

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

WHAT
OFFICE OF TECHNOLOGY ASSESSMENT
CONGRESS

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 nuclear power plants in the United States still has no program for handling these wastes. Nearly all wastes of this amount continues to accumulate and mine the future of nuclear power. In seeking to resolve it, "state-of-the-art" concerning disposal, consider the political, economic, and social implications of the various options for waste disposal and future generations. In short, the intricate array of technical, scientific, and certain perceptions, political judgments, and social considerations, as it decides whether and to what extent to a particular program for the wastes.

Like this problem of nuclear wastes, there are issues in every area of Congressional jurisdiction: natural resources, national defense, communications, transportation, and environmental protection. These issues have certain characteristics:

1. Their most important impacts are often delayed, but the long-term effects are often severe.
2. They are complex, and require a broad range of information from various fields of knowledge.
3. They have a significant impact on the public, and require adequate information and analysis to resolve them adequately.

During the 1960's, Congress has been faced with the complexity, breadth, and long-term impacts of policy decisions that were inappropriate. It also found itself forced to decide on a basis of adequate and unbiased information from various agencies and "special interest" groups. In hearings, Congress decided to address such issues. In 1972, it authorized the Office of Technology Assessment.

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WHAT OTA IS
OFFICE OF TECHNOLOGY ASSESSMENT
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 substantial work for Congress 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 or committee members.
- The OTA Board.
- The OTA Director, in consultation with the Board.

The OTA Board decides whether to request the 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 approves the basis of this proposal.

OTA Studies and Services

The bulk of OTA's work centers on 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 a key edge base built up through past studies. For example, to evaluate energy conservation by drawing on the results of studies of energy conservation. OTA also provides topical "spinoffs" from assessments. For example, the prospects for *gasohol* preparation. OTA also provides the course of a larger assessment. For example, energy from biological processes. OTA provides assessments so that the results, in the form of interim reports, progress in the form of interim reports.

In addition, OTA provides a wide range of services. It presents testimony at hearings, provides testimony to committees.

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'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

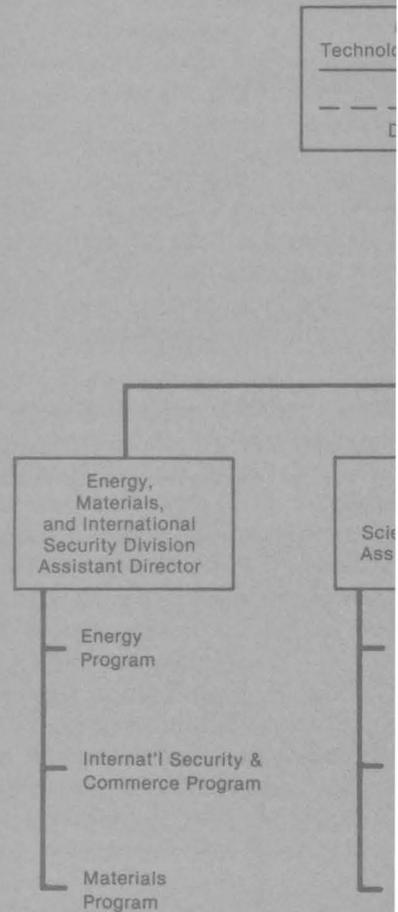
Throughout each project, OTA uses advisory panels whose members reflect the range of expertise and interests concerned with that particular subject. Such panels include not only distinguished scientists, engineers, and other experts, but also affected and interested parties from labor, industry, the 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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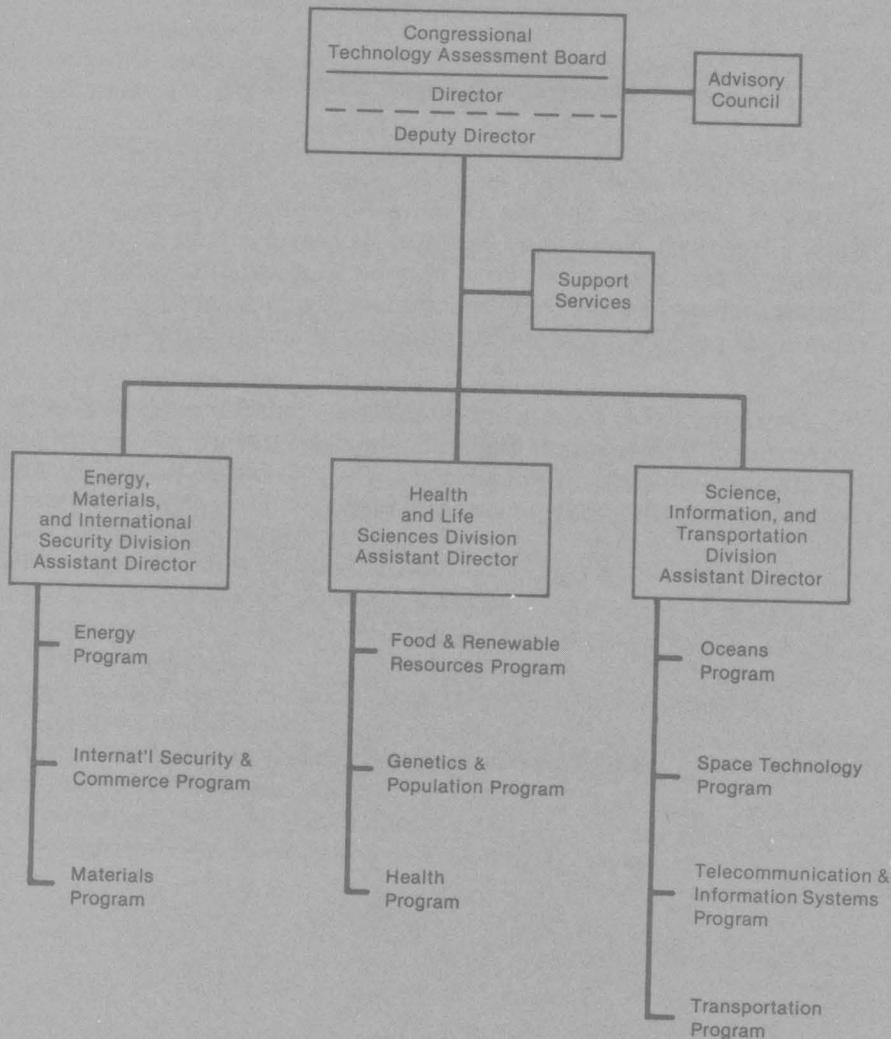
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OTA Organization Chart



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
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 Zon
Coastal Effects of Offshore Energy S
Oil Transportation by Tankers: An A
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An Assessment of Community Planr
An Evaluation of Railroad Safety
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Technology and East-West Trade

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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 I

Information on the operation of ongoing assessments, or a list of a 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.—Detailed reports published during the preceding year.

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

One-Pagers.—Summarize reports.

Press Releases.—Announcements, and other newsworthy activities.

Contacts Within OTA

(OTA offices are located at 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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