# **Contents**

Preface ix

Acknowledgments xi

Conference Committee and Staff xiii

Session Officials xv

## **ECONOMICS**

A Unified Methodology for Cost Analysis of Energy Production

Doan L. Phung and Howard H. Rohm 4453

Comparative Economics of Alternative Fuels for Intermediate Services, Combined Cycle Power Plant

Y. K. Ahn 4501

Estimating the Commercial Potential and Energy Benefits of ERDA Electric Energy Research

W. R. Park 4531

The Impact of Oil Price Increases on the Competitiveness of Non-conventional Energy Technologies

P. J. Farrelly 4555

Energy Impact on Economic Activity and Long-term Trend Forecast

*N. Hokkyo* **4569** 

Technical-Economic Modeling in Energy Planning

D. J. Behling, Jr., E. A. Cherniavsky, K. C. Hoffman, and

D. W. Jorgenson 4575

Energy Use and Society in the 21st Century

A. J. Appleby 4603

# **PLANNING**

The Inexhaustible Energy Resources Study

B. Miller and R. Blieden 4639

Survey and Appraisal of Primary Future Energy Sources

David H. Root 4667

Toward a Rational Energy Supply System: Economics and Diseconomics of Scale in an Expensive Energy Future

H. D. Steingass and G. F. Kah 4697

Reading the Energy Meter on Development G. Rainer and P. Mahony 4709

The Potential of Alternative Energy Sources in Meeting Air Force Requirements

R. R. Barthelemy and D. C. Hall 4747

Energy Resources for Tomorrow? The Possible Role of Non-nuclear and Non-fossil Energy Resources

M. Meliss 4759

Energy Utilization in Industry: The Case of Israel

*T. Sonnino* **4779** 

Application of Computer Animation for Dynamic Display in Complex Energy Systems

R. B. Jones 4799

A Lecture-Laboratory Curriculum Base for the Teaching of Alternate Sources of Energy on the Secondary-Post Secondary Level

M. L. Greenwald 4819

### STRATEGIES AND POLICY

Strategies for Alternative Energy Sources

George C. Ferrell 4829

A Nuclear-Solar Energy Strategy

P. L. Hoffman 4867

Coupled Systems and Energy Policy—Closing the Supply/Demand Gap: Are there Many Roads Not Taken?

A. I. Berman 4893

Economic, Political, and Psychological Barriers to a Change-over to Renewable Renewable Energy Resources

J. O'M. Bockris 4903

Introducing New Technologies for Alternative Energy Sources: The Economic, Social, and Environmental Considerations for Developing Countries

E. H. Wright 4919

CONTENTS

Renewable Energy Supplies for Developing Countries *J. Twidell* 4927

Function of Economics in Energy Policy
L. W. Zelby 4955

Energy Policy Optimization by Environmental Systems Analysis

L. V. Stover 4963

Energy, Helium, and the Future

M. C. Krupka and E. F. Hammel

4989

#### DISCUSSIONS

- Panel Discussion on Energy Policies and Public Understanding

  John Shacter, John Andelin, Jerry Ceppos, Carl Goldstein, and

  Albert Mayrhofer 5013
- Panel Discussion on Alternative Energy Sources

  James E. Funk, J. Appleby, L. Bogart, J. O'M. Bockris, M. Dubey,
  D. Gregory, J. Horak, G. H. Lavi, and E. F. Wehlage 5043