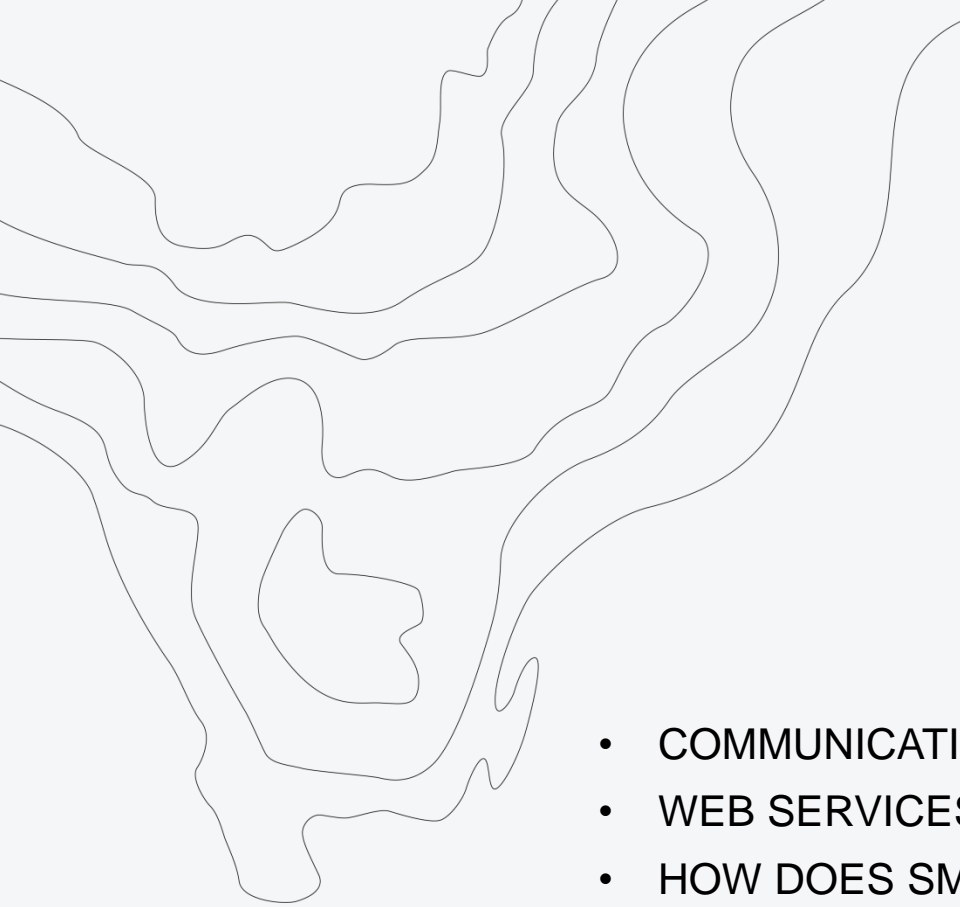




OLIVIER TASSE AND HELENE ALPFJORD WYLDE

**AIR QUALITY
COMMUNICATION IN
SWEDEN**



- COMMUNICATION AT SMHI LEVEL,
- WEB SERVICES AS A COMMUNICATION TOOL,
- HOW DOES SMHI COMMUNICATE ON AIR QUALITY?

