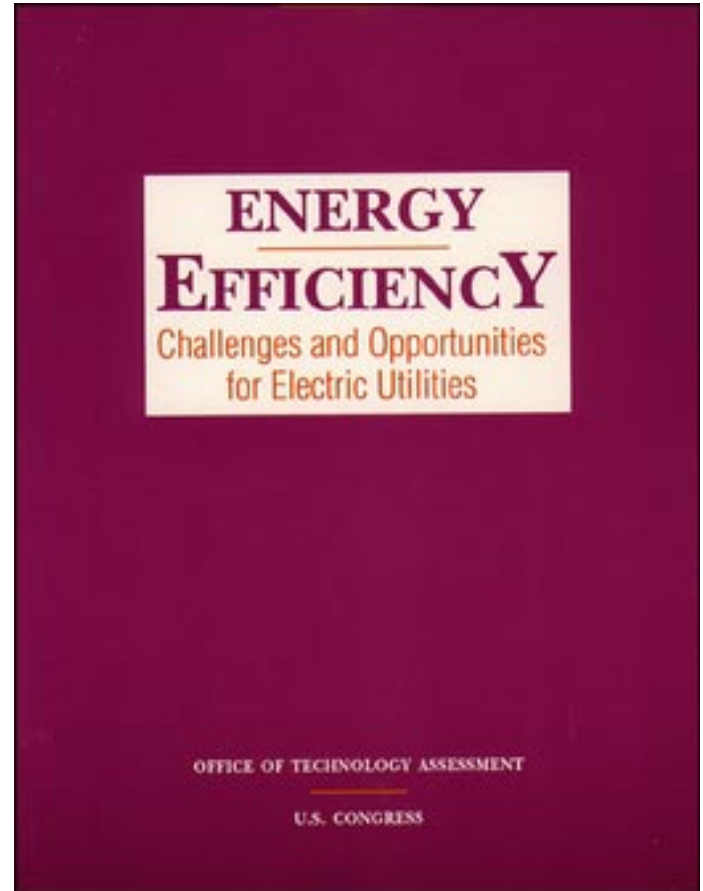


*Energy Efficiency: Challenges and
Opportunities for Electric Utilities*

September 1993

OTA-E-561

NTIS order #PB94-107547



Recommended Citation:

U.S. Congress, Office of Technology Assessment, *Energy Efficiency: Challenges and Opportunities for Electric Utilities*, OTA-E-561 (Washington, DC: **U.S.** Government Printing Office, September 1993).

Foreword

This Report on energy efficiency and electric utilities was prepared as part of OTA's assessment of U.S. Energy Efficiency: Past Trends and Future Opportunities. The assessment was requested by the Senate Committees on Governmental Affairs and Energy and Natural Resources and the House Committee on Energy and Commerce and endorsed by the Chairman of the Subcommittee on Environment of the House Committee on Space, Science, and Technology. Other reports in this assessment examine energy efficiency in residential and commercial buildings, industry, transportation, and the Federal Government,

This Report focuses on the opportunities for advancing the energy efficiency of the U.S. economy through technology improvements and institutional change in the electric utility sector. In particular, the Report examines the prospects for energy savings through expansion of utility demand-side management and integrated resource planning programs and related Federal policy options.

OTA appreciates the advice and assistance of the many individuals who contributed to this project, including the advisory panel, workshop participants, and reviewers.



Roger C. Herdman, *Director*

Advisory Panel

James F. Gibbons, *Chairman*
Stanford University

Dale Compton
School of Industrial Engineering
Purdue University

Mark Cooper
Consumers Federation of America

Robert deHaan
Amana Refrigeration Co.
(retired)

Daniel A. Dreyfus¹
Gas Research Institute

Clark W. Gellings
Electric Power Research Institute

David B. Goldstein
Natural Resources Defense Council

Cheryl Barrington
Regulatory Assistance Project
formerly Commissioner,
Maine Public Utilities Commission

Kenneth Hickman
The York International Corporation

Edward McInerney
General Electric Co.

