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MINISTRY OF THE ENVIRONMENT

Transposition of AQ directives in Finland August 28. 2007

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Ministry of the Environment

Finnish Environmental Administration

The number of permanent staff

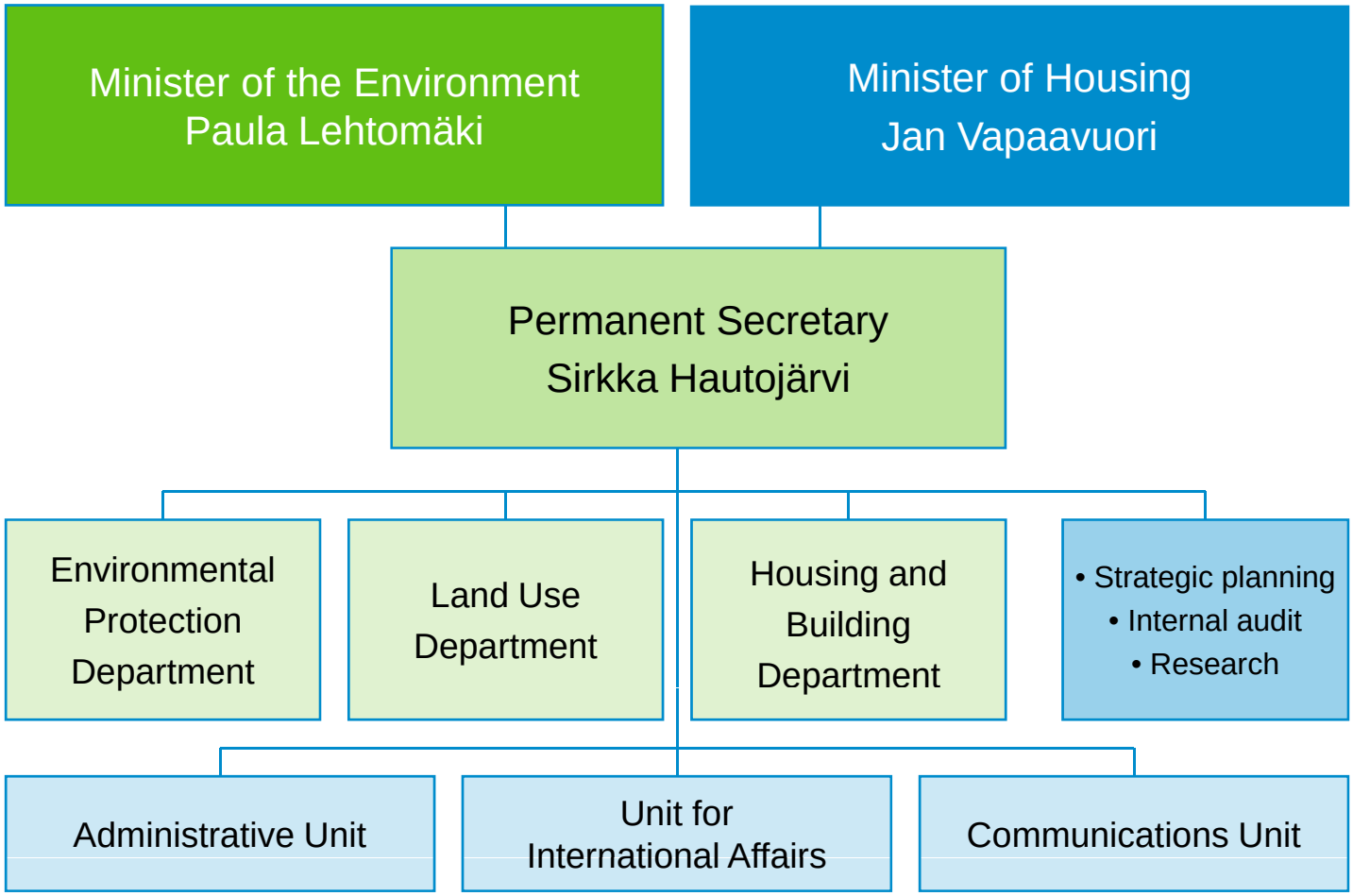
the Ministry of the Environment	310 persons
13 regional environmental centres	1400 persons
3 environmental permit authorities	80 persons
the Finnish Environmental Institute	380 persons
the Housing Fund of Finland	70 person
– Total	2240 persons

Additionally

the Forest and Park Service

the Finnish Forest Research

Ministry of the Environment, Finland



Ministry of the Environment

Units in the Environmental protection department

- Industry and trade
- Waste management and environmental risks
- Water issues and rural areas
- Air pollution control, noise abatement and climate change
- Co-operation with neighbouring areas
- EU co-operation
- Sustainable development

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Transposition
Legislative basis

Environmental Protection Act (86/2000)

Environmental Protection Act is applied to all activities that cause or may cause environmental damage

It includes provisions about:

- environmental authorities and their responsibilities
- environmental permits
- environmental assessments etc.

