

Final Report

**The second step of an
Air Quality Management Project
to further strengthen and modernise
the Air Quality Management functions
at the Environmental Department, Tallinn City Government,
Estonia**

**A co-operation
between**

**Sustainable Development and
Planning Department,
Environmental Division,
Tallinn, Estonia**



<http://www.tallinn.ee/keskkond>

**and Conexor Sensus AB,
Bromma,
Sweden**



<http://www.conexor.com>

Financed by



<http://www.sida.se>

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Appendixes:

Appendix 1: Final report from Mapping of Air Pollution Levels in Tallinn. Measurement campaigns with diffusive samplers.

IVL, Sweden. December 2002. Report L 02/69. Karin Sjöberg.

Appendix 2: Monthly Report from August 2002.

Appendix 3: EIA for energy supply development plan in central and Mustamäe area (in Estonian).

1 SUMMARY

Sida allocated SEK 1,500,000:- on 23 June 1998 (Sida Reference: Öst-1195-0362) to accomplish **the second step of an Air Quality Management Project to further strengthen and modernise the Air Quality Management functions at the Environmental Department in Tallinn.**

The formal Project Partners have been

- Sustainable Development and Planning Department, Environmental Division, (ENVTallinn), formerly the Environmental Department, Tallinn City Government; and
- Conexor Sensus AB, Bromma.

The Project, originally based on the twin city relationship between the City of Tallinn and the City of Göteborg in the field of Environmental Protection, has now accomplished its Second Phase.

This Second Phase has mainly “polished” what was prepared during the First Phase and enhanced the functionalities.

The ambient air quality network in Tallinn, consisting of three (3) monitoring stations and one meteorological station, is connected to the Central Computerised Air Quality Information System (the Airviro System) and produces high quality data on an hourly basis. The data is reported in various ways like a Monthly Report but also on-line to an Internet based Information System. The Air Quality Management Internet Information System includes various other functions, reports, etc, and forms an integrated part of the general Tallinn City homepage.

Diffusive Samplers have been used to follow up the campaign from the First Phase.

The production of Environmental Impact Assessment Studies (EIA), often called “what-if studies”, has become one of the most demanded products from the Project. Many City Government departments ask for different kinds of studies for complex planning tasks (roads, industry establishments, residential area planning etc), but also private companies ask for studies what impact an individual stack would have since this kind of EIA studies is required for certain establishments.

The installation of a Heavy Gas Modelling function has created a big interest from Emergency and Rescue organisations and other organisations dealing with hazardous gases in various ways.

The ENVTallinn is practically working as a consultant carrying out EIA studies. This means also that the ENVTallinn's skills and capabilities are being widely spread.

Estonia is one of the Applicant Countries for EU membership. There is a pending Project to be financed by the EU. The information available regarding this pending Project indicates that it will be more or less based on the Sida financed Air Quality Management Projects (Phase 1 and 2) but naturally much more comprehensive. It will cover not only Tallinn but also the whole of Estonia, and include regional dispersion modelling, decentralised functions for the various counties and other authorities and organisations with interest in Air Quality Management, etc.

Sida can, in a way, be said to have paved the way for an advanced Air Quality Management Function in Estonia in the future by financing the two phases of the co-operation between the Environmental Department in Tallinn and various Swedish institutions, companies, etc.

The Tallinn Air Quality Management Project has been going on for eight years and can be summarised in one word: **Success.**

2 REPORTS

2.1 This Final Report

This Final Report summarises the Project progress from the start in June 1998 until its conclusion in December 2002.

This Report will focus on the practical results of the different activities in relation to the objectives outlined in the Agreement. The Report is therefore kept relatively short, since the appendixes clearly show the type of work that is now being carried out based on the Project implementation.

2.2 Previous Invoice Reports

Nine Invoice Reports have been produced according to the Agreement paragraph 4.5.2.5.

They are listed in paragraph 5.

The detailed progress of the different activities, the practical results, and the budget follow-up has been continuously reported in the Invoice Reports. This means that this Final Report will not focus on too many details, since they are reported earlier.

