

PREFACE

Our nation is slowly coming to grips with the problem of how we, jointly with other nations, reconcile the pressures for economic growth and the realities of resource limitations and degradation with our quest for a dignified and satisfying existence. How do we, in the words of the National Environmental Policy Act, create and maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans? That effort is a new and urgent priority; but how can it be translated into workable practices in field, forest, mine and manufacturing plant?

This study of Man, Materials, and Environment tries to provide some answers to that question. It is not directly concerned with questions of resource depletion which have been dealt with in another study by the National Academy of Sciences.* Nor does it examine the allocation of resources on the world scene, grave as that problem may be. Rather it is concerned with the problem of enhancing our environment by taking a new look at the economic and technological processes involved in materials use by building into them safeguards designed to arrest, abate, and reverse the trend of physical and social degradation.

The study was initiated by the Committee for International Environmental Programs of the Environmental Studies Board under a contract with the National Commission on Materials Policy in May 1972. In its charge to the committee the National Commission on Materials Policy** requested that the study would

1. assess how materials policy for the United States may be affected by national environmental policies, or by international agreements;
2. evaluate the effects on United States materials policy resulting from the United Nations Conference on the Human Environment;
3. by reference to selected important materials and their flow through the environment and the economy, identify and assess the implications of alternative environmental criteria; and

* Elements of a National Materials Policy, A Report of the National Materials Advisory Board. NAS/NAE, 1972.

** Sec. 205, Title II, PL 91-512 states, "When used in this title, the term 'material' means natural resources intended to be utilized by industry for the production of goods, with the exclusion of food."

4. identify other issues of environmental significance that are appropriate and essential for consideration by the National Commission on Materials Policy in its report to the President and Congress, June 30, 1973.

From the outset it was apparent to the committee that the short time schedule would not permit detailed investigation of the questions and issues specifically assigned to it. However, it was believed that by marshalling the judgment of a group widely experienced in materials and environmental matters, it would be practicable to identify major issues and to suggest specific steps based upon available evidence.

Under the leadership of Dean Nathaniel Wollman of the University of New Mexico, a study committee and six working teams were assembled during the summer and early autumn of 1972. They represent a remarkable diversity of professional outlook. With the assistance of an able staff, they have put together a report which gets at the major problems and proposes positive action with respect to public policy and research.

Like other activities of the Committee for International Environmental Programs, the report has two distinctive characteristics. The analysis blends the competence of biological and physical scientists with those concerned with technology, human behavior, and social process. It combines in the resulting findings the perspective of national welfare with keen regard for the global environment.

The report offers the following principal conclusions:

1. It is in the national interest that policies and practices aimed at satisfying the nation's need for materials essential to social well-being should reflect and accommodate at all stages, from extraction to waste disposal, considerations of environmental cost to human health, quality of habitat, and stability of ecosystems.
2. This principle should be included in all pertinent policies and legislation stipulating the right of each citizen to a healthful environment in accordance with Principle I of the Declaration of the United Nations Conference on the Human Environment.
3. The resources of all countries should be regarded as part of an interdependent habitat rather than merely as possible sources of supply; and our national policy should therefore conform to the principles of conduct adopted by the community of nations in a common effort to protect the human habitat and its resources.
4. While we can today identify and deal with environmental problems relevant to a materials policy, and while we are prepared to propose appropriate remedies, the incomplete

state of our knowledge requires urgent, systematic expansion of research and of the institutional arrangements needed to widen the data base.

The Committee for International Environmental Programs endorses the conclusions of the report and expresses its sincere appreciation to Dean Wollman, to the members of the study committee and working teams, and to the staff.

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