It establishes environmental principles such as:

- precautionary principle,
- polluter pays principle and
- application of BAT and BAP

IPPC directive (Integrated Pollution Prevention and Control) is implemented through the EP Act

Government decrees

Under the EP Act the Government may issue necessary decrees concerning:

- environmental quality criteria (limit values and target values),
- environmental assessment (monitoring ect.)
- emissions from stationary sources (emission limit values),
- emissions from NRMM and other kind of machinery (portable equipment) or
- fuel quality.

Vehicle emission are regulated under the Vehicle Act.

Transposition into national legislation

EU legislation:

FWD 96/62/EC
DD1 1999/30/EC
DD2 2000/69/EC
DD3 2002/3/EC
DD4 2004107/EC

Finnish legislation:

EP Act 86/2000
Air quality degree 711/2001

Ozone degree 783/2003
Degree on metals and PAHs 164/2007

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Transposition
Air Quality Objectives

Air quality objectives in Finland

Non-compulsory guide values

- since 1984
- revised in 1996

Legally binding limit values

- since 1996
- revised in 2001
- ozone since 2003
- metals and PAHs as from 2007

Guide values

- introduced in 1984, revised in 1996
- based on health and environmental effects
- no attainment date specified
- used as targets in:
  - land use planning
  - physical planning
  - traffic management and
  - environmental permit procedure

Limit values, target values and long term objectives

Objectives identical with EC directives

No observed limit value exceedances since 2001

- except PM_{10} exceedance in Helsinki 2003, 2005, 2006 (busy canyon streets) and
- NO_2 in Helsinki 2006

Target values for ozone exceeded in southern and central Finland – long-term objectives in the whole county

Metal and PAH concentrations high around significant point-sources – PAHs may also be a problem in residential areas with small-scale wood burning

⟹ Further abatement measures to attain the limit values – and in some cases target values – may be required!

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Transposition
Responsible authorities and institutions

Ministry of the Environment

Is responsible for general steering, surveillance and development of environmental protection inc. air pollution control.

Defines policies and sets targets for air quality.

May issue certain provisions concerning e.g.

- measurement and test methods, standards and models to be used for environmental assessment
- QA/QC procedures for measurements and test

May designate an expert institution to function as a national reference laboratory (e.g. FEI, FMI)

May designate inspection authorities for type approvals (e.g. for NRMM)

Regional environmental centres

Co-ordinate air quality assessment

Supervise that the assessment will comply with the requirements of the Air Quality Degree (711/2001), Ozone Degree (783/2003) and Metals and PAHs Degree (164/2007)

Ensure that the number of air quality measuring stations is adequate

Ensure that the air quality data is supplied to the environmental protection database (air quality register)

Municipalities

Assess air quality (monitor, measure, calculate or estimate objectively the air quality)

Supply air quality data to the environmental protection database (air quality register)

Make the data available to the public and other interested parties (health organisations etc.)

Update the air quality data

Inform or warn the public of bad air quality

Prepare and implement air quality action plans

May issue municipal environmental rules & regulations (restrictions for small scale wood burning etc.)

Finnish Meteorological Institute

Expert organization on air quality issues

National Reference Laboratory on Air Quality (FWD)

- measuring strategy for local networks (in progress) to improve accuracy of measurements
- guidance to local networks
- inter comparison exercises (national & international)
- AQUILA co-operation between NRL in Europe
- standardization of methods (CEN activities)