3 PREVIOUS PROJECT PHASE, GENERAL PROGRESS, AND THE FUTURE

3.1 Previous Project Phase

The current Project Phase was preceded by a First Phase from October 1994 until 1997/1998. (The last year of the First Phase was characterised by idling from the Swedish side waiting for Sida's decision to finance a Second Phase.) The First Phase included most of the fundamental functions and work related to modern Air Quality Management and consequently laid the cornerstones for this Second Phase. This Second Phase has mainly "polished" what was prepared during the First Phase and enhanced the functionalities.

The First Phase was very successful in all aspects, so the same basic Project set-up as in the First Phase has been used for the Second Phase. The reason is the old saying: "Don't change a winning team"...

3.2 The Second Phase

The interest from other organisations dealing with, or related to, Air Quality Management has gradually increased over the years. The ENVTallinn is now a natural and fully integrated partner when it comes to traffic and city planning work. The interest from traffic and city planners has been focusing on the practical effects on ambient air quality of different actions taken, so called "what-if studies". The ENVTallinn is partly working as a "consultant" to the Tallinn City Government as well as to other public and private sector organisations.

The direct ambient air quality monitoring and reporting functions have been the basis for all the Air Quality Management work at the same time as the development of the Emission Database and Dispersion Modelling functions have continued. Modern IT has enabled the ENVTallinn to present a lot of information regarding its work and results on the Internet.

The support from Sweden during the Second Phase has mainly been on a partner level than on a teacher-student level.

Today the ENVTallinn is an independent and highly qualified organisation that in many respects can transfer knowledge, skills, and experience in the field of Air Quality Management back to the original teachers from Sweden. This is probably the best mark a development project can get...

3.3 An upcoming EU financed Project

Estonia is one of the Applicant Countries for EU membership. Consequently the EU has shown an increasing interest to encourage and support various activities in Estonia to enable and facilitate for Estonia to conform to various EU rules and regulations.

In particular, Air Quality Management has been focused on. There is a pending Project to be financed by the EU. The general information available regarding this pending Project is that it will be more or less based on the Sida financed Air Quality Management Projects (Phase 1 and 2) with principally the same set-up but naturally much more comprehensive. It will cover not only Tallinn but also the whole of Estonia, regional dispersion modelling, decentralised functions for the various counties and other authorities and organisations with interest in Air Quality Management, etc.

The budget is naturally significantly larger than for the Sida financed Projects.

At the moment of the submission of this Final Report, a formal Terms of Reference has still not been published.

Sida can, in a way, be said to have paved the way for an advanced Air Quality Management Function in Estonia in the future by financing the two phases of the co-operation between the Environmental Department in Tallinn and various Swedish institutions, companies, etc.

4 WORK AND RESULTS RELATED TO THE PROJECT OBJECTIVES

4.1 Objectives listed in the Agreement

In paragraph 3.4 in the Agreement, the estimated outputs after the completion of the Project are listed. The different items are found below and commented on in the following paragraphs.

1. The establishment of an Ambient Air Quality Monitoring Network, which provides data from existing and possible enhancements of the monitoring network to the Central Computerised Air Quality Information System (the Airviro System).

This result can be verified by the technical function.

2. The enhancement of the functions of the Central Computerised Air Quality Information System (the Airviro System) to also be able to handle Heavy Gas Modelling and accomplish relevant training.

This result can be verified by the technical function.

3. The production of regular Ambient Air Quality Monitoring reports.

This result can be verified by the reports.

4. The production of Environmental Impact Assessment Studies (EIA) on demand or on the Environmental Department's own initiative regarding infrastructural projects and activities in

Tallinn.

This result can be verified by the reports.

5. The development of the co-operation with the City Planning Department in terms of Environmental Impact Assessment Studies.

This result can be verified by EIA and other reports.

6. The establishment of an Internet Based Air Quality Information System, which will provide information from the Ambient Air Quality Monitoring Network and also about the content and results of Air Quality Management Project.

This result can be verified by the technical function.

7. The establishment of a basic co-operation between the political decision-making levels in Tallinn and Göteborg in terms of regular meetings and exchange of experience.

