekomst-av-kreft-i-Norge--/>
- Sirius, tobacco research: <http://www.sirus.no/publikasjon/rusmidler-i-norge/3-tobakk/>
- Info about Norway: <http://en.wikipedia.org/wiki/Norway>
- Human Development Index: [http://en.wikipedia.org/wiki/Human\\_Development\\_Index](http://en.wikipedia.org/wiki/Human_Development_Index)

# PLEASE STAY IN TOUCH!

---

[gbn@gemdetectors.com](mailto:gbn@gemdetectors.com)

Twitter: @Helsepleieren

LinkedIn: Gunn-Berit Neergård