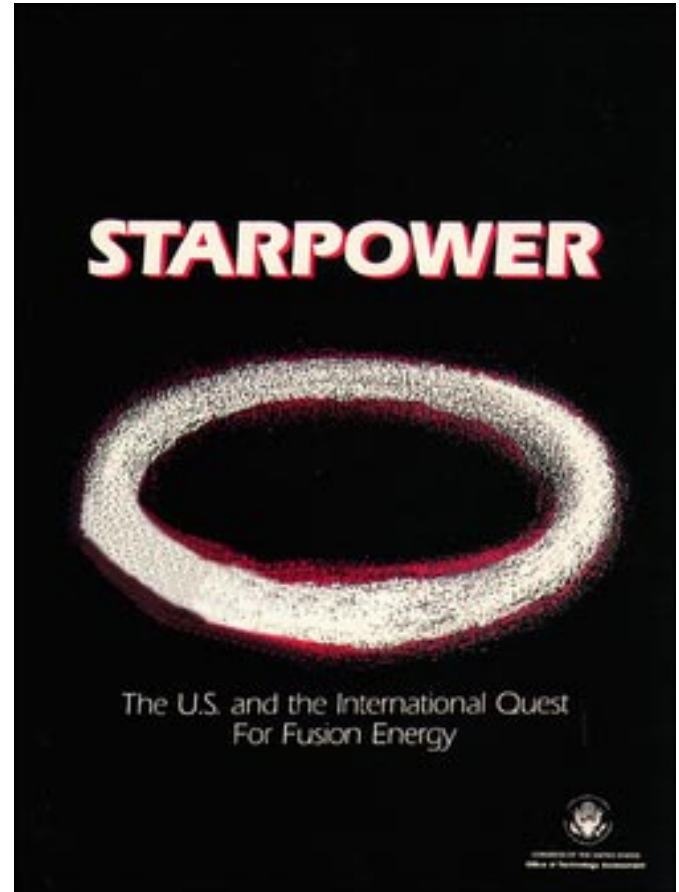


*Starpower: The U.S. and the International
Quest for Fusion Energy*

October 1987

NTIS order #PB88-128731



Recommended Citation:

U.S. Congress, Office of Technology Assessment, *Starpower: The U.S. and the International Quest for Fusion Energy*, OTA-E-338 (Washington, DC: U.S. Government Printing Office, October 1987).

Library of Congress Catalog Card Number 87-619854

For sale by the Superintendent of Documents
U.S. Government Printing Office, Washington, DC 20402-9325
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Foreword

Fusion research, offering the hope of an energy technology with an essentially unlimited supply of fuel and relatively attractive environmental impacts, has been conducted worldwide for over three decades. In the United States, increased budgetary pressures, along with a decreased sense of urgency, have sharpened the competition for funding between one research program and another and between energy research programs and other components of the Federal budget. This report, requested by the House Committee on Science, Space, and Technology and endorsed by the Senate Committee on Energy and Natural Resources, reviews the status of magnetic confinement fusion research and compares its progress with the requirements for development of a useful energy technology. The report does not analyze inertial confinement fusion research, which is overseen by the House and Senate Armed Services Committees.

OTA analyzed the magnetic fusion research program in three ways: (1) as an energy program, by identifying important features of the technology and discussing its possible role in the energy supply mix; (2) as a research program, by discussing its role in training scientists and developing new fields of science and technology; and (3) as an international program, by reviewing its history of international cooperation and its prospects for even more extensive collaboration in the future.

OTA could not have conducted this work without the valuable assistance it received from many organizations and individuals. In particular, we would like to thank the advisory panel members, workshop participants, and outside reviewers, who provided guidance and extensive critical reviews to ensure the accuracy of the report. Responsibility for the final report, however, rests solely with the Office of Technology Assessment.



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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

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