Administrator of the National Air Quality Register

- data collection, processing and exploitation
- reporting to the EU and EEA

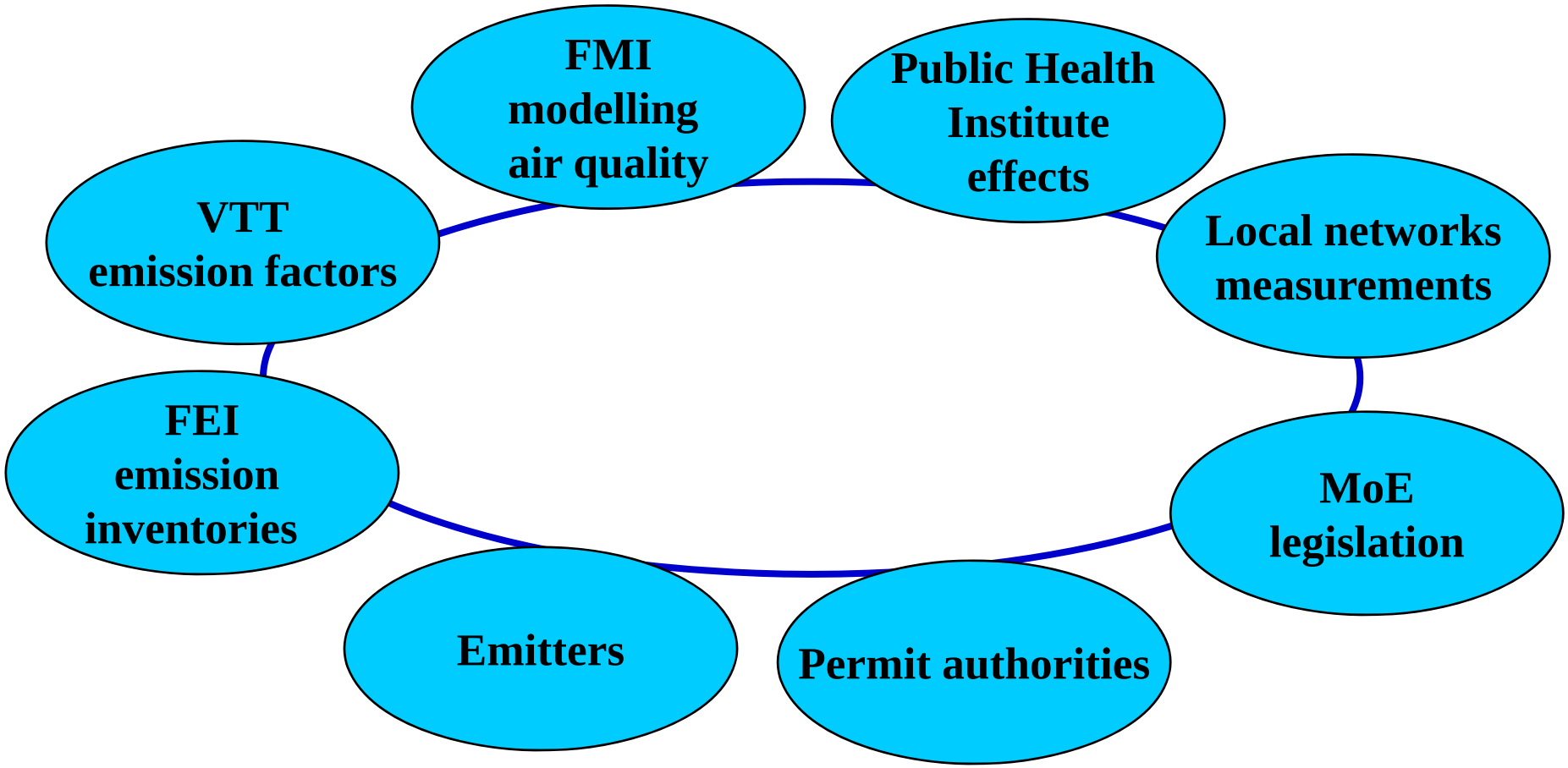
Finnish Meteorological Institute

Operates rural AQ monitoring stations

Other implementation related work

- Preliminary Assessment Reports required by EU Daughter Directives
- Inter-comparison of the PM measurement methods with the reference method
- National Air Quality Web Service www.ilmanlaatu.fi
- Research projects

Cooperation of different stakeholders



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Further points about assessment

AQ assessment

Decentralized monitoring system *“Local authorities responsible for arranging the necessary air quality monitoring taking into account the local circumstances.”*

Urban air quality is measured at about 50 municipalities

- most often measured pollutants are SO2, NO2, PM10, TSP, CO and O3.
- total reduced sulphur (TRS), metals and PAHs mainly at industrial sites
- Metals, benzene and BaP also in the Helsinki region

FMI runs monitoring stations in rural background areas.

