

Renewable Energy

David Elliott • Terence Cook

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From Europe to Africa

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David Elliott
Open University
Milton Keynes, UK

Terence Cook
Open University
Milton Keynes, UK

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PREFACE

Over the last ten years or so, there has been a concerted effort to support the use of renewable energy in less developed countries. The long-term aim has been to reduce emissions from the use of fossil fuels, but shorter-term aims include providing energy sources for the many who are currently off the power grid. Thus, the United Nations' (UN) Sustainable Development Goals include providing '*affordable, reliable, sustainable and modern energy for all*', with projects being supported across the developing world under the *Sustainable Energy for All* programme.

It has not always been easy. Most of the countries targeted are relatively poor and there can be mismatches in expectations and conflicts with other development goals, with energy issues and renewables, in particular, not necessarily being high on local /national agendas.

This book gives an account of some of the problems encountered—for example, looking at how hard it is to make interventions in countries where there is no experience with renewables. There are potential conflicts between what they want (e.g. economic growth and jobs) and what agencies want to see (e.g. green power capacity), what is needed (low-carbon energy) and what is available (dirty fossil fuel). Our main focus in this book is on Africa, but these problems are not unique to the developing world. We also look at experiences with similar programmes in Central and Eastern Europe, some of them initiated by the European Union (EU) as part of the EU enlargement process, and some extending into relatively undeveloped countries near the EU. In the case of the EU expansion, part of the aim was to ensure that the candidate countries complied with EU directives on Renewable Energy. In the case of the UN- and EU-supported

work in Africa described in this book, there was also pressure to reform policies, as a condition for receiving aid and technical assistance from the EU. In both cases, that sometimes led to conflicts.

Moreover, in both cases, in addition to varying local deployment issues, policies, and conflicts, there were also sometimes conflicts *within* and *amongst* the support agencies, as well as a potential for bureaucratic inefficiency. Certainly, with large aid budgets being involved, there are issue of programme effectiveness and accountability. The likelihood that donor countries will have their own commercial interests and may seek to build markets for equipment and services that they can supply also raises a range of political and economic issues: who are these programmes really for? What are the costs and risks of technology transfer? Can local technology and skill bases be created?

It is now apparent that the development of renewables will progress apace around the world. In many cases, it is the newly industrialising countries that are taking the lead, following China's example, with China also keen to promote its influence and technology in the developing world. With the West no longer necessarily in the forefront, new models of global development may now be needed. This book explores the implications and looks at how the development process may and should change. It draws on fieldwork carried out by Terence Cook in Central and Eastern Europe as part of an Open University (OU) project led by David Elliott, and then, in Africa, funded by the EU under the UN *Sustainable Energy for All* programme. That programme remains a cornerstone in development efforts in the energy field, but as this book explains, revisions, alternative and additional approaches may be necessary, and indeed, seem to be emerging.

In a hopefully not-too-presumptuous approach, to provide a convenient framework, in the case study parts of this book, we make use of our OU teamwork, reporting on its phases and development chronologically, so as to structure our exploration of the issues and cue in the case studies from each region. While we are indebted to the various EU sources of funding for this work, our account of it is an independent one.

Milton Keynes, UK

David Elliott
Terence Cook

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AUTHOR BIOGRAPHIES

David Elliott is a professor based at the Open University (OU), UK. Elliott's expertise is in renewable energy policy, on which he has written extensively. He has worked on a range of projects, including an OU-led New Europe-New Energy programme (2003–2011), together with co-author Terence Cook.

Terence Cook is a research fellow at the Open University, UK. Cook has worked on a series of European Union (EU)–supported projects focused on sustainable energy in Africa. He has extensive fieldwork experience of projects and practices in developing countries, most recently via his involvement with the work of EU's Technical Assistance Facility in Eastern and Southern Africa, in support of the United Nations' *Sustainable Energy for All* programme.

ABBREVIATIONS

POWER UNITS

GW	Gigawatt – 1000 MW
TW	Terawatt – 1000 GW
MW	Megawatt – 1000 kilowatts

ENERGY UNITS

kWh	Kilowatt-hour
GWh	Gigawatt-hour
MWh	Megawatt-hour
TWh	terawatt-hour

TECHNOLOGY

CSP	Concentrated Solar (thermal) Power
EfW	Energy from Waste
PV	Photo-voltaic solar

SUPPORT SCHEMES/PROGRAMMES/AGENCIES

CDM	Clean Development Mechanism
FiT	Feed-In Tariff
IEA	International Energy Agency
IRENA	International Renewable Energy Agency
NGO	Non-Government Organisation
REEEP	Renewable Energy and Energy Efficiency Programme
SE4All	Sustainable Energy for All

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