Alan Miller
Center for Global Change
University of Maryland-College Park

Gary Nakarado
National Renewable Energy Laboratory
formerly Commissioner, Public Utility
Commission of Colorado

John W. Rowe
New England Electric System

Maxine L. Savitz
Garrett Processing Co.

Sherwood H. Smith, Jr.
Carolina Power & Light Co.

Richard Tracey
Ryland Homes

B.C. Waycaster
Dow Chemical

Irvin L. White
Battelle Pacific Northwest Laboratories

Mason Willrich
Pacific Gas and Electric Enterprises

James L. Wolf
The Alliance to Save Energy

Eric R. Zausner
Strategic Performance Management

¹Until January 1993.

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.

Project Staff

Peter Blair

Assistant Director
Industry, Commerce, and International
Security Division
(beginning February 1993)
Program Manager, Energy and Materials
Program
(until August 1993)

Lionel S. Johns

Assistant Director, OTA
(until February 1993)

Emilia Govan

Program Manager
Energy and Materials Program Manager
(beginning August 1993)

PRINCIPAL STAFF**Karen Larsen**

Project Director

Helene Kirwan-Taylor

Contractor

ADMINISTRATIVE STAFF**Lillian Chapman**

Office Administrator

Linda Long

Administrative Secretary

Tina Aikens

Secretary

Workshop Participants

Doug Bauer

Oak Ridge National Laboratory

Michael Dworkin

General Counsel
Vermont Public Service Board

Hossein Haeri

Central Maine Power Co.

John Hughes

Electricity Consumers Resource
council

Gary Nakarado

Commissioner
Public Utility Commission of
Colorado

Wally Nixon

Entergy Services Co.

Paul Norman

Bonneville Power Administration

Jackie Pfannenstiel

Pacific Gas and Electric Co.

Ronald E. Russell

Commissioner
Michigan Public Service Commission

Glenn Simpson

Potomac Electric Power Co.

Dennis Sumner

City of Ft. Collins Light &
Power Utility

Lynn Sutcliffe

Sycom Enterprises, Inc.

Marika Tatsutani

Natural Resources Defense Council

Nat Treadway

Electric Division
Public Utilities Commission of Texas

James L. Wolf

The Alliance to Save Energy

OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the participants in OTA'S workshop on Energy Efficiency and Electric Utilities, September 9, 1992. The workshop participants do not, however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

Reviewers

John Anderson

Electricity Consumers Resource
council

Joel Bladow

Western Area Power Administration

Ashley Brown

Commissioner, Public Utilities
Commission of Ohio

Ralph Cavanagh

Natural Resources Defense Council

Greg Collins

PSI Energy, Inc.

Kurt Conger

American Public Power Association

Rich Cowart

Commissioner, Vermont Public Service
Board

Ron Eachus

Chairman, Oregon Public Utility
Commission

Scott Hempling

Attorney-at-Law

Robert Hirsch

Electric Power Research Institute

Eric Hirst

Oak Ridge National Laboratory

Barbara Kates-Garnick

Commissioner, Massachusetts Department
of Public Utilities

Steve Kline

Pacific Gas & Electric Co.

Paul Komor

U.S. Congress
Office of Technology Assessment

Ed Mayberry

Potomac Electric Power Co.

Barry Moline

American Public Power Association

Andrew Moyad

U.S. Congress
Office of Technology Assessment

Steve Nadel

American Council for an Energy-Efficient
Economy

John Newman

U.S. Congress
Office of Technology Assessment

Karl Rabago

Commissioner, Public Utilities
Commission of Texas

Margaret Rostker

Electric Power Research Institute

Robin Roy

U.S. Congress
Office of Technology Assessment

Rick Tempchin

Edison Electric Institute

Mark Wieringa

Western Area Power Administration