Other assessment methods (modelling, emission inventories etc.) are rarely used.

Zoning

Health based limit values (all but benzene):

- Regional Environment Centres (13 zones)
- Helsinki Metropolitan Area, YTV (1 agglomeration)

Benzene limit value:

- Northern and southern Finland (2 zones)
- Helsinki metropolitan Area, YTV (1 agglomeration)

Ozone, metal and B(a)P target values:

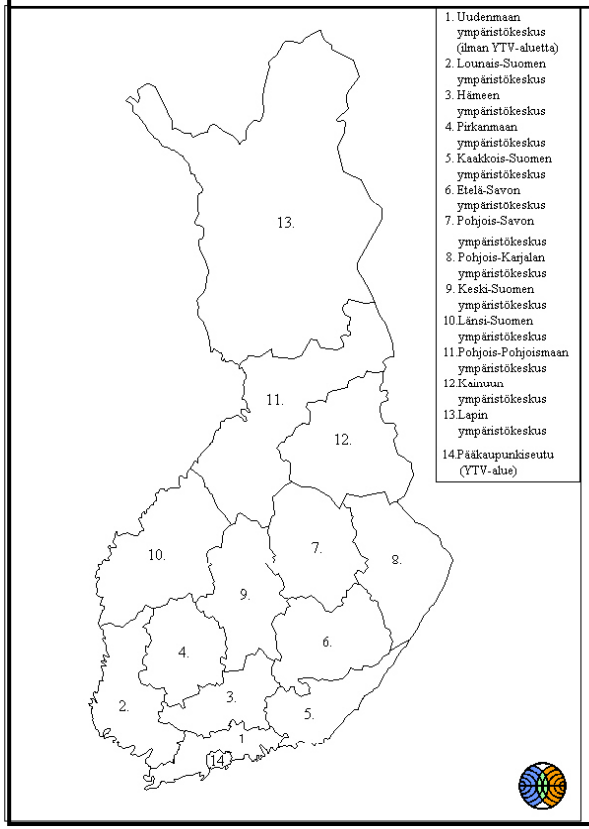
- Helsinki Metropolitan Area, YTV (1 agglomeration)
- Finland except YTV (1 zone)

Limit values for ecosystem and vegetation protection:

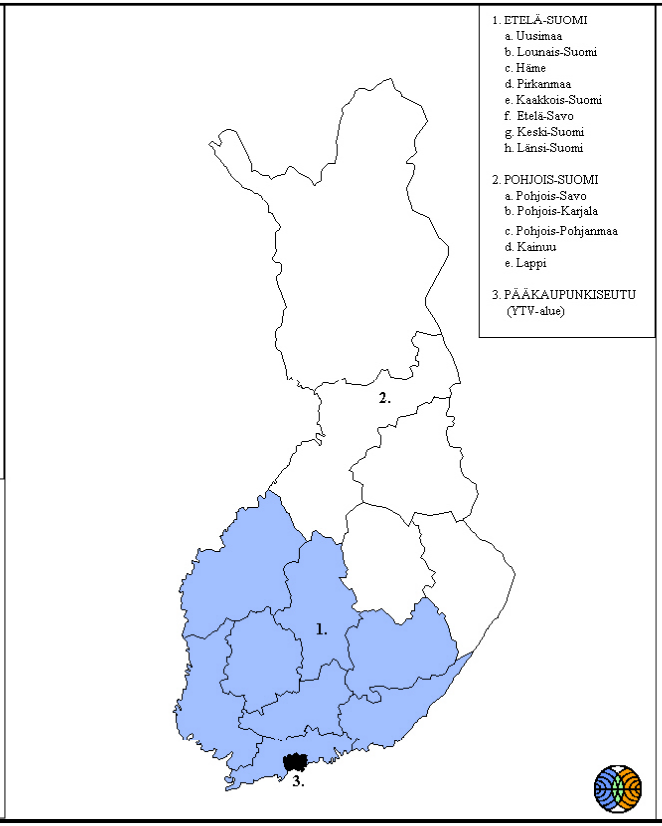
- Finland as a whole (1 zone)

