PURPOSE

The Joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP) is a special global technical assistance program run as part of the World Bank’s Energy, Mining and Telecommunications Department. ESMAP provides advice to governments on sustainable energy development. Established with the support of UNDP and bilateral official donors in 1983, it focuses on the role of energy in the development process with the objective of contributing to poverty alleviation, improving living conditions and preserving the environment in developing countries and transition economies. ESMAP centers its interventions on three priority areas: sector reform and restructuring; access to modern energy for the poorest; and promotion of sustainable energy practices.

GOVERNANCE AND OPERATIONS

ESMAP is governed by a Consultative Group (ESMAP CG) composed of representatives of the UNDP and World Bank, other donors, and development experts from regions benefiting from ESMAP’s assistance. The ESMAP CG is chaired by a World Bank Vice President, and advised by a Technical Advisory Group (TAG) of four independent energy experts that reviews the Programme’s strategic agenda, its work plan, and its achievements. ESMAP relies on a cadre of engineers, energy planners, and economists from the World Bank to conduct its activities under the guidance of the Manager of ESMAP, responsible for administering the Programme.

FUNDING

ESMAP is a cooperative effort supported over the years by the World Bank, the UNDP and other United Nations agencies, the European Union, the Organization of American States (OAS), the Latin American Energy Organization (OLADE), and public and private donors from countries including Australia, Belgium, Canada, Denmark, Germany, Finland, France, Iceland, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Sweden, Switzerland, the United Kingdom, and the United States of America.

FURTHER INFORMATION

An up-to-date listing of completed ESMAP projects is appended to this report. For further information, a copy of the ESMAP Annual Report, or copies of project reports, contact:

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Increasing the Efficiency of Heating Systems in Central and Eastern Europe and the Former Soviet Union

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Joint UNDP/World Bank Energy Sector Management Assistance Programme (ESMAP)
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Preface

The World Bank as well as other multilateral and bilateral development institutions provides an important source of funding for investments to modernize the heating sector in CEE/FSU. This report aims to put these investments within the overall context of sector restructuring. It is based on the ESMAP project Improving the Efficiency of Heating Systems in CEE/FSU as well as on a wealth of experiences with district heating (DH) in both Western Europe and CEE/FSU.

ESMAP financed the present study to examine the following questions:

- Which factors determine the choice of the economically preferred heating option from a set of alternatives?
- Under which circumstances is DH, decentralized heating with natural gas, or another alternative the preferred option?
- How does the institutional environment have to change in order to foster cost-effective heat supply and demand?
- How can the preferred option be implemented when the countries in CEE/FSU are in a period of transition?

To answer these questions, case studies of the heat situation in six CEE/FSU cities were carried out in 1996: Dnipropetrovsk in Ukraine, Kaunas in Lithuania, Orenburg in Russia, Sofia in Bulgaria, Timisoara in Romania, and Wroclaw in Poland. In all six cities, DH is the dominant technology for the supply of heat.

The six case studies followed the same methodology, which emphasized the analysis of the scope for interfuel substitution between DH and alternatives such as building boilers and apartment boilers using natural gas. The issue of interfuel competition seemed to be inadequately addressed in many of the feasibility studies for DH systems that had been prepared previously. The methodology also emphasized the identification of the institutional and policy changes that are required to provide an enabling environment for cost-effective heat supply and demand.

This report summarizes the main findings from the case studies and describes the major issues encountered in the modernization of DH systems, the commercialization of companies in the heating sector, and requirements for policy changes. It provides examples of best practices in the reform efforts in CEE/FSU and of investments designed to make heating more efficient.

This report is intended to assist (1) World Bank staff, in preparing and implementing DH projects; (2) politicians and planners in CEE/FSU, in dealing with the restructuring of the heating sector; and (3) consultants, in preparing feasibility studies for investments in the heating sector.
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The report is based on the results of six case studies undertaken by the consulting teams of MVV/Sofregaz, Stork Comprimo, and Tebodin/ECN/ENECO. We are grateful to the authorities in the six cities in which the case studies were carried out, as well as to the respective national governments for the support they provided. The work relied on the financial support of the Dutch Ministry of Economic Affairs, the THERMIE program of the EU Commission, and Kreditanstalt für Wiederaufbau, as well as the advice of many heating experts in Eastern and Western Europe as well as in development institutions. Without this support and advice, this project could not have been undertaken.