This result can be verified by the minutes of meeting from such meetings.

4.2 The establishment of an Ambient Air Quality Monitoring Network

Quote from the Agreement:

The establishment of an Ambient Air Quality Monitoring Network, which provides data from existing and possible enhancements of the monitoring network to the Central Computerised Air Quality Information System (the Airviro System).

This result can be verified by the technical function.

The current ambient air quality monitoring network in Tallinn consists of three (3) monitoring stations, all connected via telemetry to the Central Computerised Air Quality Information System (the Airviro System). The network provides data on an hourly basis.

The Meteorological Mast provided by Sida (formally BITS) funding under the First Phase delivers almost 100% high quality data on an hourly basis.

The data is of high quality since the Service & Maintenance functions are carefully addressed.

As in the First Phase, the Project has used so-called “Diffusive (Passive) Sampler Technique” to monitor ambient air quality in a denser network and as an average over time (normally one to four weeks depending on the compound of interest) in what is normally mentioned as “campaigns”. The campaigns have been following up what was monitored during the First Phase to establish long-term trends as well as “hot spots” of particular interest. The continued study shows that the ambient air quality levels in Tallinn for SO₂ and NO₂ are below the EU standards. However, the levels of Benzene in the most trafficked areas of Tallinn seem to be rather high and are violating EU standards that are to be used from 2010. The full report from the study has just been presented and the interest is already very high. The report is currently being translated into Estonian to allow for a wider distribution and use. The full report can be found in Appendix 1.

4.3 Heavy Gas Modelling and accomplish relevant training

Quote from the Agreement:

The enhancement of the functions of the Central Computerised Air Quality Information System (the Airviro System) to also be able to handle Heavy Gas Modelling and accomplish relevant training. This result can be verified by the technical function.

The software module for simulating various types of emissions of Heavy Gas (normally hazardous gases like chlorine) has been installed and made operational in the Airviro System.

The function has been a highly motivated in ENVTallinn's role as a Consultant. The main interest has been shown, not surprisingly, from the Emergency and Rescue organisations (fire brigade) and other organisations dealing with hazardous gases in various ways. Harbour authorities and transportation companies are some of the main players in this field.

4.4 The production of regular Ambient Air Quality Monitoring reports

Quote from the Agreement:

The production of regular Ambient Air Quality Monitoring reports. This result can be verified by the reports.

ENVTallinn produces regular Monthly Reports. The format has changed slightly over the years, but basically the reports have been produced regularly since 1995.

The reports are distributed to various organisations in Tallinn such as Health Inspectorate, Estonian Meteorological Institute, public libraries etc. The reports have been available since last on the Internet for anyone to download. Please also refer to paragraph 4.7.

An example of a Monthly Report (from August 2002) is found in Appendix 2.

4.5 The production of Environmental Impact Assessment Studies (EIA)

Quotes from the Agreement:

The production of Environmental Impact Assessment Studies (EIA) on demand or on the Environmental Department's own initiative regarding infrastructural projects and activities in Tallinn.

This result can be verified by the reports.

The production of this kind of reports has turned out to be one of the most popular outcomes of the Project, but also one of the most demanding ones for ENVTallinn. Many City Government departments ask for different kinds of Environmental Impact Assessment Studies (EIA) for complex planning tasks (roads, industry establishments, residential area planning etc). Private companies ask for studies what impact an individual stack would have since this kind of EIA studies is required for certain establishments.

The ENVTallinn is practically working as a consultant carrying out EIA studies. This means also that the knowledge of the ENVTallinn's skills and capabilities is being widely spread.

A listing of some of the most interesting studies is found below:

1. EIA for large asphalt factory near to the city border;
2. EIAs for several boiler houses in town;
3. Evaluation of aircraft pollution from Tallinn Airport;
4. By-pass road EIA for Nõmme area;
5. EIA for energy supply development plan in central and Mustamäe area
6. Northern by-pass road (to reduce traffic flow in central part of Tallinn);
7. Reconstruction of Vabaduse road;
8. Environmental part of Tallinn general plan; and
9. Evaluation of air quality at Kose area.