Zoning

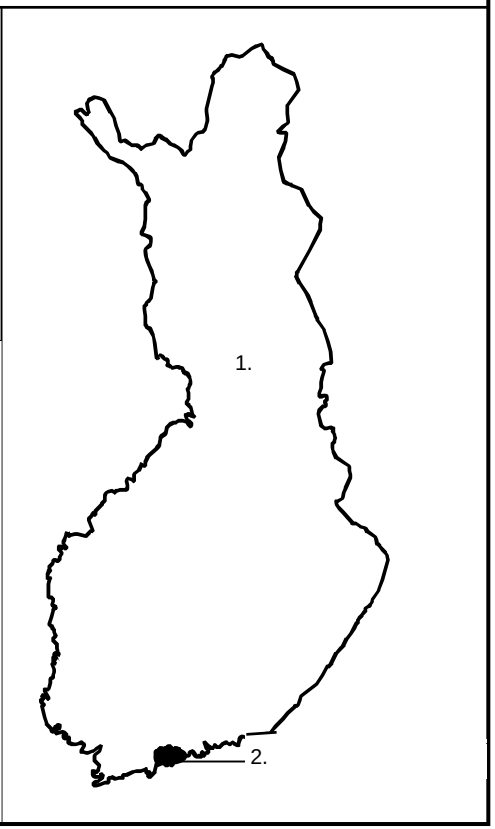
DD1 + CO



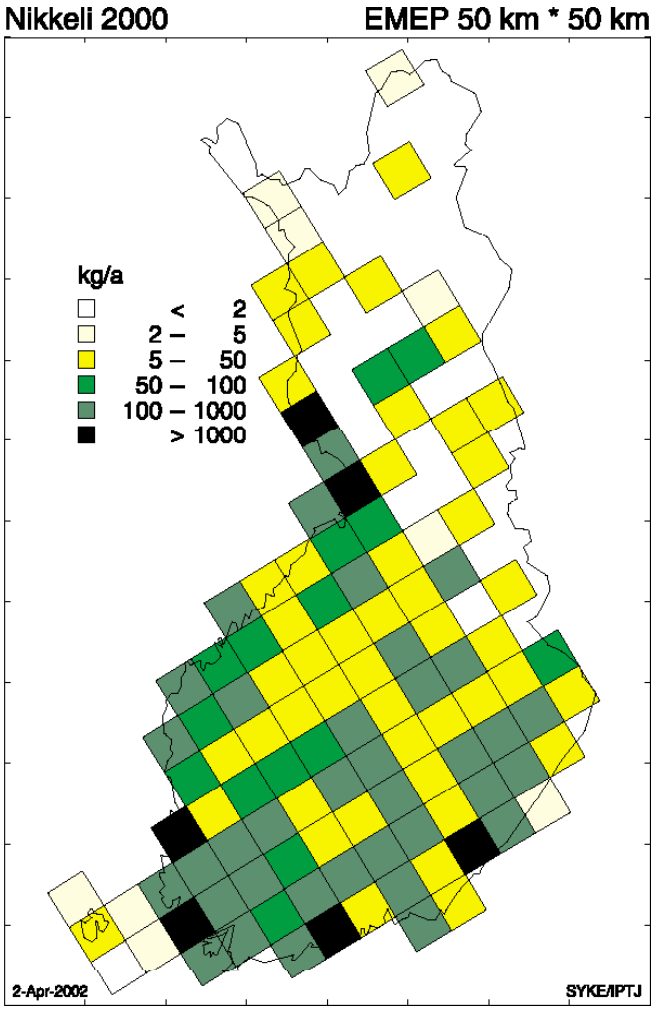
Benzene

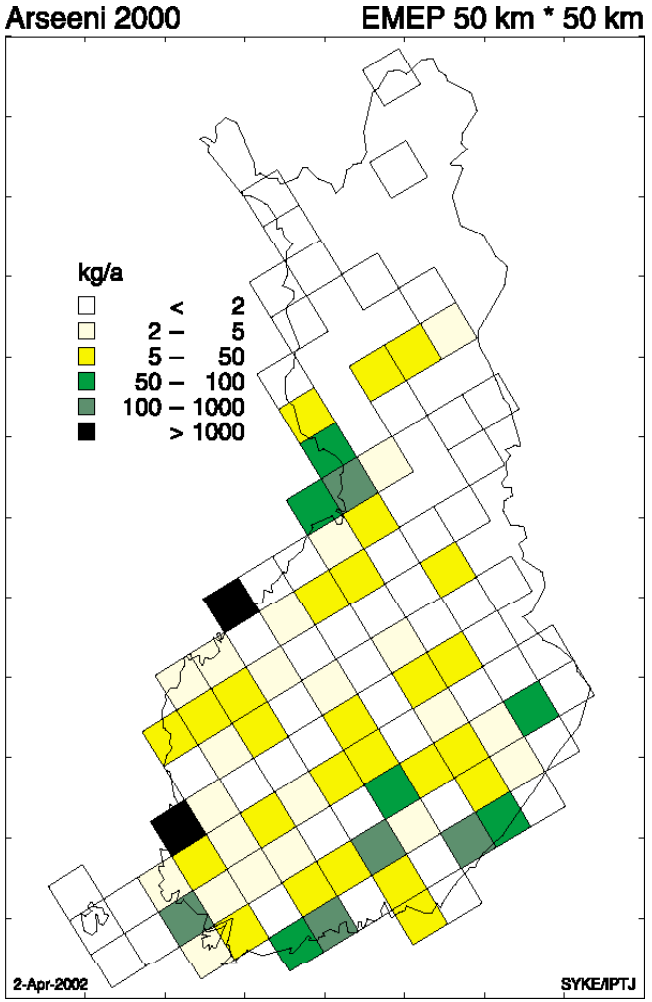


Metals + BaP

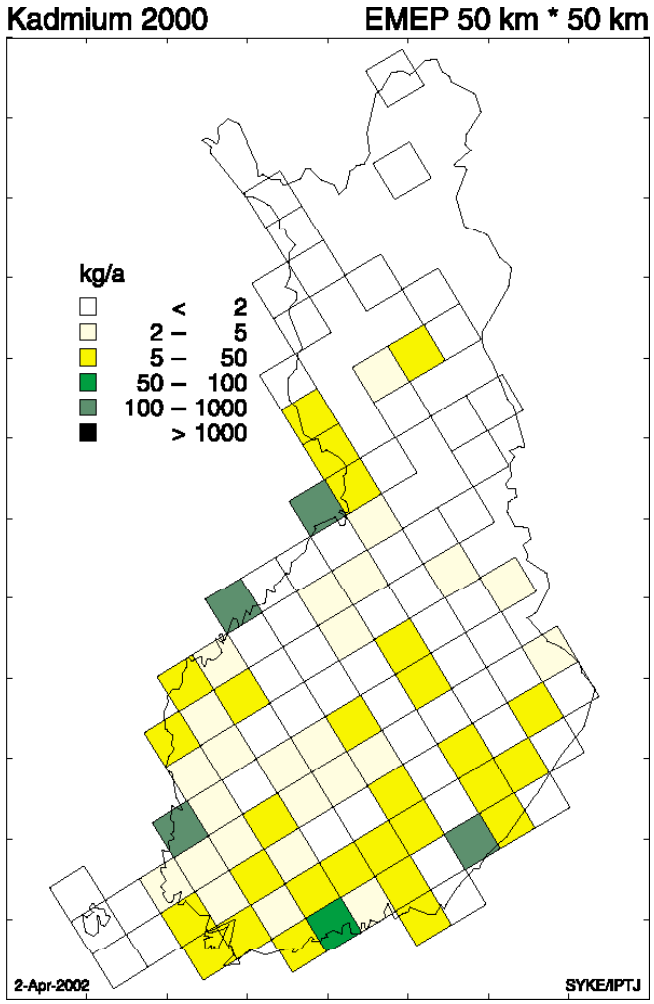


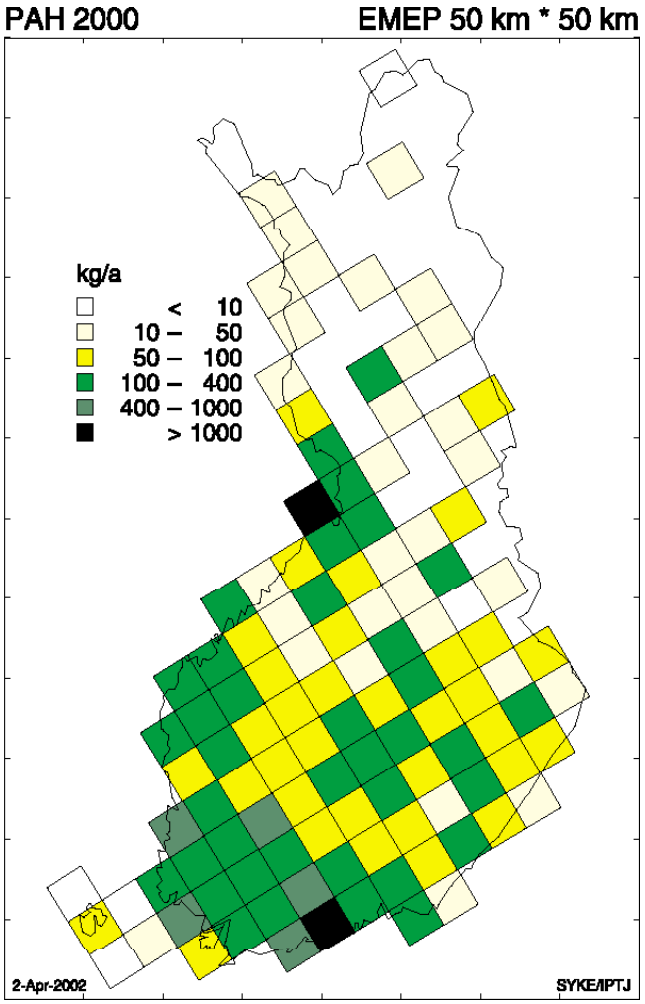
Emission distribution Ni and As (SYKE)





Emission distribution Cd and PAH (SYKE)





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Informing the public Data collection and reporting

Data Collection and Informing the Public about Air Quality

Networks generate raw data, aggregated statistics and meta data

Data is collected by FMI to be stored in the National Air Quality Data Base and is sent to EEA and the European Commission

All the data is public but, at the moment, not all networks are capable of publishing up-to-date information on Internet.

MoE and FMI started a co-operative project in 2005 to establish a national air quality web site to include:

- historic time series and statistics,
- up-to-date air quality data,
- meta data about monitoring sites
- measuring methods and equipment
- effects of different air pollutants and
- air quality legislation.

The web service www.ilmanlaatu.fi was launched in spring 2007 and is fully operational by the end of year 2007.

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Measures

Measures to manage air quality

Emission standards

- power plants, combustion plants, boilers
- incineration plants
