

WHAT IT IS
WHAT IT DOES
HOW IT WORKS

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CONGRESS OF THE UNITED STATES
Office of Technology Assessment
WASHINGTON, D. C. 20510

OTA is an analytical
Congress. Its purpose is to handle
unique kinds of issues that are
interdependent, high technology

Office of Technology Assessment

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The New Issues

Consider, for example, the nuclear power plants. More than 100 United States still has no program to deal with these wastes. Nearly all wastes that are produced continue to accumulate and threaten the future of nuclear power. In seeking to resolve it, "state-of-the-art" concerning disposal of these wastes must be considered the political, economic, and technical options for waste disposal and future generations. In short, the intricate array of technical, political, and economic perceptions, political judgments, and economic considerations, as it decides whether and to what extent to support a particular program for the wastes.

Like this problem of nuclear power, there are many other issues in every area of Congressional jurisdiction: natural resources, national defense, communications, transportation, and the environment. These issues have certain characteristics:

1. Their most important impacts are often delayed, isolated but the long term effects are widespread.
2. They are complex, and require a broad range of information from various fields of knowledge.
3. They have a significant impact on the environment and require adequate resolution and analysis.

During the 1960's, Congress found the complexity, breadth, and long-term impact of these issues made policy decisions that were inappropriate. Congress also found itself forced to decide whether to provide adequate and unbiased information from the various agencies and "special interest" groups. In hearings, Congress decided to address such issues. In 1972, it authorized

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WHAT OTA IS
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CONGRESS OF THE UNITED STATES
WASHINGTON, D.C. 20510

OTA is an analytical support agency of the United States Congress. Its purpose is to help Congress deal with the new and unique kinds of issues that confront our increasingly complex, interdependent, high technology society.

The New Issues

Consider, for example, the question of how to manage wastes from nuclear power plants. More than three decades into the nuclear age, the United States still has no program for the safe and lasting disposal of these wastes. Nearly all wastes thus far are in temporary storage and the amount continues to accumulate. How this issue is resolved will determine the future of nuclear power and the shape of the Nation's energy future. In seeking to resolve it, the Congress must explore the entire "state-of-the-art" concerning disposal technologies and sites. It must consider the political, economic, environmental, and social implications of the various options for waste disposal and the relative risks for present and future generations. In short, Congress must examine and assess an intricate array of technical certainties and uncertainties, social values and perceptions, political judgments and tradeoffs, policy options and implications, as it decides whether and when it is "safe" to commit the country to a particular program for the permanent management of nuclear wastes.

Like this problem of nuclear waste, a growing number of major issues in every area of Congressional concern—such as energy, environment, natural resources, national security, health, agriculture, telecommunications, transportation, world trade—have three distinguishing characteristics:

1. Their most important impacts are often not the immediate and the isolated but the longer range and the more inclusive.
2. They are complex, and their analysis requires the integrating of a broad range of information and expertise that cut across the various fields of knowledge.
3. They have a significant technological content, and efforts to resolve them adequately must employ the best scientific information and analysis available.

During the 1960's, Congress found that failure to take into account the complexity, breadth, and long-term implications of such issues led to policy decisions that were inappropriate, ineffective, or worse. Congress also found itself forced to decide those issues on the basis of often inadequate and biased information from outside sources—such as executive agencies and "special interest" groups. After a long series of studies and hearings, Congress decided to create its own capability for assessing such issues. In 1972, it authorized the establishment of OTA as a con-

gressional source of information and analysis that is nonpartisan, expert, objective, and anticipatory.

The Task

OTA's basic job is to explore complex issues involving science and technology in ways that clarify for Congress both the range of policy options and the potential impacts of adopting each of those options. OTA is intended to provide Congress with early indications and analyses of emerging technological issues. OTA does not normally recommend or advocate particular policies or actions. In the words of an OTA Board Chairman, OTA can be described as a "think tank" designed to assist Congress in coping with the difficult and often highly technical issues that crowd the Nation's public agenda in the late 20th century.