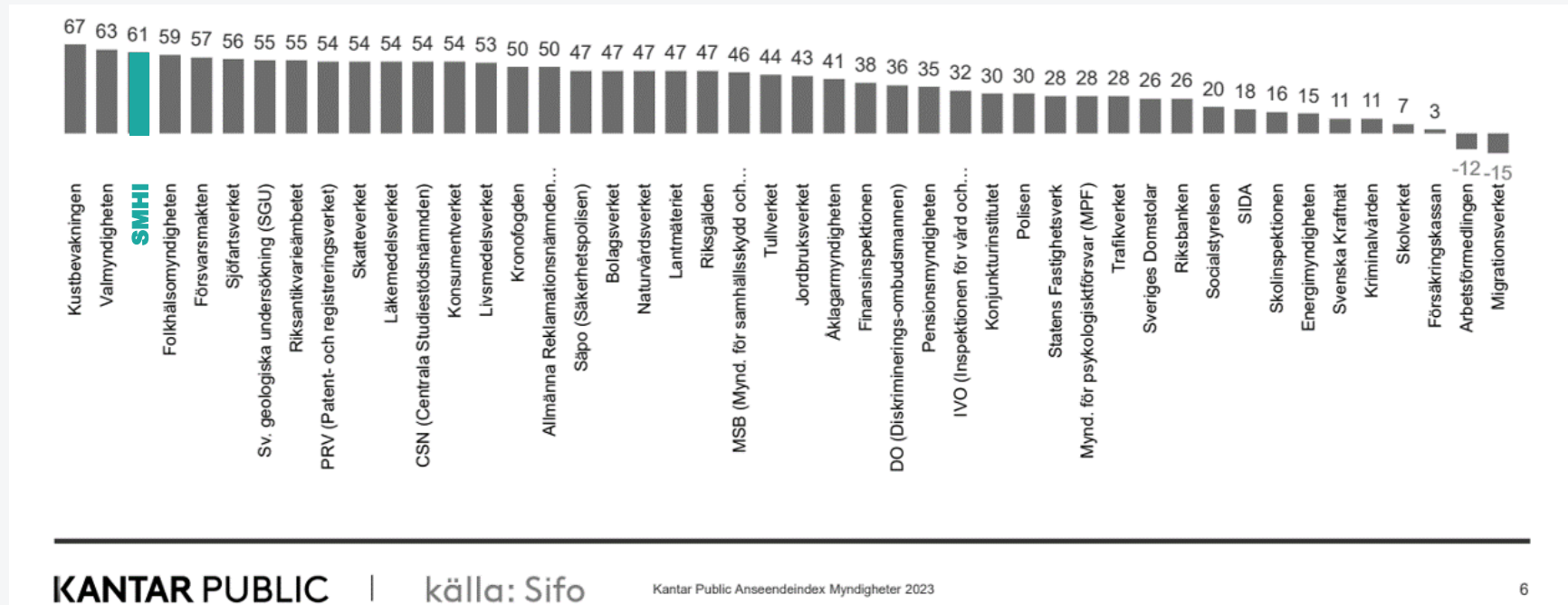
Success factors

- SMHI is **well-known**.
- General **opinion** is very **positive** towards SMHI – high trust.
- Well **established** communications **channels** – possibility to use different channels for a wider spread of messages and content.
- Communicative **organisation** with communications resources centrally as well as on local levels, close to the different activities.
- Growing **interest** in society/media for environmental issues, for addressing climate change.
- Increasing **knowledge** about environmental issues amongst decision makers on different levels in society.

The importance of trust

Public opinion – trust in authorities. Annual survey. SMHI top 3.

The survey includes the 46 most well-known authorities in Sweden (46 of 340 authorities).






Well established communication channels

185 million visits recorded on smhi.se/year

Weather forecast is the most viewed section, visible on starting page.

Open all


| | Temperature max / min | Precipitation per day | Wind / gust | Sunrise / sunset | Forecast certainty |
|---|--------------------------|--------------------------|--------------------|---------------------|-----------------------|
|  Today 26 Oct | 0° 3° 3° | ☁ 0.0 mm | ⇌ 4 m/s ✓ 8 m/s | ☀ 07.57 17.21 | Certain |
|  Tomorrow 27 Oct | 0° 4° 1° | ☁ 0.0 mm | ⇌ 4 m/s ✓ 7 m/s | ☀ 07.59 17.19 | Certain |
|  Saturday 28 Oct | 0° 3° 0° | ☁ 0.0 mm | ⇌ 3 m/s ✓ 7 m/s | ☀ 08.01 17.16 | Fairly Certain |

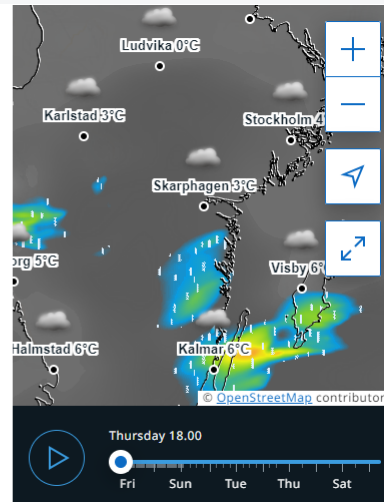
Forecast was issued today at 17.08 local time.