- pulp mills
- refineries
- petrol storage
- small scale domestic combustion (on the pipeline)
- etc

Measures to manage air quality

Fuel quality standards

- heavy fuel oil
- diesel oil
- petrol
- coal

Environmental permits

Measures to manage air quality

Local and regional programmes and action plans

- transport planning
- traffic management
- public transport etc.

Economic instruments

- taxation of energy products
- environmental classification systems

  sulphur-free petrol and diesel

  CO2 based annual circulation tax for cars (on the pipeline)

Air Pollution Control Programme 2010

The national NEC programme for the implementation of Directive 2001/81/EC (national emission ceilings)

Approved by the Government on 26th September 2002

Includes a package of measures (energy production, industrial processes, transport sector, mobile machinery, agriculture etc.)

Emission inventories and projections for 2010

Costs and benefits

www.environment.fi > environmental protection > air pollution control

Revised plan 2006 communicated to the Commission

Plans & programmes

EP Act: *”Local authorities (municipalities) have to exercise their power to prevent limit value exceedances and to take necessary action if limit values have been exceeded. Such action may include emission reductions and suspension of traffic.”*

According to AQ Degree (711/2001) municipalities must prepare and implement plans & programmes to attain the limit values within the specified time period

- Inc. all necessary measures to reduce emissions and to improve air quality at the community level
- include also information about relevant environmental permits, regional or national measures
- Poss. Case Helsinki (NO2)

Winter sanding – special treatment

Plans & programmes to attain the limit values are not required in areas where the PM10 limit value is exceeded due to winter sanding of roads

Derogation has to be justified

Municipalities have to prepare a report including all relevant information about the situation

Reasonable measures have to be taken to lower the concentrations

Helsinki has applied winter sand derogation since 2003. The plan was submitted in 2004 and approved by the Commission in 2006 (after official request from MoE).

What did change with EU?

From guide values to binding limit values

Mandatory plans & programmes if LV is exceeded

Delineation of zones (assessment regimes)

More detailed regulations and guidelines

- location criteria for monitoring sites
- data quality objectives for measurements and other assessment methods etc.

More pressure for up-to-date AQ information

Designation of the National reference laboratory (FMI)

Establishment of new stations – background monitoring

Allocation of resources for increased reporting obligations

Preparation of preliminary assessments

Thank you for your attention