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## COMMITTEE ON RENEWABLE RESOURCES FOR INDUSTRIAL MATERIALS (CORRIM)

In recent years major emphasis has been placed on nonrenewable resources in relation to potential national problems that may arise from possible changes in materials supply or utilization. Renewable resources, however, have received disproportionately small attention in spite of their current importance as industrial raw materials and their potential for the future. In recognition of this, the Science and Technology Policy Office, in support of the Science Advisor to the President, requested the National Academy of Sciences/National Research Council to conduct a study of renewable resources in meeting the nation's future material needs. In 1974, with support from the National Science Foundation, the Board on Agriculture and Renewable Resources under the Commission of Natural Resources of the National Research Council appointed the Committee on Renewable Resources for Industrial Materials (CORRIM) to conduct such a study.

The committee was instructed to analyze renewable resources in the United States economy to provide a basis for identifying their optimum production and use and the role of science and technology in overcoming barriers to their production and use. Specifically, the Committee was directed to give attention to the following:

1. Quantitative analysis of current materials flow for renewable resources as the basis for assessing the impact of potential future changes (compare with nonrenewable flows). Definition of the limits (costs and technical) of renewable resources for meeting ex-

panded demands for materials based on them. Delineation of the energy, environmental and social consequences of such increases. International aspects.

2. Interchangeability of renewable and nonrenewable resources as the basis for materials.
3. Assessment (stocktaking) of quantity and quality of R&D currently supported in the area of renewable resources by (a) federal government and (b) industry. Evaluation of the relationship of these activities to the size of the industry and its role in the economy. Assessment of changes in scale and emphasis needed to meet future changes.
4. An evaluation of relevant federal and regional legislation and regulations that influence the effectiveness of the development and utilization of renewable resources.
5. Improvement in materials properties and performance.
6. Improvement in the yield of raw materials and in the efficiency of processing.
7. The potential of renewable resources as "feed-stock" for synthetic materials, (a) cellulose based and (b) translated to products (such as ethylene) that can be used to supplement or replace the petrochemical supply used currently for synthetic polymer production.
8. Consideration of the energy and environmental characteristics associated

with the implementation of research from the above three categories, including the question of water supply and alternative land use.

To accomplish its charge, the committee established six panels, each of which conducted and reported on a detailed study as background materials for a consolidated committee report. These panels were:

- I. Biological Productivity of Renewable Resources used as Industrial Materials
- II. Renewable Resources for Structural and Architectural Purposes
- III. Fibers as Renewable Resources for Industrial Materials
- IV. Extractives as a Renewable Resource for Industrial Materials
- V. The Potential of Lignocellulosic Materials for the Production of Chemicals, Fuels, and Energy
- VI. Reference Materials System: A Source of Renewable Materials Assessment

Additionally, three subpanels provided overall inputs and developed separate background reports on economic and institutional matters, international considerations and systems analysis. Also, several separate subreports were prepared in connection with individual panel studies.

This paper is the report of Panel II, Renewable Resources for Structural and Architectural Purposes. A subreport, which is not included, *Harvesting the Forest Resource*, was also prepared by a member of Panel II.

The consolidated report of CORRIM, *Renewable Resources for Industrial Materials*, is available for purchase (\$8.25) from the Printing and Publishing Office of the National Academy of Sciences. Individual panel and subpanel reports and subreports are available for review at the Office of the National Academy of Sciences or for purchase from the National Technical Information Service.

S. B. PRESTON  
Chairman, Panel II