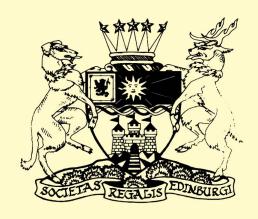
THE ROYAL SOCIETY OF EDINBURGH



PROCEEDINGS

Section B (Biological Sciences)

ISSN-0308-2113

PUBLISHED BY THE ROYAL SOCIETY OF EDINBURGH 22 GEORGE STREET, EDINBURGH EH2 2PQ

1987

EDITORIAL BOARD

J. HAWTHORN

University of Strathclyde

J. MORTON BOYD Edinburgh

F. T. LAST Institute of Terrestrial Ecology, Bush Estate, Penicuik

J. Соок

Eastern General and Leith Hospitals, Edinburgh J. A. McFadzean May & Baker Ltd, Dagenham, Essex

A. E. H. EMERY University of Edinburgh P. S. MAITLAND Institute of Terrestrial Ecology, Edinburgh

J. C. GOULD Central Microbiological Laboratory Western General Hospital, Edinburgh N. F. ROBERTSON Walkerburn

G. D. HOLMES
Forestry Commission, Edinburgh

J. A. STRONG Edinburgh

R. C. KIRKWOOD University of Strathclyde K. VICKERMAN University of Glasgow

C. D. WATERSTON

General Secretary

Royal Society of Edinburgh

A. C. WARDLAW University of Glasgow

W. DUNCAN

Executive Secretary

Royal Society of Edinburgh

SCOTLAND'S ENERGY FUTURE

A Symposium organised by the Royal Society of Edinburgh and held in the Scottish Conference and Exhibition Centre, Glasgow, on Wednesday and Thursday, 19 and 20 March 1986.

Chairmen and Discussion Leaders

Sir Samuel Curran, Professor Emeritus, University of Strathclyde

D. J. MILLER, Chairman, South of Scotland Electricity Board

R. M. S. SMELLIE, General Secretary, Royal Society of Edinburgh and Professor of Biochemistry, University of Glasgow

Sir ALWYN WILLIAMS, President, Royal Society of Edinburgh

CONTENTS

Foreword by J. M. Reid and G. Wyllie	1
Scotland's Energy Future: Opening Address by R. G. L. McCrone	3
Scotland's energy demands by D. J. MILLER	7
The availability of coal by K. Moses	21
The availability of oil by G. M. Ford	29
The availability of gas by W. R. PROBERT	39
Energy availability by M. Hug	51
Prospects for fast reactors by C. W. Blumfield	57
Prospects for renewable energy sources in the United Kingdom by D. POOLEY	73
Availability of electrical power by I. M. H. Preston	91
Future prospects for hydro electricity and wind power by K. R. Vernon	107
Radioactive pollution by H. J. Dunster	119
Other forms of environmental pollution by P. F. Chester	127

Risk assessment by J. H. GITTUS and M. R. HAYNS	139
The public perception of risk by J. Lenihan	155
The public's view of the costs and benefits of alternative energy systems by T. R. Lee	159
Utilisation of energy by J. C. Sмітн	173
The role of heat pumps for the wise use of energy by C. L. LOPEZ-CACICEDO	193
Radiation studies by Sir Samuel Curran	203
Statistical Appendix	207
Glossary of abbreviations, quantities and units	219