

Name:	Tinus Pulles, Chris Dore
Date:	November 10 and 11, 2005
Venue:	Office of Tehnolab & Academy of Sciences
People met (amongst many others)	Experts and management of Tehnolab Representatives of the Macedonian Ministry of Environment Project team UNDP project on 2 nd National Communication
Meeting:	Project meeting for the project “ Establishment of a National Methodology for Emission Inventory in the Republic of Macedonia ”
CC:	Andreas Barkman, Tony Blagoev, André Jol, Rob Swart, Katarina Mareckova

Objective of the meetings

On 10 and 11 November Chris Dore and Tinus Pulles visited Skopje within the framework of the CARDS project “Establishment of a National Methodology for Emission Inventory in the Republic of Macedonia”. This meeting was the second one in this project, meant to assess progress and for hands on support in building the 2004 air emissions inventory for the FYR of Macedonia.

We also took the opportunity to meet with the team of a project, financed by UNDP, to support FYR of Macedonia to produce the second national communication of the UNFCCC.

Results

CARDS project

Mrs Magdalen Trajkovska of Tehnolab briefly presented her approach and progress since the kick off meeting in August. Tehnolab has

- identified and involved experts for each of the sectors in the inventory;
- appointed two Tehnolab staff as database managers for the national emissions inventory database, built in the AE-DEM (CollectER) software tool
- established a series of working procedures and data exchange formats that are used by the experts for the different sectors to provide the database compilers with activity and emission factors to be included in the national emissions inventory database
- entered a number of data into the database for discussion with the ETC-ACC experts during this meeting.
- identified areas where source data needs more detailed consideration e.g. primary datasets which significantly differ from expert judgement or alternative data sources.

The remainder of the visit was used for direct hands on discussions and support of the various sector experts and database managers. At the end of the visit the results were presented to the Macedonian Ministry of Environment and further steps in the project were agreed.

It was concluded that Tehnolab has involved very competent and [knowledgeable](#) staff for all sectors. These experts have access to good data in most sectors. For all major sectors (stationary and mobile combustion, agriculture) detailed datasets have been identified and will be used.

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Stationary Combustion (SNAP 1, 2 and 3):

The experts have agreed on the methods to

- extrapolate the available (energy) statistics data for earlier years to 2004, allowing to estimate emissions prior to the official availability of the 2004 energy statistics. In the next cycle these data could be recalculated, when the official statistics for 2004 will be available

- make the data from individual plants, available in “the Cadaster” consistent with the extrapolated 2004 energy statistics.
- apply “country specific” emission factors, derived from the individual plant data, wherever possible
- double check country specific emission factors with the default ones, available in Guidelines and Guidebook. Where large discrepancies occur, source data will be reviewed prior to deciding the most appropriate emission factor to use.

Mobile Combustion (SNAP 7 and 8)

TehnoLab will use detailed data to estimate the specific properties of the Macedonian car fleet and to provide relatively detailed emission estimates for road transport. The approach chosen will be seen as a Tier 2 method, using data on specific technologies and fuel efficiency characteristics.

Data for non-road transport and mobile machinery are much more difficult to find. It was agreed that TehnoLab will use relatively simple methods to arrive at an estimate for the non-road sector. It is expected that this sector will not be particularly important in the country (relatively low aircraft emissions, no significant emissions from shipping and relatively low emissions from other mobile machinery).

Agriculture (SNAP 10)

Detailed data on animal numbers are available. Information on arable farming is available, although detailed data on fertiliser use is thought to be difficult to source. 2003 datasets will be used as there are no 2004 data currently available. The methods applied have been earlier applied for the Macedonian First National Communication to UNFCCC. Emissions of ammonia will be relatively easily included.

Mining (SNAP 5)

Data for the two mines in Macedonia are available and already imported in the database.

Industrial processes and Solvent Use (SNAP 4 and 6)

Detailed data are available for the majority of sources. Since the combustion is treated in SNAP 3, this sector is not very important and simple emission estimation methods will be used. Solvent use will be treated in a very simple way.

Waste (SNAP 9)

All waste treatment in FYR of Macedonia is by means of unmanaged landfills. The emissions will be estimated, using a simple correction factor on top of the default emission estimation method for managed landfills.

Biogenic emissions (SNAP 11)

The expert for these sources was not available. Since the sector is not very important for the inventory, TehnoLab and the ETC-ACC experts do not expect any major problems here.

Conclusions

Based on the information outlined above, and the assessment by both the TehnoLab experts and the ETC-ACC experts, it was concluded that it is feasible for TehnoLab to deliver a first complete inventory to the Ministry for review by early January. This inventory will consist of:

- an export from the national emission inventory database in the CRF and NFR formats
- a table of all activity rates
- a table of all emission factors

During the review, TehnoLab experts and ETC-ACC experts will be available for comments.

The ministry will review the inventory and stressed the wish to submit the NFR tables to EEA and the LRTAP convention on time (mid February). The UNFCCC submission is due by mid April.

TehnoLab will produce a short inventory report, during the review period. It was proposed to organise a final workshop, where the inventory could be presented in March 2005.

Meeting with the UNDP 2nd National Communication project

During a brief meeting with the Macedonian Ministry of Environment, project team members of the UNDP 2nd National Communication project, Tehnolab and the ETC-ACC experts, the relations and possible mutual support of both projects were discussed. It was concluded that both projects are complimentary. The UNDP project aims at greenhouse gas emission data for 1990 to 2002, whereas the CARDS project aims at providing national emission inventories for 2004, while establishing the national database system, based on the AE-DEM ("Coriniar") software system. It was proposed to involve the UNDP project team in the review of the CARDS inventories early 2006. It was also agreed that both project teams will keep each other informed and will exchange data and emission factors where possible and needed.