Warnings in Skarphagen

No warnings issued

Messages nearby

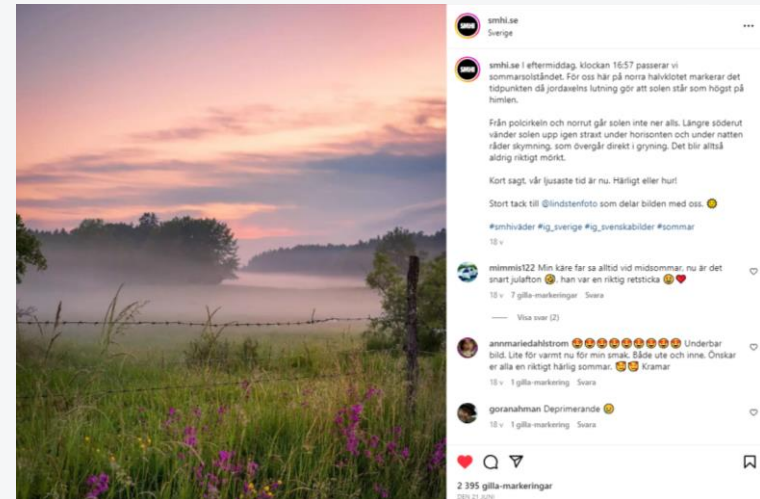
 Risk for water shortage



Well established communication channels

SMHI on Instagram with contributions from the public as well as SMHI images with facts about weather.

SMHI has also accounts on Facebook, LinkedIn, and X (Twitter).



Challenges

Complicated information, facts and figures...

High demand on communication resources in order to simplify, package and present information in order to meet the **objective of reaching people**.

Different needs on different levels...

Target audiences have specific needs that needs to be **addressed differently**.
E.g. decision-makers needs of information differs a lot from the general public, students etc.

General overflow of information...

Environmental issues gets an increasing amount of attention in media.
How do we meet the demand? How can we ensure a continuous interest?

A faint, black line drawing of a topographic map is positioned on the left side of the slide. It shows several irregular, wavy contour lines that represent elevation or depth, typical of a map of a coastal or mountainous region.

WEB SERVICES AS A COMMUNICATION TOOL

Web services at SMHI

Large efforts in the last 10 years to improve public information about air quality

2012 – Reference laboratory for modelling

2016 – New data host for AQ measurements incl. data portal

2021 – Improved web services for gridded emissions, regional modelling results

2021 – Luftwebb portal with AQ measurements in map using AQI

2023 – High resolution modelling results in web service

2024 – Regional AQ forecasts over Sweden

Over 10 000 unique visits a year to our main web services!

Luftwebb

SMHI has recently developed an air quality web portal gathering e.g.

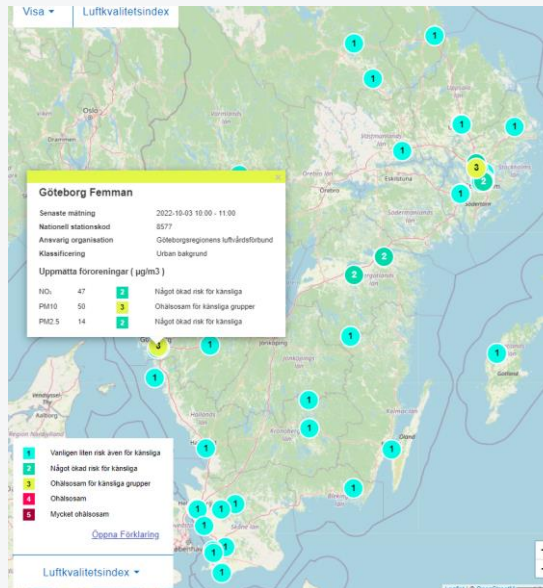
- national gridded emissions,
- air quality measurements and modelling results
- guidance for air quality model users
- ...

www.smhi.se/luftwebb

www.smhi.se/luftwebb (eng)

Luftwebb

På SMHIs Luftwebb samlas på uppdrag av Naturvårdsverket tjänster inom luftmiljö. Här hittas tjänster för visualisering av svenska luftmiljödata, som mätdata, regionala spridningsberäkningar och geografiskt fördelade emissioner. Tjänsterna är öppna för alla.



