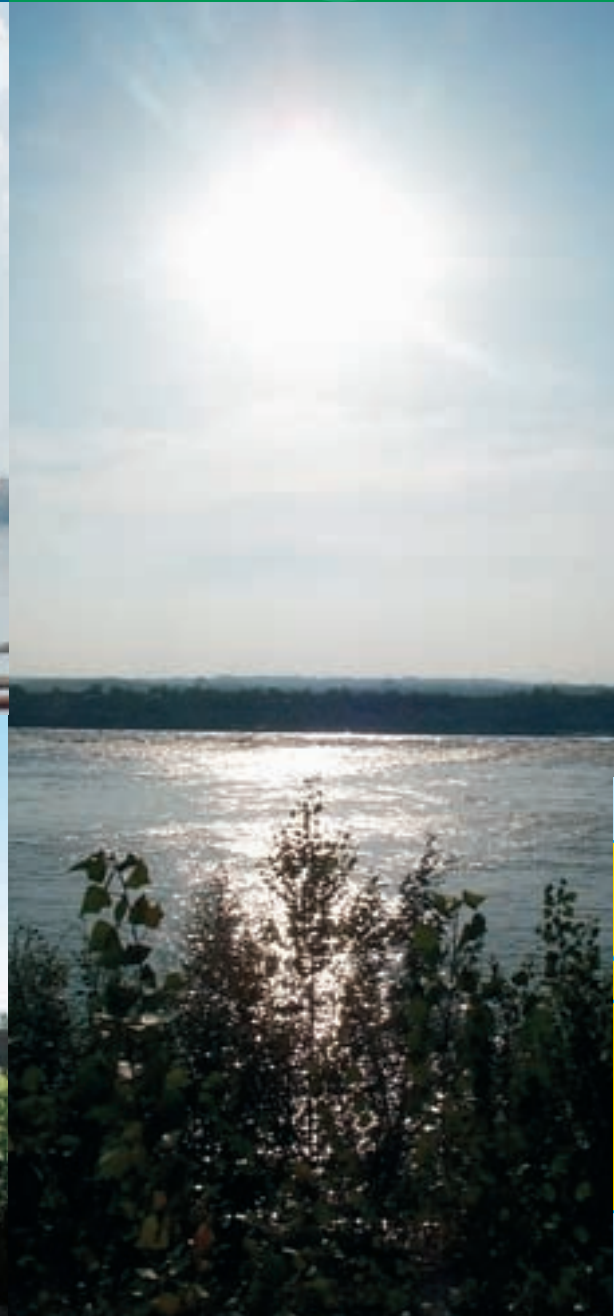


Transfer of Environmentally Sound Technology

UNIDO initiative
In the Danube river basin

TEST



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION



SLOVAK CLEANER PRODUCTION CENTRE

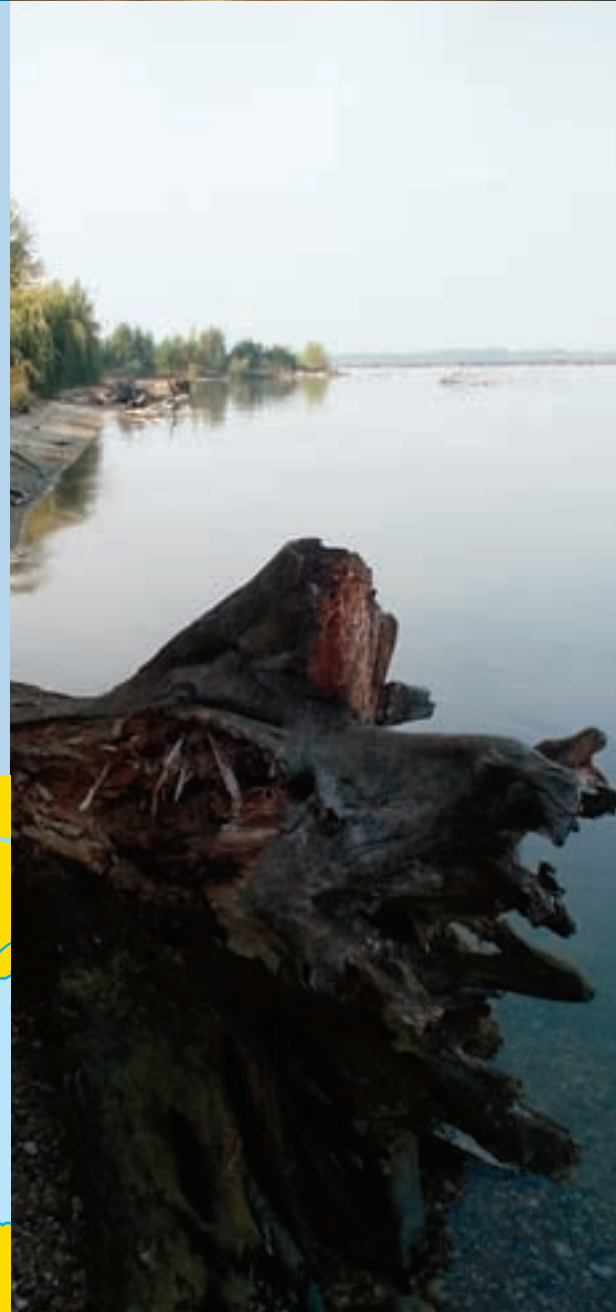
Transfer of Environmentally Sound Technology (TEST)

UNIDO initiative in the Danube river basin

The Transfer of Environmentally Sound Technology (TEST) is a UNIDO project financed by the Global Environmental Facility (GEF), implemented in five Danubian countries in transition (Bulgaria, Croatia, Hungary, Romania and Slovakia).

In April 2001 UNIDO started the implementation of the project. The goal of the programme is to utilize an integrated approach and focus on preventive strategies in environmental management in order to help industrial "hot-spots" in the Danube river basin. Seventeen industrial hot spots of the Danube river basin from different industrial sectors (chemical, food, machinery, textile, pulp and paper) were identified in five countries for assistance in upgrading their managerial and technological capacity.

The TEST approach offers enterprises the opportunity to learn how to use environmentally sound technologies to improve productivity, while at the same time complying with environmental norms and regulations.



Test project in Slovakia

In efforts to access EU, Slovakia has adopted dozens of legal standards, laws and regulations. Most of them mean important impact on manufacturing companies – operations and management procedures – particularly on their economics. Among project objectives was to help companies to achieve legal compliance by employing appropriate combination of environmental tools.

In 2001, the project Advisory board was established. Based on predecided selection criteria, the Advisory board decided on participation of two Slovak companies in the project:

- ŽOS Trnava, Inc. and
- Kappa Štúrovo, Inc.

SCPC became the national coordinator of the project and executed the role of project manager.

The TEST project was funded from GEF sources – 80 % of company implementation related costs were covered from this source, 20 % of costs were covered by company own sources. In kind contribution of the company was mainly composed of time and work of the company teams.

In this way, companies has an exceptional opportunity to improve their environmental performance, material and energy efficiency, to decrease amounts of generated pollution and to increase competitiveness in the most efficient way.

Recently, both companies received UNIDO certificates confirming their successful participation in the project.

Cumulative results:

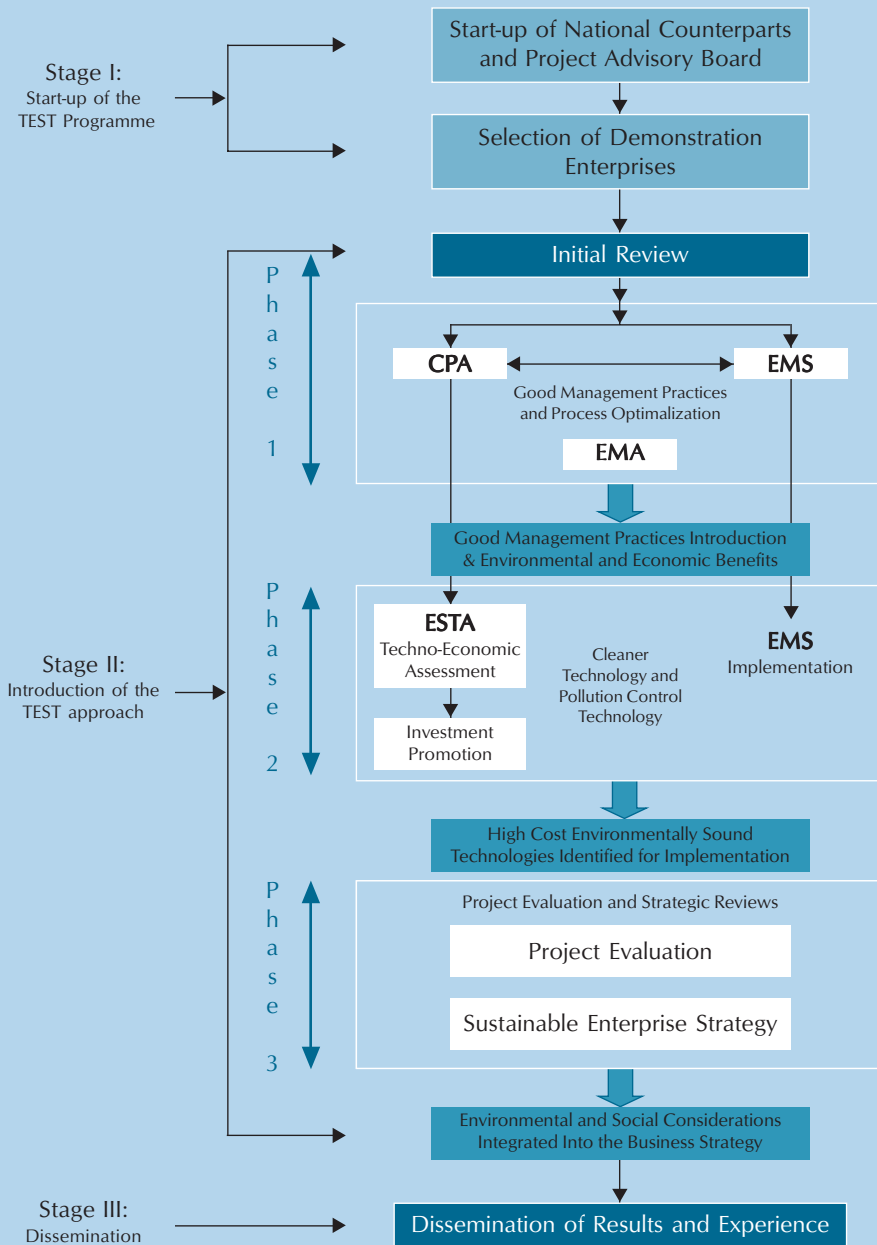
- Proposed 203 CP measures
- Assumed savings: 443 000 USD
- Reduction of water consumption: 1,8 million of m³/year
- Investment project for EST/BAT: 11 million USD
- Reduction of VOC 21,76 t/year
- Three systems implemented: EMS, EMA, HSMS
- EST – identified

Total number of trained employees:
137

“Thanks to efforts of all people involved in the project broad results highlighted in this brochure were achieved.”