The Organization

The Board

OTA is governed by a 12-member, bipartisan Congressional Board on which the OTA Director serves as a nonvoting member. The Board consists of six Senators and six Representatives, evenly divided by party and appointed by the President pro tempore of the Senate and the Speaker of the House, respectively. The Board elects a Chairman and Vice Chairman. The posts alternate between the Senate and House in succeeding Congresses. The Vice Chairman is a member of the minority party.

The Advisory Council

The Board is aided by an Advisory Council made up of 10 public members eminent in science, technology, and education, who are appointed by the Board. The Comptroller General of the United States and the Director of the Congressional Research Service of the Library of Congress are *ex officio* members. The Council advises the Board on OTA assessments and other matters.

The Director and Deputy Director

The Director, who is appointed by the Board, has full authority and responsibility for organizing and managing OTA's resources according to the overall policies set by the Board. The Deputy Director is appointed by the Director with the approval of the Board.

The Staff

OTA has a relatively small, in-house staff of 80 to 90 professionals whose skills span the spectrum of the physical and social sciences, engineering, the biological and environmental sciences, political science, medicine, law, and public administration.

WHAT

OTA works directly with Congress, which do the substance of the work as a whole.

Assessment Requests and A

According to the OTA Act, made by:

- The Chairman of any committee on the request of the ranking member of the committee.
- The OTA Board.
- The OTA Director, in consultation with the Board.

The OTA Board decides whether to request an assessment. Once a request is made, the Board determines the proposed study to determine whether it is required and what modifications it may need and congressional needs. Following the formal study proposal to the Board, the Board decides the basis of this proposal.

OTA Studies and Services

The bulk of OTA's work consists of studies that may take a year or more to complete. It provides a wide range of shorter, quicker studies to meet congressional needs. Working with the committees, OTA tries to tailor all studies to fit the schedules.

OTA's rapid responses to congressional requests are based on the edge base built up through past studies. For example, to evaluate energy conservation by drawing on the studies of energy conservation, topical "spinoffs" from assessments of the prospects for gasohol preparation, the course of a larger assessment of energy from biological processes, and assessments so that the results, in the form of interim reports, progress in the form of interim reports.

In addition, OTA provides a public forum for presenting testimony at hearings, testimony at hearings, and testimony at hearings.

WHAT OTA DOES

OTA works directly with and for the committees of Congress, which do the substantive spadework on legislation for Congress as a whole.

Assessment Requests and Approvals

According to the OTA Act, requests for OTA assessments may be made by:

- The Chairman of any congressional committee acting alone or at the request of the ranking minority member or of a majority of committee members.
- The OTA Board.
- The OTA Director, in consultation with the Board.

The OTA Board decides whether or not OTA will undertake a requested assessment. Once a request is received, the OTA staff screens the proposed study to determine what resources and time it might require and what modifications it might need to suit both OTA's resources and congressional needs. Following this screening, the staff presents a formal study proposal to the Board. The Board makes its decision on the basis of this proposal.

OTA Studies and Services

The bulk of OTA's work centers on comprehensive, in-depth assessments that may take a year or more to complete. The Office also provides a wide range of shorter, quicker responses to immediate congressional needs. Working with the staff of requesting and interested committees, OTA tries to tailor all of its studies to meet congressional schedules.

OTA's rapid responses to committee needs flow out of the knowledge base built up through past and current assessments. OTA may be asked, for example, to evaluate various approaches for financing energy conservation by drawing on the expertise acquired through earlier studies of energy conservation strategies. Or OTA may provide brief topical "spinoffs" from assessments in progress—such as an analysis of the prospects for *gasohol* prepared for immediate congressional use during the course of a larger assessment of the potential for producing energy from biological processes. OTA can also structure longer range assessments so that the results, in various stages, are delivered to Congress in the form of interim reports.

