The National Air Emission Inventory

Republic of Turkey

General Directorate for Environmental Management
Air Management Department
Outline

- Institutional History (Chronological Order)
- Air Management Situation
- Air Emission Inventory Situation
- Inter-institutional Coordination
  - CoBoard
  - WG
- International and National Awareness
  - TW Projects
  - National Funded Projects
  - Relation within the inventory management platforms
- Emission Distribution
  - Current Situation
  - Future Plans (short, middle and long term)
  - Cooperation
  - Improvement Plans
Institutional History (Chronological Order)

- **Within the process of «Environment Chapter opening»**
  - Ministry of Environment and Forestry
    - start point of air emission inventory
    - institutional awareness raising
  - Ministry of Environment and Urbanization
    - replanning for the structure
    - continuous improvement effort
    - raising expertise
    - sustainability between the project outputs and policy measures
Improvement under Emission Inventory Topic

2009
Environment Chapter

2011
Projects related with NEC Directive and inventory requirements

2012
First reporting and First IIR under CLRTAP after the project finalisation

2013
Continuous Improving Inventory Award, TFEIP

First Country Review, June 2012
Development of National Air Emission Inventory System

Budget: 4.5 Milyon TL

Duration: 2013-2017

Results

✓ Geographical web based software
✓ Emission Management Portal
✓ National Emission Factors (industrial, traffic and residential heating)
✓ Regional Emission Results
✓ In Pilot Region Marmara air quality maps
✓ By using the model air quality scenario results
As an example

Thematic Graph (Residential Heating-SO$_2$ 2012)

www.ceip.at Center on Emission Inventories and Projections.
Ministry Studies

- USING Emission Inventory Results
- WRF Model for Meteorological Studies
- CMAQ – Air Quality Modelling
- 3 area, 2*2 km max. resolution
- WRF and CMAQ Training
- Air Quality Maps
- Air quality station values on web used
- Precaution following the model results
- Computer Facilities
AİR QUALİTY FOLLOW UP

National Air Quality web connection

Marmara Clean Air Center

Results www.havaizleme.gov.tr

249 Air Quality Stations (SO2, PM10) (CO, Nox, O3, PM2,5)
Targets

- By the end of 2018 air pollution maps and emission inventories of all regions will be completed.
- For each city on metre measurement dynamic air quality values will be assessed.
- Meteorological affects, topographic affects and long range transboundary affects will be included.
- Air Quality forecast following 2 days will be announced finally.
Air QUALİTY MANAGEMENT TO BE TARGETED

Efficient political strategies

Pollution maps evaluation resulting models reworking

Concentration values in pollution maps will be compared air quality station values

Using Air Quality Modelling

Pollution parameters on time scale (ton/month, ton/day, ton/hour)

Pollution parameters on spatial planning (industrial stations building agricultural areas etc.)

Pollutants amounts determination (ton/year)

Measurement Results Evaluation (parametre on stations)

Atmospherically transportation included

Sectoral and time scale not included yet

Geographical expertisement is needed

National emission inventory is reported for 6 years

National Air Quality web net

8 TFEIP meeting 2013 Announcement

We are very pleased to announce the dates and venue for TFEIP 2013.

The meeting will be in Istanbul, Turkey on Monday 13th and Tuesday 14th May 2013, followed by a technical workshop on Wednesday 15th May (topic to be decided).

The meeting is very kindly being hosted by the Turkish Ministry of Environment and Urbanization.

Further details concerning the meeting will be available in due course.

source: freedigitalphotos.net, Suat Eman
2017 Calculation Results

NOx

- Other
- Waste
- Agriculture: Fertiliser
- Agriculture: Livestock
- Solvent Use
- Industrial Processes
- Rail, Aviation & Shipping
- Road Transport: Other
- Road Transport: HGVs
- Road Transport: Cars
- Residential/Commercial Combustion
- Industrial Combustion
- Electricity Generation
2017 Calculation Results

SO2

- Other
- Waste
- Agriculture: Fertiliser
- Agriculture: Livestock
- Solvent Use
- Industrial Processes
- Rail, Aviation & Shipping
- Road Transport: Other
- Road Transport: HGVs
- Road Transport: Cars
- Residential/Commercial Combustion
- Industrial Combustion
- Electricity Generation
2017 Calculation Results

NH3

- Other
- Waste
- Agriculture: Fertiliser
- Agriculture: Livestock
- Solvent Use
- Industrial Processes
- Rail, Aviation & Shipping
- Road Transport: Other
- Road Transport: HGVs
- Road Transport: Cars
- Residential/Commercial Combustion
- Industrial Combustion
- Electricity Generation
Inter-Institutional Coordination

- Data flow
- Data collection, communication with the providers
- Ministerial communication
  - Technical
  - Decision-making
  - Prioritization
- Circular
  - by the Prime Minister
  - all Ministeries
  - permanent membership
  - WG schedules
International Projects

- Air Quality Project in Marmara Region
- Improving Emissions Control
- Projects on VOC Directives and Emissions, LCP Directive, Climate Change

Capacity Building under the emission inventory compilation

- Improving Emissions Control Project
  - TW and TA components
  - Austria, Finland and UK
  - Improvement on inventory, calculation, methodological perspective, data judgement, gap analysis, quality issues
National Projects
- Development of the National Emission Management System
- Universities involved, GIS integrated
- Local data collection and management, Source classification for the measurements
- Air Quality modeling linkage
- Direct input preparation for the AQ model
- Provincial participation, municipalities’ awareness
- National EF generation for prioritized sectors
- Web-based management
Development of the National Emission Management System

- 2017 the last emission inventory includes,
- For road transport emissions calculation COPERT 4 has been used for the first time. It covers starting from 2000 to 2015. Next year using the NEMS the input data will be prepared.
The emission inventory will be prepared by using the prepared hosting emission factors next year for industrial sector, residential heating and vehicles.
THANK YOU

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