

*An Assessment of Information Systems  
Capabilities Required To Support U.S.  
Materials Policy Decisions*

December 1976

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**An Assessment of  
Information Systems Capabilities  
Required To Support  
U.S. Materials Policy Decisions**



UNITED STATES  
CONGRESS  
Office of Technology  
Assessment

December 1976

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DEC 1 - 1976

Committee on Science and Technology  
U. S. House of Representatives  
Washington, D. C. 20515


Gentlemen:

On behalf of the Board of the Office of Technology Assessment, we are pleased to forward a report: An Assessment of Information Systems Capabilities Required To Support U.S. Materials Policy Decisions.

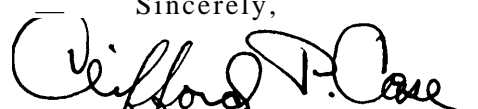
The report concludes OTA's analysis of the need for improving the Government's information systems to support policymakers. It specifically outlines possible improved capabilities, alternative approaches to implementation, institutional changes needed for implementation, and an analysis of possible impacts resulting from establishing the improved capabilities.

This assessment was performed in accordance with your request to the Office of Technology Assessment dated December 13, 1974. An earlier summary of this report was transmitted to the Committee in February 1976.

Sincerely,

  
Olin E. Teague  
Chairman

Sincerely,

  
Clifford P. Case  
Vice Chairman

Enclosure

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DEC 1 - 1973

The Honorable Olin E. Teague  
Chairman of the Board  
Office of Technology Assessment  
Congress of the United States  
Washington, D. C. 20515

Dear Mr. Chairman:

The enclosed report, An Assessment of Materials Information Systems Capabilities Required To Support U.S. Materials policy Decisions, presents OTA's assessment of alternatives for providing essential information and analyses in support of materials policy.


The assessment was requested by the Chairman and the Ranking Minority Member of the House Science and Technology Committee. In both the 93rd and 94th Congresses, more than a dozen bills aimed at correcting perceived deficiencies in current materials information systems were introduced. Two general themes run through these bills. One is that reliable information is essential to sound policymaking, the other is the belief that modern technology for handling information provides the means to improve existing systems.

The following report: 1) delineates the need for improving existing materials information systems; 2) describes possible improved capabilities to address shortage-related policy problems; 3) outlines alternative approaches for implementing the improved capabilities, including alternative institutional arrangements; and 4) assesses the possible impacts and public policy issues that may arise with the implementation of such system improvements.

The results of this assessment have been used extensively by the National Commission on Supplies and Shortages. The Commission has been urged by the Majority and Minority Leaders of the Senate, Senators Mansfield and Scott, to focus its efforts on determining "what institutional adjustments (including even establishing an agency) are needed in the Nation to provide a coordinated strategic economic information system and to analyze economic needs (for resources, commodities, materials, and manufactured products) on a permanent basis. . . ." The OTA assessment analyzes such adjustments, and concludes that they would be feasible and warranted.

During the course of the assessment, OTA presented information and analyses in hearings held by 1) the Senate Commerce Committee regarding the "National Resources and Materials Information Act," and 2) the Senate Interior and Insular Affairs Committee regarding a bill to establish a "National Energy Information System."

Sincerely,



EMILIO Q. DADDARIO  
Director

Enclosure

## PREFACE

This assessment is an analysis of materials information systems and their capability to support effective policymaking decisions on materials problems. The assessment is one element of a broad consideration of materials-related problems being undertaken by the Office of Technology Assessment (OTA) in response to various congressional requests.

In responding to these requests, OTA has used the unifying concept of the total materials cycle to tie the individual requests into a totally integrated approach. Related projects cover various phases of the total materials cycle and include mineral accessibility on Federal and non-Federal lands; exploration technology; recovery of commodities from subeconomic resources; stockpiling; resource recovery and recycling; materials conservation; substitution to reduce import dependency; and strategies, policies, and decision mechanisms for dealing with resource problems.

The request for a materials information assessment was submitted by the House Committee on Science and Technology. Specifically, the Committee asked for an analysis of “. . . the adequacy of present materials information systems for the technology of materials supply, processing, and uses. . . .” While the assessment is in response to the House Committee on Science and Technology, it also addresses the interests expressed in a letter from Senators Mansfield and Scott to the National Commission on Supplies and Shortages. Their letter, dated November 19, 1975, stated that the Commission should focus its efforts on a determination of “what institutional adjustments (including even establishing an agency) are needed in the Nation to provide a coordinated strategic economic information system and to analyze economic needs (for resources, commodities, materials, and manufactured products) on a permanent basis. . . .”

This report was prepared by the Office of Technology Assessment materials program staff, under the supervision of Drs. Albert E. Paladino and John B. Wachtman, with contributions from: (1) a materials advisory committee comprised of individuals drawn from the materials field, academia, labor, public interest groups, and private industry; (2) several private contractors; as well as (3) numerous other private and public agencies. The materials advisory committee provided advice and comment throughout the assessment, but does not necessarily approve, disapprove, or endorse the report, for which OTA assumes full responsibility,

The Technology Assessment Board approves the release of this report, which identifies a range of viewpoints on a significant issue facing the U.S. Congress. The views expressed in this report are not necessarily those of the Board nor of individual members thereof.