TEST Implementation Strategy



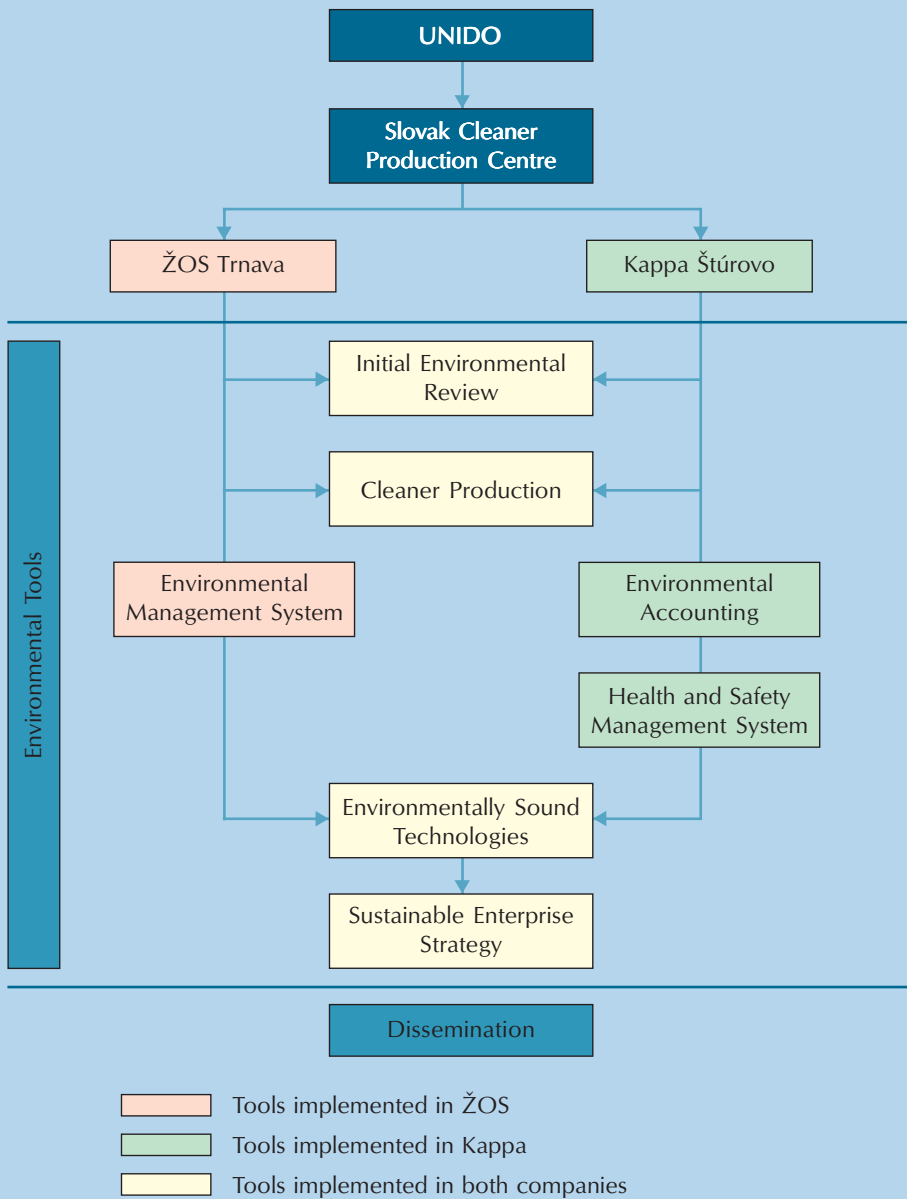
TEST Principles

The core principles of the TEST approach are

- Voluntary commitment to proactive environmental management
- Problem driven (focusing on company and/or country needs)
- Flexibility and openness to innovative solutions (tools are selected and introduced on the basis of an initial review)
- Use of Integrated Pollution Prevention and Control approach, and in the case of IPPC enterprises also refer to the Best Available Techniques (BAT)
- Focus on optimization of process through material efficiency strategy, followed by design of minimized end of pipe solutions, if needed
- Implementation of identified measures, and monitoring of project results is an integral part of the TEST approach
- Analysing problems in their economic, social and environmental complexity
- Possible extension to other tools

Towards Sustainable Entrepreneurship

Organisation Scheme in Slovakia



Ms. Viera Fecková, Director of Slovak Cleaner Production Centre:

The primary objective is to demonstrate that tailor made combination and application of voluntary tools enhances importantly environmental performance of the company. Only after, the “soft” tools are applied, the investment measures “hardware” are implemented. We assess the company not only from the viewpoint of the present legal compliance but also looking into future, towards sustainability including social aspects, health and safety.

