National Inventory System in Sweden

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The National Inventory System in Sweden

- Ministry of Sustainable Development
  Overall responsibility for the inventory
- Swedish EPA
  Environmental Data Section
  Responsibility for performing the inventory
- SMED
  Swedish Environmental Emissions Data
- IVL
  Swedish Environmental Research Institute AB
- SMHI
  Swedish Meteorological and Hydrological Institute
- SLU
  Swedish University of Agricultural Sciences
- Statistics Sweden
Organisation and management

- SMED – a consortium of four independent organisations
  - A steering group (one from each organisation)
  - A co-coordinator for air related projects, main contact person to the Swedish EPA
  - An inventory project, led by a project leading team, manages the annual inventories to CLRTAP, UNFCCC, EU
  - Development projects, proposed by SMED and approved and financed by the Swedish EPA.

- All air emission inventories and reporting are covered and managed by SMED.
Management of inventory project

- Every-day management by the project leading team by telephone, e-mail.
- Regular meetings with inventory staff approximately every other month, mostly on telephone or video.

- IVL: Industrial Processes and Solvent use
- Statistics Sweden: Energy, Agriculture and Waste
- SMHI: data support, geographical gridding
- SLU: Land-use change and forestry
The Annual Inventory Cycle

Input data

Environmental reports
- Data from Authorities in the National system
- C-EMIR
- Paper report
- Contact with companies

Calculations
- SAS, Excel
- Compiling QC SMED internal QA

Reporting
- QA by SEPA
- Reporting to EU and UNFCCC
- Trend analysis
- Trend analysis
- Nov
- Nov
- 15/10
- 1/12
- Mar – sept

Delivery to Ministry of the environment
- Delivery to SEPA

EU: 15/1 and 15/3
UNFCCC: 15/4

November

Environmental reports

Contact with companies

C-EMIR

Paper report

Data from Authorities in the National system

April - August

February - August

Sept-oct

15/10

1/12

Mar – sept

Contact with companies

SAS, Excel

Compiling QC SMED internal QA

QA by SEPA

Reporting to EU and UNFCCC

Trend analysis

November

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How are data flows organised (1)?

- Input data: from authorities (regulated by law for GHGs from 2006), from other sources, e.g. companies Environmental Reports, national statistics, personal contacts with trade associations, experts etc.

- Each organization works with “their” data, including compilation of reporting tables and inventory reports.

- At present we fill out the reporting tables manually

- A temporary database system allows for QC of reporting tables (time-series checks, recalculations checks etc)
How are data flows organised (2)?

- All common data and documents are kept and archived at a workspace on the web (www.projectplace.com), accessible to all inventory staff.

- Confidential input data are archived at each organization.

- A technical support system is under development, which will be the master database. It will also allow for automated or semi-automated QC, as well as archiving and version control.
How is QA/QC ensured?

- One QA/QC system covering both air pollutants and greenhouse gases
- QA/QC and feedback on all levels
  - QC by inventory staff and the project leading team
  - QA/QC by the coordinator prior to submission to Swedish EPA
  - QA by Swedish EPA and national third party reviewers (GHG)
The QA/QC system

- A QC-plan, outlines QA/QC-activities, scheduled time frame, defines responsibilities

- Appendices:
  - Roles and responsibilities
  - Work manuals for all reporting codes
  - QC-checklists for all reporting codes
  - Procedures for uncertainty assessments
  - Procedures for non-conformity reporting
  - Documentation of databases and models
What resources are needed?

- The Swedish EPA, Environmental data section
  - Three persons, part time

- SMED, inventory staff
  - Approximately 15 experts are involved for all inventories, nobody full time
  - In 2005, estimated ~34 man-months for complete inventory submissions to CLRTAP, EU-NEC, UNFCCC and EU.
  - Development and inventory improvement projects are separate.