

Organization and operations

THE PROFOUND TECHNOLOGICAL AND SCIENTIFIC advances affecting all facets of the nation's future—from economic competitiveness in the new global economy, to the challenges of new communication technologies, to the changing needs of national security—are placing unprecedented and complex policy issues before Congress. The Office of Technology Assessment (OTA), a congressional support agency created by the Technology Assessment Act of 1972 [86 Stat.797], provides Congress with objective and extensive analyses of these issues.

With an analytical staff representing every major field of science and technology, OTA works directly for congressional committees. The small agency (about 200 employees) has two analytical divisions: 1) Industry, Commerce, and International Security; and 2) Health, Education, and the Environment. They include assessments grouped in the areas of energy, transportation, and infrastructure; industry, telecommunications, and commerce; international security and space; education and human resources; environment; and health.

Administrative offices support the analytical work of the agency. These offices handle budget and finance, contracts, information services, personnel, telecommunications and information systems, building services, and publishing.

The Congressional and Public Affairs Office handles much of OTA's congressional and press liaison work, relations with the Technology Assessment Board, and relations with the Technology Assessment Advisory Council. OTA publications are widely disseminated on Capitol Hill and are publicly available in both electronic and paper formats. Electronic versions of OTA publications, information about the agency, and news about work in progress are accessed by thousands of users worldwide. The agency's Information Center provides public access to the full collection of OTA

publications, including an on-line index, and the Publications Distribution Office handles public dissemination of OTA publications. (General information about OTA and availability of OTA publications is listed on page 60.)

OTA is governed by a 12-member bipartisan congressional Technology Assessment Board of six Senators and six Representatives, equally divided by party. In addition, a distinguished council of 10 leaders from science and technology, business and industry, and education provides advice.

OTA undertakes assessments at the request of any congressional committee Chairman. The Chairman may request the work personally, on behalf of a Ranking Minority Member, or on behalf of a majority of committee Members. The OTA Board may also request work, as can OTA's Director. In practice, most assessments are requested by the Chairman and the Ranking Minority Member of a committee, and many are supported by more than one committee. The Technology Assessment Board makes the final decision on whether OTA can proceed with an assessment and reviews all reports prior to their release.

Most of OTA's work concentrates on in-depth assessments that take one to two years to complete. Drawing on past and current work, OTA also meets immediate congressional needs with a variety of analytical support such as briefings, testimony, and special reports.

FISCAL YEAR 1994 ACTIVITIES

OTA continues, as it has since 1972, to follow the agenda set by the requests from committees of Congress and approved by its bipartisan Technology Assessment Board "as an aid in the identification and consideration of existing and probable impacts of technological application (P.L. 92-484)." Each year sees a shifting array of issues in science and technology to which OTA must respond, and which require a consistent approach and the delivery of accurate, complete, nonpartisan information, analysis and conclusions that can serve as a foundation for congressional deliberations and actions. OTA's reports help the Congress in the preparation of specific legislation, in deliberating from a general background and base of information and knowledge, and in providing oversight and monitoring of executive branch programs.

During FY 1994, OTA delivered 51 formal publications to Congress, including reports, background papers, and administrative documents. As of September 30, 1994, 44 approved studies and nine special responses were in progress. An integral aspect of OTA's assessments includes providing expert advice, briefings, testimony, and results of OTA research to committees throughout the projects. The

following are examples of OTA projects that had a significant impact in areas that are of vital interest to the Congress:

- Major work has been delivered, and more is in process, about *proliferation of weapons of mass destruction*, including technologies for detecting, assessing the risk, and controlling proliferation, as well as technologies for counterproliferation, including preventive, active and passive measures.
- Congress's concern about the future of the *U.S. space launch industry* and the uses to which satellites might be put has spawned a number of projects to provide Congress with information on ways to structure approaches to this industry, a vital national security sector.
- Two reports have been released on *multinational corporations and the U.S. technology base*, exploring the role of multinational corporations in the development of technologies for American industry and the way that technology diffuses and is controlled through networks of multinationals and their subsidiaries. This analysis points out the major implications for U.S. trade and competitiveness of how and, most importantly, where advanced research is carried out and where the new technology is located. OTA continues to work on a related issue, *commercialization of emerging technologies*, and issues relevant to the conceptualization of a technology policy.
- In the 104th Congress, OTA's Energy Transportation, and Infrastructure Program will deliver work on *technological reshaping of metropolitan America*. New communications, information, and transportation production technologies have affected and will continue to affect the distribution and location of economic activity in America's cities and suburbs, and this in turn will need to be understood to direct the wise use of public and private transportation and other infrastructure investments. At the same time, *advanced automotive technologies* will play a role not only in urban and transportation policy but in energy and environmental policies as well.
- OTA's Education and Human Resources Program is looking at the technologies useful to *work-based learning and training* and how these might make a difference in the employability of America's youth, their preparation to use

THE PROFOUND
TECHNOLOGICAL AND
SCIENTIFIC ADVANCES
AFFECTING THE
NATION'S FUTURE PLACE
UNPRECEDENTED
AND COMPLEX POLICY
ISSUES BEFORE
CONGRESS

the technologies becoming so pervasive in the workplace, and the competitiveness of American industry. This program is also examining the full scope of *residential design technologies for elderly and disabled populations*, a study with particularly wide application. It has long been thought that facilities for these populations do not take full advantage of the technological potential for improvement in the care of patients.

- OTA's new Environment Program is more diverse than in the past, and its projects reflect this increased diversity. A great variety of impacts flow from the extensive nuclear contamination of the former Soviet Union, particularly in the Arctic, and this contamination of the waters of the northern oceans has major implications. An extensive assessment of the *Arctic and other regional impacts from Soviet nuclear contamination* is underway, examining a huge geographic area with severe contamination. Smaller projects undertaken include a look at the potential for *biological pest control* as the number of chemical pesticides available for agriculture diminishes.
- In support of health reform efforts which may be undertaken in the 104th Congress, OTA has delivered reports on *international differences in health technology, services and economics* and *identifying health technologies that work*, and has illuminated the strengths and usefulness of economic projections in reports on *understanding estimates of expenditures under health reform*. OTA is also researching impacts of *antibiotic-resistant bacteria*. The emergence of strains of common infectious bacteria that are resistant to all, or almost all, of the currently available antimicrobial drugs is becoming recognized as a significant threat to the public health. It is important for Congress to know the extent of this threat, the seriousness of the implications for health care, and the possible actions that might be taken to ameliorate the situation.

OTA's work in FY 1996 will continue to reflect the explicit needs of the committees of jurisdiction. The bipartisan, bicameral Technology Assessment Board will guide OTA's work with committees and shape the agency's agenda through the assessment proposal approval process. OTA serves as a shared resource for Congress, providing nonpartisan analysis of scientific and technological issues—issues intrinsic to all important policy issues—in a highly cost-effective way.