In addition, OTA provides advice to committee members and staff, presents testimony at hearings, and conducts workshops with committees.

HOW OTA WORKS

OTA Org

OTA's skilled, multidisciplinary staff plans, directs, and drafts all assessments. In the development of specific studies, it draws on the broad technical and professional resources of the private sector, including the universities, research organizations, industry, and public interest groups.

Project Teams

The OTA staff is organized into various programs along issue or subject lines. Multidisciplinary project teams, from one or more programs, are formed to conduct specific assessments. These teams keep in close contact with committee staff throughout the progress of an assessment. The project team develops the overall study plan, identifies, enlists, and works with the appropriate contractors and consultants, analyses and integrates their work, does the basic policy analysis, and develops the final report.

Panels

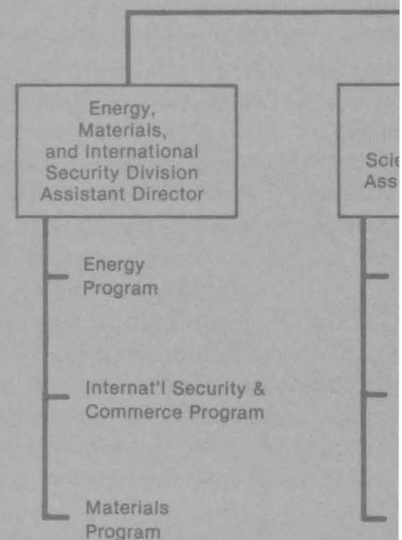
Throughout each project, OTA uses advisory panels whose members reflect the range of expertise and interests concerned with that particular subject. Such panels include not only distinguished scientists, engineers, and other experts, but also affected and interested parties from labor, industry, the academic community, public interest groups, State and local government, and the citizenry at large. These panels help define and shape OTA studies as they start and thoroughly critique them before they are released. Through the use of such panels, and other forms of outside review and participation, OTA seeks to ensure that its reports are objective, fair, and authoritative.

Public Participation

OTA makes a serious and systematic effort to ensure that the views of the public are fairly reflected in each of its assessments.

The involvement of a broad spectrum of the public serves two important purposes. First, it gives citizens access to information which may ultimately affect national decisionmaking. Second, it informs and improves OTA's work by helping eliminate bias, introducing new or little-understood points of view and identifying any important contrasts between the perspectives of technically trained experts and lay citizens.

OTA uses a number of methods for involving the public. Members of advisory panels and workshops represent diverse viewpoints and political positions. Interviews and surveys are sometimes conducted. Formal and informal public meetings are held. A major effort is made by