TEST makes no sense if there is not an interest to change.



Case study — Kappa Štúrovo, Inc. (pulp and paper industry)

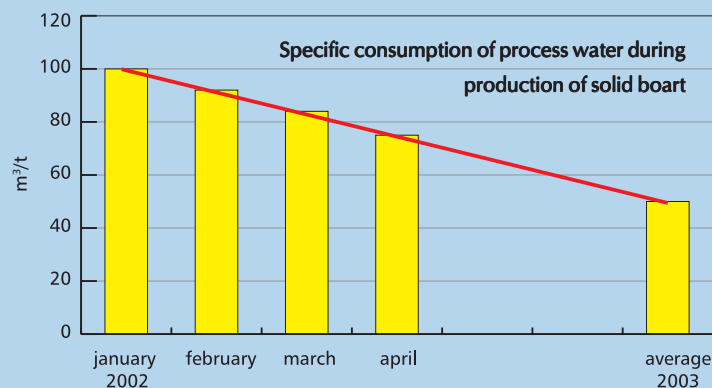
Kappa Štúrovo is situated in the south-east edge on the left bank of the river Danube. The history of the company started in 1960 as a Juhoslovenské celulóžky a papierne – state owned company. Since 1992 privatisation process has started in company. The legal form was converted to Joint Stock Company. Since October 1st 2001, the company has been registered as Kappa Štúrovo as a part of the Netherlands multinational corporation, which involves 100 companies from 17 European countries.

Kappa Štúrovo uses 120 thousand tons of waste paper for production per year. Main products are

- flutting,
- machine board,
- pasted board,
- some other kinds of boards.

Products are exported mainly into countries of Southern and Western Europe. Kappa Štúrovo has implemented quality management system and consequently environmental management system, it holds ISO 14001 certificate since 1997.

During CP project and other parallel activities within the company, the following result was achieved.



Mr. Ľuboš Lopatka, General Manager of Kappa Štúrovo, Inc.:

We try hard to follow a saying “what is economical it is also ecological”. However, it is not always applicable at 100 %. Anyway, one of our priorities is to solve questions concerning environment to satisfaction of neighbourhood, clients as well as shareholders. Investments in environment are perceived as a precondition of operation of our company in the future, too.

Results of TEST project in Kappa:

CP

- A total of 86 measures proposed
- A total of 33 measures implemented with financial benefits of about 313 000 USD
- Reduction of water consumption of 14%, 1 761 000 m³/year

EMA

Properly evaluated environmental costs could amount as high as 10 % or even more of the total costs, those identified within the EMA project scope were 5 % of the total costs.

Health and safety management system

- System implemented
- Certification audit will be held in January 2004

EST

- Environmentally Sound Technologies were identified (transfer to non sulphur production, improved wastewater treatment, etc.)
- BAT requirements were specified
- Total investment 70 million EUR
- Payback period 2–3 years

Number of trained employees: 82

Case study — ŽOS Trnava, Inc. (machinery industry)

ŽOS Trnava is located 40km north of Bratislava. Main production is focused on repairing of freight and passengers wagons, modernization of wagons and manufacturing of engineering parts. ŽOS Trnava is a company which dates back to the first repair shop of railway wagons in Slovakia (1925). The company with 1 287 employees belongs to machinery industry. The organisation was implementing on process based quality management system, respecting all requirements of ISO 9001:2000.

Railway transport shows competitive environmental advantage compared to other relevant means of transport such as trucks (lorries). Management sees the future in further broadening the operation within EU.

During the TEST project consultants together with a working team from the company have identified 8 main areas for improvement from environmental point of view. Implementation of EMS according ISO 14001 was step as a way how to approach environmental issues in systematic way. ŽOS Trnava also had spent more than 150 mil. Sk over last 2 years to enhance quality and environmental results.