ANDRA WEBSIDOR OCH APPLIKATIONER INOM LUFTMILJÖ

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Datavärldskart för luftkvalitet
 SMHI är värd för Naturvårdsverket till regionala och lokala luftkvalitetskartor. Kartorna visar sammanlagda och tillgängliga svenska luftmiljödata.

Datavärldskart för atmosfärsfysik
 SMHI sammanfattar ämnen i luften och värfäl i olika ämnen över Sverige. Studera och ledna ner dem här i kartform.
[Datavärldskart för atmosfärsfysik](#)

Nationella emissionsdatabasen
 Den nationella emissionsdatabasen samlar Sveriges officiella statistik för nationella utsläpp av klimatgas och luftföroreningar för sedda till Vär- och kommunnivå.
[Nationella emissionsdatabasen](#)

Referenslaboratorier för luftkvalitet - modeller
 Referenslaboratorier för luftkvalitet - modeller. Referenslaboratorier för luftkvalitet - modeller.

Verktyget VOSS
 VOSS är ett webbaserat verktyg med vilken du kan göra en preliminär bedömning av luftkvaliteten med avseende på kväveoxid och partiklar (PM10) i en kommun.
[Verktöget VOSS](#)

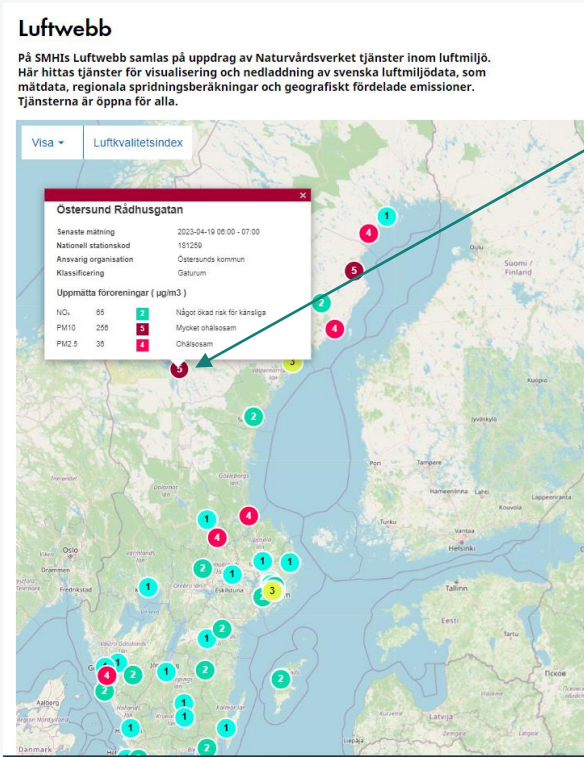
Prognoser marknära ozon
 SMHI gör prognoser för marknära ozon med hjälp av en prognosmodell för luftföroreningar - MAOZ. Prognoserna kan användas som ett hjälpmedel för känsliga grupper, t.ex. astronauter.
[Prognoser marknära ozon](#)

NATURVÅRDSVERKET
 Naturvårdsverkets avsnitt om luft. Läs om luften vi andas och hur den påverkar oss. Se där en lista och statistik över utsläpp, föroreningar och luftkvalitet. Se vilket register som gäller och vad som görs internationellt.
[Luft på Naturvårdsverket](#)

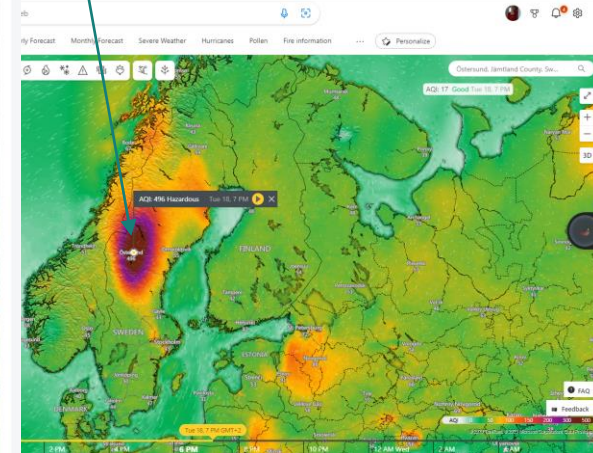
Referenslaboratorier för luftkvalitet - mätningar
 Här får du hjälp och rådgivning när det gäller mätningar av luftkvalitet.
[Referenslaboratorier för luftkvalitet - mätningar](#)

Need for national forecasts

- Freely available AQ forecasts are sometimes lacking in quality
- Questions bounce back to SMHI
- Important to provide official data of high quality!