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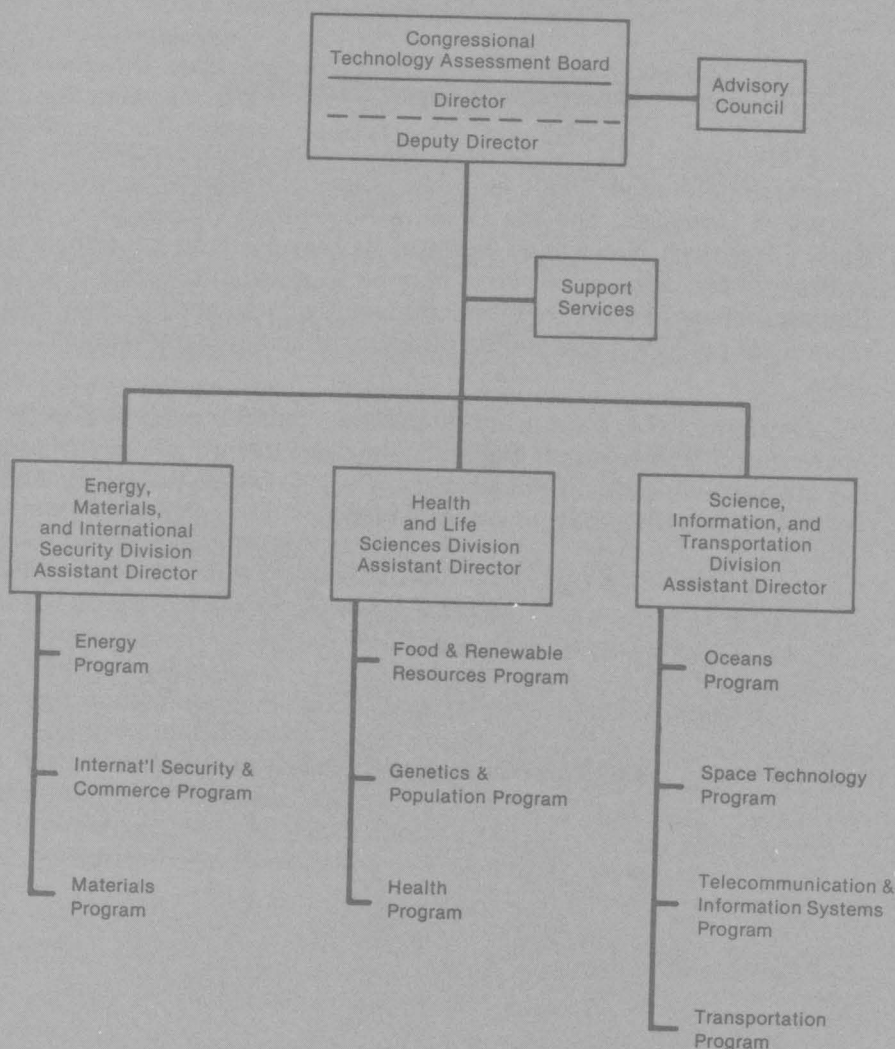
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OTA Organization Chart



OTA to obtain public comments and review of draft documents as work continues. All or any of these methods may be used in any study; the topic itself defines the appropriate choices. The crucial element is that the method be truly participatory, so that a real exchange of views can occur.

Research Coordination

OTA works with the other congressional support agencies—the Congressional Budget Office, the Congressional Research Service of the Library of Congress, and the General Accounting Office—in an inter-agency Research Notification System. Its purpose is to coordinate activities and exchange information in order to avoid duplication of effort. Representatives of each organization meet regularly, and biweekly status reports are published in a central directory of congressional research activity.

Similarly, OTA stays in touch not only with the published work of analysts and researchers in Federal agencies and throughout the country, but also with their current activities. Thus, OTA can frequently obtain valuable unpublished data and information.

Some Complete

Residential Energy Conservation
The Direct Use of Coal: Prospects and Combustion
Application of Solar Technology to
Analysis of the Proposed National E
Enhanced Oil Recovery Potential in
Gas Potential From Devonian Shale
A Technology Assessment of Coal S
Drugs in Livestock Feed
Emerging Food Marketing Technolo
Nutrition Research Alternatives
Open Shelf-Life Dating of Food
Assessing the Efficacy and Safety of
Policy Implications of the CT Scanne
Cancer Testing Technology and Sac
Management of Fuel and Nonfuel M
Effects of Nuclear War
Nuclear Proliferation and Safeguard
Renewable Ocean Energy Sources
Establishing a 200-Mile Fisheries Zor
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Some Completed OTA Studies