Example of CP measure

Before CP project paint from the rafts was burnt out at open air (5400 kg/year). Today the company has built out the new unit, where the used rafts are burnt out and flu gas is collected and filtrated.



Results of TEST project in ŽOS:

CP

- A total of 117 measures proposed
- A total of 19 measures implemented with financial benefits of about 130 000 USD
- Reduction of oil consumption 5 %,
- Reduction of paint 2 %,
- Assumed reduction of VOC 21,76 t/year,
- Implemented waste separation

EMS

- System fully implemented
- Certified according to ISO 14001

EST

Three investments were considered as Environmentally Sound Technologies. Two of them will be put in operation till 2009 with total investment 4,5 mil. USD and will bring company into compliance with IPPC Directive.

Number of trained employees: 55

Mr. Anton Gemela, Technical Director of ŽOS Trnava, Inc.:

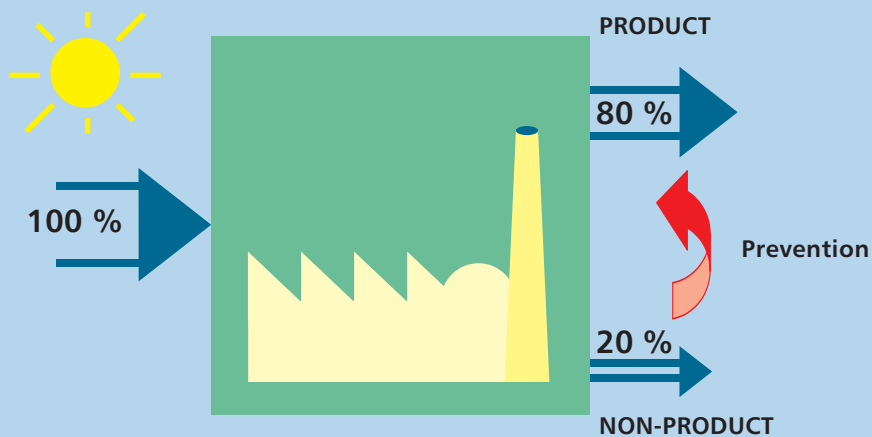
Some of certificates used to be formal in past. But I do not think this is possible these days. The company has to care how the expensive programmes are utilized. It is not necessary to look at ISO certificates as solver to any problem. Anyway, certificates brought a kind of order in the company and increased a level of management, particularly middle management.

Slovak Cleaner Production Centre. Ltd.

SCPC is permanently to be one of leaders that promotes and supports implementation of practical and effective protection of environment in Slovakia and abroad.

SCPC, being an independent professional organisation cooperates with industries and service providing companies, consultancies, government, academia, NGO-s, and all other interested and involved parties.

Since its establishment in 1995, SCPC cooperates closely with different national and international organisations. SCPC is one of the oldest members of international network of National Cleaner Production Centres (NCPCs) established by UNIDO (United Nations Industrial Development Organisation) and UNEP (United Nations Environmental Programme).



“The cheapest way how to solve a problem is to solve the problem which has never really appeared.”

We provide consultancy, expertise and trainings to support implementation of:

- Cleaner production projects in organisation or in region (CP)
- Cleaner production and energy efficiency projects (CP-EE)
- Environmental management system (EMS) according ISO 14001
- Quality management systems (QMS) according ISO 9001:2000
- Health and safety management systems (HSMS) according BSI (OHSAS 18001 and/or BS 8800:1996)
- Implementation of requirements of Major Industrial Accidents Law (261/2002 Z. z. and related regulations)
- Integrated management system (IMS) – according standards required by customer.

Contact

Slovak Cleaner Production Centre, Ltd.
Pionierska 15, 831 02 Bratislava, Slovak Republic
Tel.: ++421—2—444 54 328, Fax: ++421—2—442 59 015
email: scpc@scpc.sk, www.scpc.sk