The Airviro System functions for the EDB and dispersion modelling are used for this work. The report (EIA for energy supply development plan in central and Mustamäe area) found in Appendix 3 (in Estonian) is an example of a typical study report.

4.6 Co-operation with the City Planning Department

Quotes from the Agreement:

The development of the co-operation with the City Planning Department in terms of Environmental Impact Assessment Studies.

This result can be verified by EIA and other reports.

This activity follows naturally from the ones mentioned in the paragraphs above. As particularly mentioned in paragraph 3.2, the ENVTallinn is now a natural and fully integrated partner when it comes to traffic and city planning work. The interest from traffic and city planners have been focusing on the practical effects on ambient air quality of different actions taken, so called “what-if studies”. The ENVTallinn is practically working as a “consultant” to the Tallinn City Government in the field of Air Quality Management.

Please also refer to the reports listed in paragraph 4.5.

4.7 An Internet Based Air Quality Information System

Quote from the Agreement:

The establishment of an Internet Based Air Quality Information System, which will provide information from the Ambient Air Quality Monitoring Network and also about the content and results of Air Quality Management Project.

This result can be verified by the technical function.

The ENVTallinn has established a comprehensive information site on the Internet as a part of the general information from Tallinn City Government. The Air Quality Management Information is automatically updated once new data is received from the ambient air quality network and meteorological station.

The site is continuously developed with new functions, data sets, reports etc. However, it should be noted that it is rather time consuming to maintain and upgrade a comprehensive Internet site (especially since it is real time data) so it is hard for the ENVTallinn to keep a high development pace in this area as well.

The pending EU financed project (paragraph 3.3) will probably include a comprehensive Internet Based Air Quality Management Information function, which partly will make the ENVTallinn site obsolete.

The www address is: <http://www.tallinn.ee/keskkond>

4.8 Basic co-operation between the political decision-making levels in Tallinn and Göteborg

Quote from the Agreement:

*The establishment of a basic co-operation between the political decision-making levels in Tallinn and Göteborg in terms of regular meetings and exchange of experience.
This result can be verified by the minutes of meeting from such meetings.*

The Project was originally been based on the twin city relationship between the City of Tallinn and the City of Göteborg in the field of Environmental Protection. Over the years, the political focus in the City of Göteborg has changed at the same time as the new leading politicians do not show the same, personal, interest as the ones who initiated the co-operation like Mrs Kerstin Svenson and Mr Lart-Åke Skager - just to mention two of the leading names by that time.

Practically, this has meant that the co-operation between Tallinn and Göteborg has slowly been diminishing. However, technical exchange is still rather frequent and just as an example two persons from ENVTallinn visited Göteborg last year.

5 REPORTING

Nine Invoice Reports have produced according to the Agreement paragraph 4.5.2.5.

1. Invoice Report No 1 dated 990430
2. Invoice Report No 2 dated 990630
3. Invoice Report No 3 dated 991031
4. Invoice Report No 4 dated 000331
5. Invoice Report No 5 dated 000630
6. Invoice Report No 6 dated 001230
7. Invoice Report No 7 dated 010630
8. Invoice Report No 8 dated 010930
9. Invoice Report No 9 dated 020331

All Invoice Reports have been submitted to Sida.

Internal follow-up documents, check lists, and other Project documents have been produced during the accomplishment of the Project.

ENVTallinn has more or less frequently and formally reported about the activities to different Estonian decision-makers and other people with interest in the development of the Project.

6 BUDGET

The graph below shows the spending of the budget.

The formal budget allocation from Sida was SEK 1,500,000:-. The complete budget has been utilised. The spending per Invoice Period is found in the graph below.

The spending has been rather irregular over the duration of the Project. The main reason for this is that the extent of the Project has been rather small, which in turn has meant that there has not been budget enough for a more comprehensive and continuous attendance to the Project from the Consultant's point of view. The practical result of the Project has surely not suffered from this since most of the work has been of such character that the Consultant's intensive attendance has not been necessary.