Residential Energy Conservation
The Direct Use of Coal: Prospects and Problems of Production
and Combustion
Application of Solar Technology to Today's Energy Needs
Analysis of the Proposed National Energy Plan, 1977
Enhanced Oil Recovery Potential in the United States
Gas Potential From Devonian Shales of the Appalachian Basin
A Technology Assessment of Coal Slurry Pipelines
Drugs in Livestock Feed
Emerging Food Marketing Technologies: A Preliminary Analysis
Nutrition Research Alternatives
Open Shelf-Life Dating of Food
Assessing the Efficacy and Safety of Medical Technologies
Policy Implications of the CT Scanner
Cancer Testing Technology and Saccharin
Management of Fuel and Nonfuel Minerals in Federal Land
Effects of Nuclear War
Nuclear Proliferation and Safeguards
Renewable Ocean Energy Sources
Establishing a 200-Mile Fisheries Zone
Coastal Effects of Offshore Energy Systems
Oil Transportation by Tankers: An Analysis of Marine Pollution
and Safety Measures
Changes in the Future Use and Characteristics of the Automobile
Transportation System
An Assessment of Community Planning for Mass Transit
An Evaluation of Railroad Safety
Environmental Contaminants in Food
Technology and East-West Trade

Studies in Progress (as of December 1979)

Energy From Biological Processes
 Alternative Energy Futures
 Solar Power Satellite Systems
 Global Energy Trends
 Synthetic Fuels for Transportation
 Decentralized Electric Energy Generation Systems
 Oil Shale Technology
 Federal Coal Development Rights
 Implications of International Technology Transfer
 Impact of Technology on the Competitiveness of the U.S. Steel Industry
 Impact of Technology on the Competitiveness of the U.S. Electronics Industry
 Taggants in Explosives
 Impact of Technology on Productivity of the Land
 Technologies for Determining Cancer Risks from the Environment
 Implications of Cost-Effectiveness Analysis for Evaluating Medical Technologies
 Technologies for Forecasting Physician Supply and Demand
 Impact of Applied Genetics
 Technology and World Population
 Technology for Local Development
 Technological Innovation and Health, Safety, and Environmental Regulation
 The Impact of Inflation on the Federal R&D Investment
 Societal Impact of National Information Systems (NIS)
 Telecommunication Policy
 Disposal of Nuclear Waste
 Freshwater Resources Management, Planning and Policy:
 An Assessment of Models and Predictive Methods
 Oceans Research Technology
 The Impact of Advanced Air Transport Technology
 Automotive Fuel Efficiency and Alternative Energy Sources
 Applications of Technology in Space

General Information

Information on the operation of ongoing assessments, or a list of a report, may be obtained by writing or calling:

Public Communication
 Office of Technology Assessment
 U.S. Congress
 Washington, D.C. 20540
 (202) 224-0885

Publications Available

OTA Annual Report.—Details of reports published during the preceding year.

List of Publications.—Catalog of published reports with instructions on how to obtain them.

One-Pagers.—Summaries of reports.

Press Releases.—Announcements of new reports, and other newsworthy activities.

Contacts Within OTA

(OTA offices are located at 1200 Constitution Avenue, Washington, D.C.)

Office of the Director
 Office of the Deputy Director
 Energy, Materials, and International
 Health and Life Sciences Division
 Science, Information, and Transportation
 Administration Office
 Personnel Office

General Information

Information on the operation of OTA, the nature and status of ongoing assessments, or a list of available publications may be obtained by writing or calling:

Public Communications Office
Office of Technology Assessment
U.S. Congress
Washington, D.C. 20510
(202) 224-0885

Publications Available

OTA Annual Report.—Details OTA's activities and summarizes reports published during the preceeding year.

List of Publications.—Catalogs by subject area all of OTA's published reports with instructions on how to order them.

One-Pagers.—Summarize reports and findings of assessments.

Press Releases.—Announce publication of reports, staff appointments, and other newsworthy activities.

Contacts Within OTA

(OTA offices are located at 600 Pennsylvania Avenue, S.E., Washington, D.C.)

Office of the Director	224-3695
Office of the Deputy Director	224-3695
Energy, Materials, and International Security Division	224-0732
Health and Life Sciences Division	224-1047
Science, Information, and Transportation Division	224-0732
Administration Office	224-8712
Personnel Office	224-8713

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