

# Foreword

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In 1988, the World Bank published *Environmental Guidelines* to provide technical advice and guidance to staff and consultants involved in pollution-related projects. In the years since then, there have been significant changes in technologies, in pollution management policies and practices, and in the activities and portfolio of the World Bank Group. This *Pollution Prevention and Abatement Handbook* has been prepared to update and replace the 1988 guidelines.

The *Handbook* is specifically designed to be used in the context of the World Bank Group's environmental policies, as set out in Operational Policy (OP) 4.01, "Environmental Assessment," and related documents.<sup>1</sup> World Bank Group policy stresses the primacy of the project-specific or site-specific environmental assessment process in setting the requirements for environmental performance. The guidelines contained in this *Handbook* are therefore subject to interpretation in light of the results of the environmental assessment.

The guidelines apply to all Bank Group-funded projects approved in principle on or after July 1, 1998, unless the project sponsor can demonstrate that a significant investment has already been made (or that a legally binding agreement has been entered into) on the basis of the 1988 guidelines.

The *Handbook* promotes the concepts of sustainable development by focusing attention on the

benefits—both environmental and economic—of pollution prevention, including cleaner production and good management techniques.

The *Handbook* consists of three parts.

*Part I* contains a summary of key policy lessons in pollution management, derived from practical experience inside and outside the World Bank Group over the past decade. Although Part I is aimed primarily at government decision-makers, other readers will derive considerable benefit from a better understanding of the issues facing government agencies.

*Part II* presents good-practice notes on implementation of policy objectives, based on experience with World Bank Group projects and on lessons from the policies and practices of other agencies and organizations in this field.

*Part III* provides detailed guidelines to be applied in the preparation of World Bank Group projects. The guidelines, which cover almost 40 industrial sectors, represent state-of-the-art thinking on how to reduce pollution emissions from the production process. In many cases, the guidelines provide numerical targets for reducing pollution, as well as maximum emissions levels that are normally achievable through a combination of cleaner production and end-of-pipe treatment. The guidelines are designed to protect human health; reduce mass loadings to the environment; draw on commercially proven technologies; be cost-effective; follow current regulatory trends;

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1. The World Bank consists of the International Bank for Reconstruction and Development (IBRD) and its concessional-lending affiliate, the International Development Association (IDA). The World Bank Group includes, in addition to the IBRD and IDA, the International Finance Corporation (IFC), which focuses on cooperation with the private sector in developing countries, and the Multilateral Investment Guarantee Agency (MIGA). The World Bank's Operational Policy 4.01 is a conversion of the existing Operational Directive 4.0 and contains the same basic principles as the directive. The IFC and MIGA have parallel policies.

and promote good industrial practices, which offer greater productivity and increased energy efficiency.

The application of the guidelines set out in Part III can minimize the use of resources and reduce the quantity of wastes requiring treatment and disposal. The guidelines represent good environmental management practices that can be implemented and maintained with the skills and resources typically available in countries in which the World Bank Group operates. The World Bank Group is committed to strengthening management and technical skills and to supporting the development of the necessary institutions in these countries. Where relevant national regulations do not exist, the guidelines may provide a basis for negotiating site-specific agreements between regulators and enterprises.

The *Handbook* was compiled by staff members of the Environment Departments of the World Bank and the International Finance Corporation (IFC). Contributions and advice came from many other technical and operational units within the World Bank Group and from outside consultants. A number of drafts were circulated and discussed, including a full Annual Meetings edition in September 1997. The guidelines related to thermal power plants were the subject of a two-day international expert panel workshop held at the World Health Organization (WHO) in Geneva in April 1997. Officials of key borrowing countries, other government and private sector representatives, and WHO and Bank experts attended the workshop.

The IFC and the World Bank's Industry and Mining Division carried out and coordinated detailed technical reviews of the relevant industry-specific guidelines. Technical background material, as well as advice and comments, were provided by the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO),

WHO, and several bilateral agencies, including those of Canada, Germany, the Netherlands, Norway, Sweden, and the United States.

In addition, extensive informal consultation and discussions with other international financing institutions, industry organizations, regulatory agencies, and nongovernmental organizations have taken place. Many comments have been received and have been incorporated into the *Handbook* to the extent possible. It is intended and hoped that the *Handbook* represents a broad consensus of what is achievable through current good practice in pollution management.

This *Handbook* is envisaged as a living document: its implementation will be monitored over the next year, further industry guidelines will be issued, and the need for revision will be weighed in the light of the accumulated experience. The full text of the *Handbook* is available on the environmental section on the World Bank Group's website ([www.worldbank.org](http://www.worldbank.org)), where any revisions or additional guidelines will be posted.

Formal and informal consultations on the content and application of the *Handbook* will continue, and comments are welcome. Comments should be addressed to the Program Leader, Urban, Industry and Energy, Environment Department, World Bank, or to the Unit Head, Environment and Social Review, Environment Division, IFC, at the address given on the copyright page.

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