- High PM₁₀ concentration measurement, representative of street canyon in a few blocks.
- Used as representative of hundreds of km interpolation in a Weather App



A faint, black line drawing of a topographic map is positioned on the left side of the slide. It shows several irregular, wavy contour lines that represent elevation or terrain features. The lines are more densely packed in some areas and more spread out in others, creating a sense of depth and shape.

HOW DOES SMHI COMMUNICATE ON AIR QUALITY?

Ways of communicating

- SMHI news channels – SMHI.se, Medvind magazine, LinkedIn, Fb, X, Instagram
- Questions from the public
- News in media
- Educational purposes
- National network of municipalities regarding AQ management
- Nordic network



SMHI Weather Climate Data Professional services The knowledge bank Research Warning Yellow, Sweden

Home

Air quality

SMHI has a wide range of activities in the air environment area. We conduct research on the processes that affect the spread of air pollutants, and provide systems and consulting services for air quality assessment and monitoring. This thematic page collects SMHI's activities related to air quality.

NEWS

October 2023
Dispersion calculations from point sources with SIMAIR Area
 New module SIMAIR Area replaces SIMAIR Crossing and involves new functionality to quickly and make surface-covering scattering calculations both from point sources and intersections. All current of Korsning get...
[Dispersion calculations from point sources with SIMAIR Area](#)

October 2023
Scenario year 2030 for SIMAIR
 Scenario year has been launched for the air quality system SIMAIR. It is now possible to estimate yourself in the system based on the latest forecasts of emission changes and changes in fleet for the year 2030.
[Year 2030 for SIMAIR](#)
[in the news archive](#)

CONTACT US

Fredrik Windmark
 Product Manager Air Quality Sweden
 011 495 8432
fredrik.windmark@smhi.se

Cecilia Bennet
 Group manager Air environment research
 011 495 8504
cecilia.bennet@smhi.se

Research in air quality
 One of Sweden's leading consulting groups in air quality. We carry out socially beneficial consulting investigations and dispersion calculations and provide model systems for users in Sweden and the world.
[Consulting services in air quality](#)

AIR QUALITY DATA AND SERVICES

Air web
 At Luftwebb, on behalf of the Swedish Environmental Protection Agency, we collect all services within the air environment, such as visualization and downloading of Swedish air environment data and much more.
[SMHI's Luftwebb](#)

Data hosting for air quality
 SMHI is appointed by the Swedish Environmental Protection Agency as national data host for air quality data. SMHI stores, compiles and makes Swedish air environment data available.
[Air environment data](#)

Air quality forecasting with CAMS
 SMHI contributes to the Copernicus Atmosphere Monitoring Service (CAMS) with the atmospheric chemical transport model MATCH together with eleven other institutes.
[Air quality forecasting with CAMS](#)

Questions from the public

- SMHI **customer support is first line** support
- More **specific** AQ questions are sent to our **experts**
- SMHI is **obliged to answer** within reasonable time span (<2 weeks)
 - *Yellow/black dust on my car?*
 - *I smell fire smoke, where is it from?*
 - *Today is foggy, is it air pollution?*
 - *Is my flight delayed due to smoke plume?*
 - *Gas from war in Ukraine in Sweden?*
 - *My app tells me to wear a face mask and close windows, what should I do?*
 - *My AQ sensor shows AQ levels in a red interval, why?*

News in media

Communication regarding air pollution episodes or emissions of public interest

- increase awareness of air pollution and of important emission sources (e.g. forest fires)
- increase traffic to SMHI web services

DAGENS NYHETER Nyheter Sverige Världen Ekonomi Kultur Sport Klimatet

Röken från de kanadensiska skogsbränderna når snart Sverige

Uppdaterad 2023-06-30 Publicerad 2023-06-28

Under torsdagen väntas brandriken från Kanada nå Sverige. Start News Podcasts & programs Immediatety My page Hor

P4 Gothenburg P4 program A-Z Tableau Playlists File If... Tip!

