

The project **LIFE06 TCY/TR/292 'HAWAMAN'** was conducted in co-operation of the Turkish Ministry of Environment and Forestry (MoEF) and the GTZ GmbH.

It consists of 5 technical and 2 administrative components.

The technical components can be briefly summarised as follows:

- Task A: Elaboration and review of draft concept and final concept on hazardous waste management,
- Task B: Further development of manual for hazardous waste classification and training of trainers on that topic,
- Task C: Introduction of a hazardous waste record system; further development of inventory on data from industrial facilities; introduction of monitoring system, including the development of electronic check-lists for recovery and disposal facilities and provision of data for planning purposes
- Task D: Support to personal and institutional capacity building through
 1. Guidance documents on the management and shipment of hazardous wastes for small and medium enterprises,
 2. Check-lists for the monitoring of recovery and disposal facilities for hazardous wastes as well as industrial waste generators,
 3. Improvement of the emission-control and -reporting for hazardous waste incineration plants,
 4. Training-on-the-job by common site visits with staff from MoEF and the competent local authority,
- Task E: Training of staff from the private and public sector on the treatment, recovery and disposal of hazardous wastes and study tour to Germany and Brussels.

Contribution by ARGUS Ltd. and results:

ARGUS Ltd. was responsible for Task C **hazardous waste record system and inventory**. In close co-operation between the Turkish Ministry of Environment and Forestry (MoEF), the Turkish Statistical Institute (TURKSTAT) und ARGUS Ltd., on behalf of GTZ Ltd., TURKSTAT programmed an **electronic hazardous waste record system** under conceptual guidance of ARGUS Ltd.

For the first time it was possible for industrial facilities to enter their annual data on hazardous waste in a web-based system according to the requirements of Turkish legislation. The program was launched in March 2008 at a stakeholder meeting.

For the registration and assignment of user IDs and passwords a business register was created at the Turkish Ministry of Environment and provided to TURKSTAT. Around **40.000 industrial facilities were contacted** by the provincial directorates of Environment and Forestry and provided with user IDs and passwords.

The database on hazardous waste generation currently contains the annual waste data for the reference years 2006 (manually entered from on an Excel based survey) as well as 2007 and 2008 (entered between March 2008 and April 2009 by means of the web-based hazardous waste record system). In preparation of the web-based surveys, the complete business register was assessed and evaluated by the project participants and, later on, reviewed and cleaned by the

81 provincial directorates. In addition, ARGUS Ltd. supported the creation and introduction of a register with licenced recovery and disposal facilities by Ministry of Environment and Forestry (MoEF). Furthermore, ARGUS Ltd. was responsible for the validation and evaluation of the two registers for the purpose of the elaboration and review of draft concept and final concept on hazardous waste management (vgl. Task A).

For reference year 2008, more than 1/3 of the industrial facilities participated in the survey (2007: 1/5). With more than 1,2 Million employees these 13.000 firms (2007: 8000) represented more than half of all employees recorded in the business register (2007: ca. 1/3).

Thus, in the new surveys 2007 and 2008, the response rates were greatly improved compared to reference year 2006 (ca. 600 firms). In addition, the participation significantly increased in the course of the 2007 and 2008 surveys.

For the support of data validation and analysis, as well as the monitoring of hazardous waste generators, further program components were added to the system by Turkish contractors under conceptual guidance of ARGUS Ltd. by the end of December 2009, a **Hazardous Waste Monitoring System** (HAWAMONIS) was introduced, followed by a **System for Monitoring and Control of Hazardous Waste Treatment Facilities** (HAWACON), finalised in April 2009. The latter modules represent an electronic version of the check-lists compiled in another components of the LIFE project (refer Task D).

The data basis created by the participating partners and ARGUS Ltd. **considerably improved the selection of industrial facilities and the monitoring of industrial hazardous wastes** for the purpose of the LIFE project and for future activities of the Turkish Ministry and considerably. Moreover, **a large number of companies became aware of their duty to identify and record hazardous waste.**