National Inventory System in Finland

Kristina Saarinen
ORGANISATION OF INVENTORIES

TWO INVENTORY LINES: 
- Greenhouse Gas Inventory
- Air Pollutant Inventory

National inventory agencies report directly to the conventions.
Close cooperation between the experts between the two inventories.

NATIONAL SYSTEM FOR GREENHOUSE GASES

National Inventory System officially established.
Expert institutes participate in the inventory which is coordinated by Statistics Finland (www.stat.fi/greenhousegases)

INVENTORY OF AIR POLLUTANTS

Inventory is carried out at the Finnish Environment Institute (SYKE).
Data available by sources and geographically (www.environment.fi > State of the environment > Air).
National Greenhouse Gas Inventory System in Finland

Administrative data

VAHTI

Emission trading registry

Annual Inventory submissions to EU and UNFCCC

VAHTI

Greenhouse Gas Inventory, based on the Law of Statistics, protocols, agreements and contracts

SYKE

MTT

Statistics Finland National Entity

METLA

VTT

Civil Aviation Administration

Advisory Board: Relevant ministries, the Energy Market Authority and SYKE, METLA and MTT
IPTJ
AIR EMISSION DATA SYSTEM
AT SYKE

IPTJ
Final.mdb
Acces-tietokanta

ENERGY
STATISTICS

CRF-data
Energy Sector
Statistics Finland

HERTTA
User interface

IPTJ
SQL-Server db

IPTJ Energy
submodel

IPTJ Industrial
Processes
submodel

IPTJ Industrial
Processes
submodel

IPTJ Waste and
wastewaters
submodel

IPTJ Solvents and
product use
submodel

IPTJ Agriculture
submodel

F-gases
Emission data
SYKE / KEM

Ahvenanmaa
submodel

Colour codes
Integral part
Emission data
Activity data

VAHTI
Environmental reports

STTISTICS
& INQUIERIES

LIPASTO
VTT Transport
Calc. model

TYKO
VTT Off-Road
calc. model

AHVENAN-
MAA Province

Users

LIISA
RAILI
MEERI
ILMI

AHVENAN-
MAA Province

Fur
animals

Domestic
animals

Fertilizers
INTERCOMPARISON OF FUEL BASED DATA BETWEEN STATFI AND SYKE
THE INVENTORY YEAR FOR AIR POLLUTANTS

**NIR-CLRTAP 15.5.**

March-April-May-June-July-August

**Preparation of NIR**

- Collection of data
  - Statistics
  - Questionnaires

**Calculation of Non-Energy Sources**

**Calculation of Waste Activity Data**

**Check for UNFCCC submission**

March-April-May-June-July-August-September-October-December-January - February

**UNFCCC-CRF 15.4.**

**THE INVENTORY YEAR FOR GHGs**

**NEC 31.12.**

**NFR data 15.2.**

September-October-December-January - February

**Calibration of fuel data**

**Environmental reports comparison of fuel data to CRF data**

March-April-May-June-July-August

**EU-CRF 15.1.**

**Calculation of energy/process sources**

**Preparation of NIR**

March-April-May-June-July-August-September-October-December-January - February

**THE INVENTORY YEAR FOR GHGs**
MANAGEMENT & DEVELOPMENT OF THE INVENTORIES

Inventory Groups (Target ISO 9001 or the same level)
- Greenhouse gas inventory: all experts from the expert institutes that participate calculation of emissions
- Air pollutant inventory: Air pollutant Team

Methodologies
- Estimation and development of the methodologies is the responsibility of the expert institutes together with the inventory agencies
- Participation in national and international projects

Industrial emissions
- Projects together with the industry coordinated by SYKE (www.ymparisto.fi/paastot - in Finnish: Pulp & paper industry, Energy production, Metal industry…)
- Coordination between methodologies in UNFCCC, CLRTAP, EPER, PRTR
QA/QC

GHG documentation
- Templates to all experts for documenting data, methods etc.
- Archiving of the documents, maintenance/supervision of the quality system and compilation of reports by Statistics Finland
- The QAQC group has frequent meetings

Air Pollutant documentation
- Quality manual with responsibilities
- Documentation to be transferred under a QMS software to help maintenance and searching of material (documents and reports, manuals/descriptions (input data, calculation, data system, codelists, contacts, correspondence….), assists in planning and checking of quality and preparation of quality reports
- In line with GHG QA/QC

A ”real” QMS cycle is still under development at both systems.
**Requirements in the permit**
**Data Production Chain in IPPC Monitoring BREF**
**Estimation of Total Uncertainty**
**QMS, EMS**

**VAHTI**
Regional Environment Centres’ database for supervision

**Emission Trading Register**
Verified according to EU regulations

**UNFCCC and CLRTAP reporting guidelines**
IPCC, EMEP/CORINAIR guidelines

**from 2006..**

**CHECK & APPROVAL BY ENVIRONMETAL AUTHORITY**
- Requirements in the permit
- Data Production Chain in IPPC Monitoring BREF
- Estimation of Total Uncertainty
- QMS, EMS

**STATISTICS FINLAND**

**SYKE**
Fuel data: IEA, WEC, EUROSTAT

EUMM UNFCCC

EEA EPER/E-PRTR

UNECE/CLRTAP UNECE/PROTOCOLS

EC DIRECTIVES

HELCOM PARCOM

MINISTRY OF THE ENVIRONMENT

S Y K E

IPTJ Datasystem AP for all sectors

ENERGY MARKET AUTHORITY GHG Trading Register

REGIONAL ENV. CENTRES VAHTI Compl. Database

SYKE National AP Inventory Agency incl EU Dir

SYKE Finnish Environment Institute Waste Sector

STATFI ILMARI Datasystem Fuel based ghg’s

SYKE National GHG Inventory Agency

GHG Expert Group

STATFI National GHG Inventory Agency

15.1. 15.4.

FINNISH FOREST RESEARCH INSTITUTE METLA C\textsubscript{O2} sinks

AGRIFOOD FINLAND MTT Agricultural ghgs

STATE TECHNICAL RESEARCH CENTRE VTT Transport Sector

15.2.

10-15

15.1.

15.4.

Nov-Dec

Oct-Nov

Oct-Nov

30.3.

30.5.
Thankyou