

**Pollution Prevention and
Business Development Seminar,
Sofia, Bulgaria, 8th April 2003**

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Business Development in Bulgaria based on the Cleaner Production Strategy

Introduction

Based on the initiative from the Royal Norwegian Embassy in Bulgaria and subsequent approval and support from the Bulgarian Ministry of Environment and Water, a fact-finding mission was carried out in Sofia the 7th and 8th of April 2003. The purpose of the mission from Norway was to identify potential areas of interest for co-operation between Bulgaria and Norway in the fields of environmental protection and business development. The seminar programme is included in Appendix I.

The Mission

The mission consisted of two parts. One day was devoted to meetings with key persons from industry and the Bulgarian Industrial Association, Centre for Clean Industry. The next day a cleaner production seminar was opened by H.E. the Norwegian Ambassador and Ms. Leontchia Seizova from the Ministry of Environment and Water. Subsequently papers were presented by Bulgarian and Norwegian experts.

At the end of the day a workshop was carried out with the aim of identifying internal and external barriers to the promotion of cleaner production and to propose solutions to the barriers.

Two Norwegian experts on pollution prevention from Ostfold Research Foundation, Institute for Pollution Prevention participated from the Norwegian side.

Results

According to the participants at the workshop, the internal barriers to the promotion of cleaner production can be divided into the following categories:

1. Attitude and Awareness.
 - Lack of awareness/competence at all levels in a company
 - Lack of commitment
 - Lack of experience
 - Weak environmental departments in enterprises
2. Lack of Capital
3. Old Technologies and equipment

The identified external barriers included:

- Access to financing

- Lack of environmental awareness in commercial banks
- Ignorance of legislation / impossible to comply with legislation
- Weak connection between science and industry
- Lack of incentives / motivation

The proposed solutions to overcome the barriers included:

- Awareness raising
- Develop expert capacities through training in enterprises, at branch level and in universities
- Develop financial mechanisms
- Develop incentives for improvements
- Pilot projects
- Cleaner production and ISO 14000 training
- Introduction of energy efficiency
- Introduction of environmental performance indicators
- Internal control system

Environmental Status in Bulgaria

Legislation

The Bulgarian Ministry of Environment and Water has developed a National Strategy for the environmental sector [MOEW 2000].

In relation to legislation alignment with EU environmental acquis, Bulgaria has achieved a generally good level and efforts will continue to prepare legislation in all areas, in particular as regards environmental impact assessment, waste management, nature protection, industrial pollution and risk management, chemicals and genetically modified organisms and nuclear safety and radiation protection.

The Environmental Protection Act is adopted and implementation of the legislation has started. Achieving full implementation and compliance, however, poses a major challenge related to administrative, technical, and financial capacity.

The majority of industry and the general public are not well aware of environmental issues and this is a matter of concern.

Implementation of the integrated pollution prevention and control directive is given high priority.

Actual Physical Status

Bulgaria has a significant quantity and diversity of flora and fauna, with a varied climate, topography and relatively small human population (72 people per sq km). There are several endangered species in Bulgaria, for example 16% of the species of

birds found there are rated as rare, 4% are officially endangered and three species are virtually extinct [Greenway 2002].

There are 14 areas in Bulgaria identified as air pollution hotspots (having a high degree of air pollution). These are regions with large urban centres, or less inhabited areas with large industrial enterprises that are polluting. There are about 2500 enterprises in Bulgaria that emit harmful substances to air. Bulgaria has tough targets to meet in order to combat acidification, eutrophication and ground level ozone. Levels of emissions of some pollutants (such as sulphur dioxide, heavy metals and some organic pollutants) should be reduced by 50-80% from 1990-2010 [MOEW 2000].

98% of the population are supplied by the water supply system in Bulgaria. In 1998 63% of all waste water collected was treated before emission. Urban waste water treatment plants serviced only 36% of the population in the year 2000. Water pollution is a concern in Bulgaria. There are 253 water monitoring stations, covering 3,685 km of watercourses, including stations in endangered regions (environmentally vulnerable). Of these, water monitored at 24 stations were defined as 'highly contaminated' [MOEW 2000]. Not all of this pollution occurs in Bulgaria, the Danube river for example is polluted before it reaches the Bulgarian border. There are also monitoring stations for lakes, which show trends towards 'severe eutrophication'. Tourism and fishing in the Black Sea can also be affected by water pollution. Pollution arising in Bulgaria also affects the interests of other countries bordering the Black Sea.

Pollution in the soil was cited as a problem area by industry representatives and representatives from MOEW. Problems have arisen as a result of lack of awareness and focus on the environment in industry earlier in Bulgaria's history. This means that clean-up operations and minimisation of additional soil pollution are important in Bulgaria.

Nuclear activities (e.g. uranium mining and processing) pose a serious threat to the Bulgarian environment and health and safety of the population in certain areas.

The environmental problems described above are also a threat to prioritised areas of eco-tourism and eco-agriculture.

The main strategic objective of the environmental protection policy of Bulgaria is described as 'the preservation of the quality of the environment in the environmentally clean areas of the country, as well as improving the conditions in the damaged and contaminated regions [MOEW 2000].

Acknowledgements

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Conclusions

The potential and interest required is present in Bulgaria for a Cleaner Production (CP) Programme. The industry and ministry representatives present at the seminar and preliminary meetings have expressed enthusiasm and interest for further work that will help to improve environmental performance, economic results and raise awareness and knowledge about CP in Bulgaria. The authors of this report have therefore written a proposal for a CP programme which will be submitted shortly [Kjærheim and Nyland 2003].

References

[MOEW 2000] Republic of Bulgaria, National Strategy, Environment Sector, Ministry of Environment and Water.

[Greenway 2002] Greenway, P.: Bulgaria, Facts about Bulgaria - Flora & Fauna chapter, Lonely Planet Publications, ISBN 1 86450 148 0.

[Kjærheim and Nyland 2003] Kjærheim, G., Nyland, C.A.: Business Development in Bulgaria based on the Cleaner Production Strategy, AR.04.03, Østfold Research Foundation, Norway.

Appendix I: Seminar Programme

9.00-9.15	Opening	H.E. Rolf Baltzersen, Ambassador Ms. Leontchia Seizova, Secretary General
9.15-10.00	Environmental policy in Bulgaria. EU's Environmental legislation and Bulgaria	Dr. Vania Grigorova Director Ivan Mastikov - State Expert
10.00-10.45	Cleaner production, Quality, Environmental management systems, Environmental performance indicators, Benchmarking	Dr. Gudolf Kjærheim
10.45-11.05	Coffee break	
11.05-11.35	Norwegian model for cleaner production	Dr. Gudolf Kjærheim
11.35-12.20	Life cycle analysis (LCA) and Environmental product declarations Sustainable waste management based on LCA	Cecilia Askham Nyland
12.20-13.00	Lunch	
13.00-14.50	Workshop - discussion	Dr. Gudolf Kjærheim Cecilia Askham Nyland All participants
14.50-15.00	Wrap up and Closing	Dr. Vania Grigorova