Close to 500 fires are raging in Canada. Photo: SMHI and Ian Williams/TT.

FOREST FIRE

Canadian fire smoke coming in - unusual phenomenon expected

1:03 min My page Share

Published Thursday 29 June at 19:59

SVT reveals: Shipping between Swedish ports emits more than domestic flights

PUBLISHED MAY 6, 2019

Inland shipping emits almost twice as much air pollution and greenhouse gases compared to what has previously been known. A new report from SMHI shows that the existing statistics are misleading. According to the authority, shipping between Swedish ports actually accounts for more emissions than domestic flights.

Official statistics have so far shown that carbon dioxide emissions from inland shipping have steadily decreased in recent years. But SVT can reveal that calculations from SMHI show the opposite. According to the authority, the emissions are significantly greater than the statistics show.

- We see approximately twice as high fuel consumption from inland shipping compared to what we previously thought, and thus also twice as high emissions, says Fredrik Windmark, air environment expert at SMHI.

More than the domestic flight

The Swedish Environmental Protection Agency is responsible for Sweden's official statistics regarding emissions, but the figures currently listed [on the agency's website](#) are therefore not comprehensive.

The most recent comparable figures, from 2016, show that emissions from inland shipping using the old methodology were 342,000 tonnes of carbon dioxide equivalents (gases that contribute to the greenhouse effect). But updated with the new calculation method, the emissions amount to 662,000 tonnes, of which commercial traffic accounts for 488,000 tonnes and the rest comes from recreational boats.

In 2016, domestic aviation accounted for 554,000 tonnes, according to the Swedish Environmental Protection Agency's figures.

"It's surprising. You don't think like that. When you hear about ships, you hear that they have to be efficient," says Fredrik Windmark at SMHI. Photo: Stefan Jansson/SVT

<https://www.svt.se/nyheter/inrikes/svt-avslojar-sjofarten-mellan-svenska-hamnar-slapper-ut-mer-an-inrikesflyget>

Communication for educational purposes

SMHI provides information aimed at school students and general public

- Interactive shows to increase knowledge and create interest in important environmental and climate issues
- Filmed material for high school students on different topics such as air quality
- Popular science radio pods

Climate shows in the Geodome

Updated March 24, 2023 Published November 30, 2015

Climate screenings are held in the mobile Geodome, giving visitors the opportunity to interact with a climate expert from SMHI. The screenings aim to increase engagement and increase knowledge about the causes of climate change and its effects globally and locally.



The undeliable Geodome has room for 25 children or



UR SAMTIDEN Föreläsning

Hur ren är luften vi andas - egentligen?

How clean is the air we breathe, really?

Lecture · 21 min

According to the World Health Organization (WHO), four million people die prematurely every year as a result of poor outdoor air and three million from indoor air. Helene Alpfjord Wyldé, air quality modeller, talks about how air quality models can be a good support in improving air quality. Recorded on 25 May 2022 at SMHI in Norrköping. Organizer: SMHI.

Subject words: Pollution issues, Air pollution, Environmental issues, Natural science

| | |
|-----------------------------------|---------------------------------|
| Production year 2022 | available until 30 June 2024 |
| Spoken language Swedish | Subtitles Swedish |
| Lecturer Helene Alpfjord Wyldé | |

<https://sverigesradio.se/avsnitt/luftforenningar-den-osynliga-dodaren-p3-dystopia>

<https://urplay.se/program/229186-ur-samtiden-vader-vatten-och-klimat-hur-ren-ar-luften-vi-andas-egentligen?source=kunskapskanalen.se>

National AQ network of municipalities

- Important forum for discussing municipality needs and get user feedback
- Regular digital and physical meetings, ½ day sessions, 3/year, ~50 participants
- Relevant topics such as reporting procedures for measurements and modelling, revision of AQ Directive etc.
- In close cooperation with SwEPA and the Reference laboratory for measurements.



Nordic network for AQ modelling

- A forum for discussing AQ modelling issues similar for all Nordic countries, such as small-scale heating appliances, road resuspension from studded tyres, etc.
- Supports knowledge sharing and possible cooperation.





THANK YOU!